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JANUARY 2016

Poor quality of air may dampen new year spirit

Date: 1st January, 2016 Source: The Times of India

PUNE: The year 2016 will bring hope of a better tomorrow but in the midst of smoke and fumes.

A fresh pollution forecast by city-based Indian Institute of Tropical Meteorology (IITM) has warned that the city's air quality will gradually deteriorate over the next three days.

Pune's air quality, which this winter has mostly been tagged 'good', will fall to 'moderate' and later to 'poor' rating during the first three days of 2016. In fact, the next 72 hours may witness the worst spell of winter pollution, the forecast said.

Some city areas may suffer the most: The area stretching from Shivajinagar to Masoba gate will have the worst air quality with pollution levels reaching 135 ug/m3, which is termed 'very poor'.

Gufran Beig, a scientist with the IITM and project director of System of Air Quality Forecasting and Research (SAFAR), told TOI that a fall in temperature and increase in moisture in the air have already caused the air quality of Pune to deteriorate. "The quality will further fall during the next three days, unlike Delhi ironically, where favourable weather conditions are helping create a relatively better air quality. As per our forecast, the overall air quality of Pune city on the first day of 2016 is predicted to be in the 'moderate' range, after which it may go on to become 'poor'. The foremost pollutant making the air quality poor is PM2.5, the levels of which may hover around 86 ug/m3 in the coming days, above the permissible limit of 60 ug/m3," said Beig.

Particulate matter (PM) includes both solid particles and liquid droplets found in air. Many man-made and natural sources emit PM directly or emit other pollutants that react in the atmosphere to form PM. These solid and liquid particles come in a wide range of sizes. Particles up to 2.5 micrometers in diameter are called PM 2.5.

"PM 2.5 may remain the deadliest pollutant among all others. The first three days of 2016 may witness the worst pollution spell of the winter season, where PM 2.5 levels will be at the edge of poor category, ranging between 85 to 93 ug/m3. The poor air quality category starts from 90 ug/m3," said Beig.

A few locations may face the worse pollution next year. "For instance, in Shivajinagar, the air quality has been forecast to be very poor due to a combination of much cooler temperatures and stagnant wind with high traffic density moving at a slow pace," said Beig.

The other two areas among the 10 SAFAR locations which may have poor air quality are Katraj and Hadapsar, where emissions from suspended dust and traffic are dominant. Other city areas may have moderate air quality.

There is, however, much to cheer for in Pimpri Chinchwad. The cleanest locations here - where levels of PM2.5 would be below the threshold level and could thus be termed 'good' - are Bhosari and Nigdi. Here the levels would range between 40-50 ug/m3.

Poison in the air: Many ways in which pollution hurts your health

Date: 1st January, 2016 Source: Hindustan Times



With the New Year, the Delhi government implemented the odd-even plan or road space rationing in an effort to check the Capital's alarming level of air pollution.

Air pollution is not only about toxic air as it does more than just trigger asthma and wheezing. Stepping out in polluted air can make your eyes sting, your nose run, your throat dry and itchy, and your head ache. It often causes nausea, dizziness, headache and chronic allergy. Over time, it kills by triggering heart attacks, stroke and cancers.

Outdoor air pollution caused 6.2 lakh premature deaths in India in 2010, a six-fold jump from the 1 lakh deaths in 2000. This makes polluted outdoor air the fifth biggest killer in India after high blood pressure, indoor air pollution (mainly from smoking chullahs that use biomass fuels such as wood, coal, straw, manure, etc), tobacco use, and poor nutrition, says the Global Burden of Disease 2013 (http://www.healthdata.org/research-article/global-regional-and-national-incidence-prevalence-and-years-lived-disability-2013), which tracks deaths and illnesses from all causes every 10 years.

It is world's biggest environmental health risk, exacerbating respiratory and heart diseases and triggering deaths from stroke (25.48%), chronic obstructive pulmonary disease (17.32%), heart disease (48.6%), lung infections (6.4%), and trachea, bronchus and lung cancer (2.02%).

Toxic air

One in three people in India live in critically polluted areas that have noxious levels of nitrogen dioxide (NO2), sulphur dioxide (SO2) and lung-clogging suspended particulate matter smaller than 10 micron (SPM10) in size. Of the 180 cities monitored by India's Central Pollution Control Board in 2012, only two -- Malapuram and Pathanamthitta in Kerala -- meet the criteria of low air pollution (50% below the standard).

Just being stuck in heavy traffic can trigger heart attacks. People who have already had a heart attack were more than three times as likely to have been in traffic within an hour of getting a heart attack, found a study of 1,454 in Germany, with the risk being highest for women, people over 65 and those with existing heart disease.

Exposure to traffic noise makes children hyperactive and sleepless, report researchers in the journal Environmental Research. Sleeping in rooms exposed to the sound of nighttime traffic raises children's blood pressure, reports a study in the journal Noise Health.

Here's how the top three components of polluted air hurt your mind and body:

Smog

Smog is produced when airborne dust, carbon particles, noxious gases and ozone react chemically in the presence of sunlight to create a toxic mist that aggravates bronchitis, asthma, and other lung problems and reduces lung function even in healthy people. There are no safe levels of smog.

Inhaling smog tightens the arteries, reducing the blood flow, and triggering heart attacks and stroke, report Harvard research in the journal Circulation. At most risk are people who have had a heart attack or angioplasty or those who have angina, heart failure, heart rhythm problems, and/or diabetes.

Ozone

Ground-level ozone, which is the main constituent of smog that hangs low over Delhi throughout the year, irritates the eyes, nose, and throat. When it is inhaled, it dehydrates and inflames the protective membranes of the nose and throat, raising risk of throat and lung infections.

Apart from aggravating asthma, exposure to ozone for just six to seven hours, even at relatively low concentrations, triggers asthma attacks, lowers lung function and triggers wheezing in healthy people. People over 65, children under 12 and people with asthma and lung disorders need to limit exposure as much as possible.

Suspended particles

Suspended particulates (SPM10 and SPM2.5) from diesel and petrol fumes, power plants, industry, agricultural fires and construction dust remain hanging and air and cause irreversible damage lung and respiratory tissue damage. Combined with ground-level ozone, the main constituent of smog, SPM causes wheezing, coughing and breathing difficulties, especially during exercise.

SPM give lower visibility and contribute to the brownish-yellow colour characteristic of smog.

SPM2.5 and below are more deadly. Unlike larger particles that get filtered by the mouth and lungs, fine airborne particles are inhaled deeper and get lodged in the lower regions of the respiratory tract to lower the lungs' working capacity and aggravates respiratory problems.

Over time, exposure damages lung tissue, causes cancer and premature death.

Nitrogen oxides

Nitrogen dioxide (NO2) and other oxides of nitrogen (NOX), formed from vehicular emissions and electricity and industrial plants, irritate the airways and cause frequent nose, throat and lung infections such as bronchitis and pneumonia. People who live near busy highways are at most risk.

NO2 concentrations are 30 to 100% higher within about 50 metres from busy roads as compared to areas away from roadways. NOX reacts with volatile organic compounds in the presence of heat and sunlight to form deadly ground-level ozone.

Sulphur dioxide

Sulphur dioxide (SO2) is released from burning fuels that contain sulphur (coal, oil, diesel etc) and from coal- and oil-fired power plants, pulp and paper mills, steel mills and smelters.

Short-term exposure affects breathing and causes wheezing, chest tightness, shortness of breath, sore throat and nose irritation. Long-term exposure aggravates breathing and heart problems, with people with asthma, chronic bronchitis, emphysema, children and people over 70 being at most risk.

Pollution live meters installed at six places in Delhi

Date: 1st January, 2016 Source: The Economics Times

NEW DELHI: Pollution live meters were installed at six locations in Delhi for monitoring real-time air quality as the Delhi government's ambitious odd-even scheme to combat spiraling air pollution in the national capital came into effect today.

Besides, a portable air monitoring station was deployed in the city for air quality assessment.

"Pollution live meters have been installed at six locations in Delhi for monitoring real-time air quality as the odd-even scheme was implemented," said a senior Delhi government official.

The meters displayed real-time values of the particulate matter (PM2.5) and particulate matter (PM 10) in air.

As the clock ticked 8 AM, the odd-even vehicle rationing policy of the Delhi government came into effect with thousands of volunteers assisting traffic police in enforcing the pilot plan that will stay in force till January 15.

The scheme allows odd and even-numbered private vehicles to ply on the city's roads on alternate days.

National Green Tribunal Expands Ambit Of Air Pollution Case Beyond Delhi

Date: 6th January, 2016 Source: NDTV



NEW DELHI: The National Green Tribunal, restrained by the Supreme Court from dealing with matters on air pollution in Delhi, today expanded the ambit of hearing by seeking responses on worsening air quality in metropolises like Mumbai, Kolkata and Chennai.

Barring Delhi, the green panel took note of air pollution in Mumbai, Kolkata, Bangalore, Patna, Lucknow, Allahabad, Kanpur, Varanasi, Nagpur, Chennai, Hyderabad, Ludhiana, Jalandhar, Amritsar and Pune and directed states to file a comprehensive affidavit stating the steps taken by them for prevention and control of air pollution.

"In view of the fact that the matter is pending before the Supreme Court of India...in relation to matter relating to air pollution in NCT, Delhi, we are of the considered view that Tribunal should not pass any directions in this regard at this stage.

"Therefore we would restrict these petitions for the present only to the places other than Delhi, in relation to air pollution by different sources and subject to such orders as may be passed by the Supreme Court of India," a bench headed by NGT Chairperson Justice Swatanter Kumar said, adding "we are not going to touch Delhi".

The green panel also directed the state pollution control boards in consultation with the Central Pollution Control Board to take ambient air quality samples in these cities and submit analysis report before February 9.

"They shall also state the steps they are taking for controlling and preventing the air pollution, resulting from dust emission because of constructions and other activities, emission from burning of Municipal Solid Waste and other waste including burning of agriculture residue and vehicular pollution," the bench said.

On December 18, the tribunal had refused to vacate its order banning registration of new diesel-run vehicles, saying it won't interfere with the Supreme Court order which has taken a similar stand.

In contrast to the prior NGT order banning registration of all diesel vehicles, the Supreme Court on December 16 exempted small ones and specified that the diesel-run SUVs and cars having engine capacity beyond 2000 cc would not be registered in Delhi and National Capital Region till March 31.

Helpchat launches pollution alert that clears up what's in the air you breathe

Date: 6th January, 2016 Source: DNA



Helpchat has launched a new feature that aims to help Indian citizens in avoiding pollution related diseases by tracking air quality in their locality. This feature monitors the air in the surrounding environment and delivers a personalised air quality update via a mobile app.

The app tells users if the air they are breathing is toxic and suggests various ways to take precautions. The app will show the Air Quality Index (AQI) reading from 0 to 500+ (0 being the cleanest and 500 being the worst air quality) and suggest a precautionary measure depending on the air quality. Should the app sense air quality getting below a certain point, it will send an alert to your smartphone.

In addition to this, it also suggests areas that one should avoid visiting in their city so that users can plan the travel for their families and loved ones accordingly.

The AQI index shown by the app measures a number of volatile organic compounds (VOCs), carbon monoxide, and even cleaning agents or allergens that might affect the lungs or harm the health long term.

Since pollution and its impact are directly linked with the weather conditions, Helpchat app also tracks the weather conditions and updates the users in real time.

"Like a real life personal assistant, Helpchat anticipates and suggests things that makes people's life easy. At a time when everyone's major concern is air pollution,we thought of building an intelligent feature that can be of great help to people. Our pollution alerts will inform you about the air you are breathing and also suggest precautions to you. Going forward, we will enable people to buy pollution masks, suggest children friendly outdoor zones, and even facilitate health checkups."- Ankur Singla, Founder and CEO, Helpchat

Over time, exposure to carbon monoxide and volatile organic compounds has been linked to an increased risk of respiratory diseases, heart disease, stroke, liver and brain damage, and even cancer. Most people don't find out there are regularly exposed to highly toxic air until it's too late.

Helpchat's effort is especially important for cities like Delhi, where government is already putting in preventive measures like odd/even rules. "We are launching this feature to support the Delhi government and for people of India in their effort to control the rising pollution problem", added Ankur.

Here's why odd-even hasn't brought down Delhi's pollution

Date: 8th January, 2016 Source: Scroll.in



A week into its bold experiment to limit cars on the roads, Delhi has thrown its weight behind the "odd-even" policy but it's already itching to see it work. Car-owners have rediscovered the joys of zipping through relatively empty roads thanks to a substantial number of private cars being off the roads, even as public transport systems such as the buses and the metro are running on full capacity.

The odd-even policy, even with all its two dozen exemptions, it seems, has been successful in solving the seemingly impossible problem of traffic congestion in the national capital. But what about pollution? The results are nowhere near as sweeping so far. And experts say that there's a good reason why.

No magic wand

On Tuesday, the average concentration of the major pollutant matter – PM2.5 – was 278.4 micrograms per cubic meter in the capital's air. By evening, concentration of PM2.5 levels near the Delhi airport had reached 428 micrograms per cubic meter, qualified under the severe category which affects even healthy citizens and could cause long term illnesses while PM10 was recorded at a "very high" level of 355 micrograms per cubic meter of air.

Many expected that taking a substantial number of cars off the road would significantly improve air quality in the city, at least in the short term but that hasn't happened so far.

There were some positive signs from the pollution readings on the first day of odd-even implementation as emissions came down, and so did the PM2.5 and PM10 levels by approximately 15%, according to the Indian Express. These levels, however, quickly rose by evening, raising fears that it was perhaps too early to call the policy a success on the pollution front.

Experts suggest that even a 15-day trial is too short a period to judge the efficacy of a measure in combating severe air pollution which is a result of toxic emissions over decades.

"At this point, it's a bit premature to arrive at conclusions about the effectiveness of odd-even policy," said Shirin Bithal, Research Associate at the Centre for Science and Environment. "The policy came in as an emergency measure because the pollution levels in the capital were dangerously high and it's not going to work like a magic wand over our pollution problems."

Bithal argues that vehicles taken together contribute only about one-quarter of pollutants like PM2.5 in Delhi's air and hence, expecting the policy to reduce their concentration in the air within a matter of days will be expecting too much.

Need for long-term measures

"There are lots of exemptions, two wheelers have been left out as well, which run on petrol and contribute to the air pollution," she said. "We need to evaluate the policy in the light of other measures as well as take into account the impact of unstable weather in the capital which is oscillating between unusually warm on some days to foggy on others, which further interferes with the readings."

The Energy and Resources Institute also analysed pollution data over the last week and concluded that levels of PM2.5 in Delhi's air had indeed risen and shot further away from the prescribed safe limits but noted that it was largely due to atmospheric conditions.

The 24-hourly averaged concentrations at four locations, Mandir Marg, RK Puram, Punjabi Bagh and Anand Vihar, were found to be 5, 5.4, and 1.1 times higher than the safe standards respectively, TERI said. "Analysing the trends between December 24 to January 3, PM2.5 concentrations have increased by 72-176% cent at the four stations. However, this is mainly due to reduced wind speeds during the period," it noted.

Studies analysing pollution in northern India have also pointed out air pollution is a regional phenomenon rather than local and that similar measures need to be carried out in other cities as well to really curb Delhi's noxious air.

The recent study carried out by Indian Institute of Technology, Kanpur on Delhi's pollution and its causes also said that measures like odd-even must also be implemented in neighbouring states like Haryana, Punjab and Uttar Pradesh. It also added that winters in Delhi are more poisonous than summers and that causes of air pollution differ in different seasons. For instance, vehicles are the major polluters in winters but in summers it is the burning of coal and fly ash that contributes the most to pollution.

Thus, the study concluded, that air pollution control measures need to be implemented region-wise and in sync with each other. It suggested reducing coal emissions, providing LPG cylinders to all households, vacuuming of roads to tackle road dust and reducing sulphur content in industrial fuel, among other things. Even then, it concluded, that the pollution levels are still likely to be twice as high as the acceptable standards.

Bithal from CSE agreed and said long term measures must be implemented in quick succession to see progress on the pollution front.

"We need to disincentivise car-owners from buying cars by making them more expensive, raising road taxes and reducing parking availability to curb emissions in the long-run," she said. "The government needs to bring in cleaner fuel emission norms on priority and also make public transport stronger so that those who have switched to it during the odd-even trial continue to leave their vehicles at home."

When air is polluted, homing pigeons find their way home faster

Date: 8th January, 2016 Source: Los Angeles Times

Homing pigeons are bred for their navigation skills. They find their way along a mental map of signs and smells, using the sun and the Earth's geomagnetic field as a biological compass to find their way back to their roost.

But what happens if pollution makes the air so hazy that some of these senses get disrupted?

You might expect them to fly more slowly or get lost more often, but scientists at UCLA were shocked to find that the opposite was true: Despite a thick layer of air pollution, racing pigeons on the North China Plain actually flew faster on days when the air quality was worse.

“We all thought it would hurt their lungs,” said Dan Blumstein, who studies the intersection of behavior and conservation biology at UCLA. “We feel the result is robust … but we don’t really know why.”

Researchers Zhongqui Li of Nanjing University and Franck Courchamp of the University of Paris, both visitors at Blumstein’s lab, led the study, which was published this week in Scientific Reports.

Air pollution is a health concern for humans and birds alike. In birds, it’s been known to cause liver and lung damage from exposure to heavy metals and fine particles. It also interferes with flight and navigation ability.

In a country known for its dirty air, the North China Plain stands out. During the study period, the air quality readings soared as high as 482, on a scale in which 500 is the worst.

Li and the other researchers wanted to see how air pollution affected pigeons’ homing performance, which could help them understand more broadly how pollution affects bird behavior.

They analyzed the results of 415 pigeon races flown in various weather and environmental conditions. A number of factors affected homing speeds, including beeline distance, wind direction and weather conditions.

Pigeons flew fastest when given a boost from a tailwind on sunny days, the researchers found.

But the air quality changed the race in a way they didn’t expect.

The researchers developed a statistical model that allowed them to look at the effect air quality had on the time it took the pigeons to find their way home, after controlling for the other factors.

According to the model, pigeons increase their homing speed from about 35 mph on clear days to about 42 mph on days with an air quality index of 500. That’s an increase of about 20%.

The scientists aren’t sure why this happens, but they proposed three theories to explain their unusual finding.

It’s possible the birds were just scared. In hazier air, the pigeons may feel more vulnerable to predators because they can’t see as well.

Or, since the particulate matter is known to strain pigeon hearts, it’s possible that the birds are able to sense the poor air quality. That triggers a “rapid escape” response.

“They feel physically threatened by the pollution and they want to escape that,” Blumstein said. “Whenever animals feel exposed, they may wish to get home sooner.”

Another theory is based on the fact that smell is a key mechanism in pigeons’ ability to find home. Perhaps the pollution allows the birds to create a richer olfactory map, with more opportunities to associate certain smells with certain locations. The type and strength of the smells can help them figure out where they are.

"Smells can be used in the same way that sights and sounds can be used to figure out where home is," Blumstein said. "If it's a really stinky day and you live near the dump, then you know where home is."

To explain the results, the researchers will need to do further experiments, Blumstein said.

Ideally, some racing pigeons could be outfitted with GPS trackers to provide better data on true homing behavior. The trackers could show if the pigeons are stopping less or flying faster, Blumstein said.

Also, by selectively blocking certain pigeon senses, the researchers could better understand how the animals perceive polluted air.

For example, they could plug the birds' noses and see if it takes them longer to fly home. If so, that would suggest they use a richer olfactory map instead of relying more on another sense.

Dust from distant lands

Date: 10th January, 2016 Source: The Guardian



It seems astonishing that the Amazon rainforest is fertilised by Saharan dust blown across the Atlantic. The large sand grains in dust storms fall quickly to the ground, but smaller particles can travel thousands of kilometres. Saharan dust can cause air pollution in the eastern Mediterranean to reach 10 times European limits. Italy, Spain and Portugal are also frequently affected.

The southerly winds that gave most of the UK its warmest December on record also brought Saharan dust. From London to South Wales, it caused air pollution to reach four on the 10-point UK pollution scale on the 17th and eight on the 27th. Smaller quantities were measured in Leicester and over most of England.

The UK's air pollution monitoring networks can detect Saharan dust, but it is difficult to distinguish it from other pollution sources. Its presence is normally inferred by size; natural dust tends to be larger than particles from artificial sources, coupled with a negative response from equipment that detects particles from traffic and distant industry.

Weather models and satellite data are also used see if winds came from the Saharan region. Scientists at King's College London operate Europe's only instrument that can measure natural dusts in near real-time. Deployed in South Wales in mid-December they measured the iron and silicon-rich dusts, for the first time, as they blew northward on the 16th and 17th.

There is growing evidence that desert dust episodes lead to increased death rates and hospital admissions. They cannot be controlled at source, but better public information could help vulnerable people to protect themselves.

CMU creates device, app to monitor home air pollution

Date: 10th January, 2016 Source: Pittsburgh Post-Gazette

When her son was diagnosed with leukemia six years ago, Patrice Tomcik said she wanted to protect the 3-year-old from environmental exposures she believed may have contributed to the cancer.

But few options were available to monitor air pollution levels, let alone control them. The Butler County woman was particularly concerned about the proximity of natural gas fracking operations and a compressor station to her home in Adams.



"Early on, what could we do to protect ourselves?" said Ms. Tomcik, 45, married and the mother of two sons. The only real option was AirNow.org, which provides regional pollution levels online every half hour.

In response to the concern, Carnegie Mellon University developed Speck, a fine particulate pollution monitor that provides fairly accurate readings of fine particle levels (known as PM2.5 levels) and shows rising or falling pollution levels.

Illah Nourbakhsh, a university professor of robotics, led the CMU Robotic Institute's CREATE Lab in developing the affordable air quality monitor in 2014. He faced a similar situation in his own home with his children having coughing spells at night that could be halted only by using an air purifier.

Speck is available for $200 through the Pittsburgh spinoff company, Airviz Inc., at www.specksensor.com/. Various local organizations are distributing monitors regionwide and beyond as a new tool to keep close track of air quality so people can react more quickly to reduce health risks from polluted air inside their homes.

More recently, the team developed the newly available smartphone app, SpeckSensor, which provides up-to-date Air Quality Index readouts from the closest air-pollution monitor, based on ZIP code. The app can be programmed to provide air-quality readings from multiple ZIP codes nationwide for those wishing to track pollution levels for friends or family.

An Android version of the SpeckSensor app can be downloaded at Google Play, and an iOS version is available through the iTunes Store.

"There are so many people with asthma or a heart condition who need to track air quality," said Mr. Nourbakhsh, who holds a doctorate in computer science.

Pittsburgh pollution levels are among the worst in the nation. Fine particulate matter, which comes from combustion of fossil fuels, travels deep into the lungs, raising health risks including heart and bronchial disease, asthma attacks and lung cancer.

Southwestern Pennsylvania continues to have some of the nation's worst PM2.5 levels, but few residents realize that by peering into the sky. But blurred horizons provide a hint of the problem, even with blue, sunny skies.

Heinz Endowments through its Breathe Project and the Pittsburgh Foundation purchased 1,000 Speck devices they made available through public libraries, schools and citizen groups throughout the Pittsburgh area.

The Southwestern Pennsylvania Environmental Health Project based in Peters now has 240 Speck monitors it provides people in gas fields in four states. It's systematically gathering home-based particulate levels indoors and outdoors with its nurse practitioner Lenore Resick collecting health information from residents with monitors.

"So far we have seen respiratory issues closer to the well sites," said Ryan Grode, an environmental health educator with the project. "The more gas, the more respiratory problems." The group, he said, also has documented increases in headaches, dizziness and even nausea with a link to higher particulate levels.

Spikes in particulate levels can't be traced to well pads, he said. But when residents are sleeping or away from home, higher particulate levels more likely are linked to gas-well operations, he said.

"What we do know is that higher readings in homes should be looked at and people should be concerned about it," he said, adding that Speck monitors have proven accurate when compared with government air monitors. "I think Speck is blossoming and more organizations are using it. In time, it will be a really useful tool for a lot of households."

Ms. Tomcik said her Speck is extremely sensitive to household activities that stir up dust.

"Personally I want to see how things are going in terms of my own air, and I've noticed when the kids are playing, they are kicking up dust," she said. "But it gives people an incredible amount of information. For people who live near unconventional gas well pads, we can monitor the air and see whether the air is safe inside our homes."

If particulate levels rise for whatever reason, she can open a window or turn on the air purifier. If the air outside is bad, she can close windows.

Jody Handley, 40, who's concerned about air quality due to allergies, has been testing Speck monitors inside and outside her Squirrel Hill home. High readings often correlate with allergy problems, which she resolves by wearing a mask or clearing the air with an air purifier. She sees levels rise from activities inside the home — while vacuuming floors, making beds or folding clothes, which she said produce lots of dust.

"I've been very vocal about improving outdoor air quality," said Ms. Handley, the mother of two daughters, ages 6 and 4. "We can't do that, but we can marginally make it better inside our house. That's important to improve air inside the house for the kids."

Air Pollution Goes Back Way Further Than You Think

Date: 11th January, 2016 Source: The Age of Humans



Thousands of years ago, humans were adding lead fumes and other pollutants to the air

When Beijing issues a red alert closing schools and restricting traffic because air pollution is ten times the World Health Organization's recommended level, it seems like another symptom of modern life.

But fouled air has a long and unhealthy history, and the deadly haze

that plagues Beijing, Delhi, Mumbai and Karachi, among other cities, has been around in one form or another for thousands of years.

First it was wood fires in ancient homes, the effects of which have been found in the blackened lungs of mummified tissue from Egypt, Peru and Great Britain. And the Romans earn the dubious credit of being perhaps the first to spew metallic pollutants into the air, long before the Industrial Revolution.

"We saw the harmful effects of air pollution even in Roman times," says Mark Z. Jacobson, professor of civil and environmental engineering at Stanford University, director of the Atmosphere/Energy Program and author of the textbook Air Pollution and Global Warming: History, Science, and Solutions.

The residents of ancient Rome referred to their city's smoke cloud as gravioris caeli ("heavy heaven") and infamis aer ("infamous air"). Several complaints about its effects can be found in classical writings. "No sooner had I left behind the oppressive atmosphere of the city [Rome] and that reek of smoking cookers which pour out, along with clouds of ashes, all the poisonous fumes they've accumulated in their interiors whenever they're started up, than I noticed the change in my condition," wrote the philosopher and statesman Seneca in A.D. 61.

Roman courts considered civil claims over smoke pollution 2,000 years ago, notes Stephen Mosley, a lecturer at the School of Cultural Studies at Leeds Metropolitan University who has written extensively about the history of air pollution. The jurist Aristo declared, for example, that a cheese shop could not discharge smoke into the buildings above it.

The empire even tried a very early version of the Clean Air Act. In 535, then Emperor Justinian proclaimed the importance of clean air as a birthright. "By the law of nature these things are common to mankind—the air, running water, the sea," he wrote.

Later, smelting to create lead and copper came along, fouling medieval air. Analyses of ice cores from the Arctic reveal that extraction and smelting on the Iberian Peninsula, England, Greece and elsewhere increased lead in the environment by a factor of ten.

By 1200, Jacobson notes, London had been deforested and a switch began to "sea-coal," coal that washed up on beaches. As early as the 1280s, there were complaints about smoke from burning coal. Attempts to ban burning then and 250 years later during the reign of Queen Elizabeth I failed.

Europeans imported air pollution to the New World. Spanish conquistadors mining silver in what is now Bolivia in 1572 used amalgamation, a technique that grinds ore into powder and that shot lead plumes into the air. Researchers at Ohio State University discovered the dust in ice cores from Peru while investigating climate history.

"This evidence supports the idea that human impact on the environment was widespread even before the Industrial Revolution," says Paolo Gabrielli, a research scientist at the Byrd Polar and Climate Research Center at Ohio State.

The worst was yet to come.

By the 1600s, smoke from burning coal was damaging the architecture in London and other major cities. The invention and eventually widespread use of the steam engine, Jacobson says, really accelerated pollution. Until then, businesses were artisan shops dispersed throughout a city. But centralized factories on a large scale meant even more air pollution.

The shift to fossil fuels eliminated constraints on urban expansion as factories, powered by steam created by burning coal, attracted new workers. In 1800, Mosley says, there were just six cities worldwide with more than 500,000 people. By 1900, there were 43. Residents of emerging industrial giants—Birmingham, Leeds, Manchester, Chicago, Pittsburgh and St. Louis, among others—found acrid smoke stung their eyes and hindered their breathing.

Thick fogs, especially in colder weather, blanketed the cities. Societies to campaign against the smoke scourge emerged. Among the first in 1842 were the Committee for the Consumption of Smoke at Leeds and the Manchester Association for the Prevention of Smoke. By the late 1890s, the campaigns had extended to U.S. cities, including Chicago, Cleveland, St. Louis and Pittsburgh.

Laws were passed in Britain, the United States, and Germany, but with little teeth. They called for "best practicable" solutions—an easy out—levied insignificant fines and contained numerous exemptions. Coal remained cheap. No one was willing to slow the industrial engine.

"The 'smoke problem' intensified as new coal-burning industrial cities proliferated from the later 18th century onwards; first in Britain, and then Europe and the wider world," Mosley says. "By the turn of the 20th century, the respiratory disease bronchitis was Britain's biggest killer."

Just around the corner was a new source of air pollution: the automobile.

By 1940, Los Angeles had more than a million cars. At the time, no one realized the effect of all that exhaust, so when the city was smogged in on July 26, 1943, residents feared it was some kind of Japanese chemical attack. Four years later, the county established the first air pollution control district in the country. California went on to become a leader in regulating air pollution, Jacobson says.

But it took two other smog incidents to galvanize action in the United States and Great Britain.

On October 27, 1948 thick smog began to cover the river town of Donora, Pennsylvania. A storm rolled in four days later that cleared the air, but in the aftermath 20 died and 6,000 were sickened. In 1963, the U.S. Congress enacted the first Clean Air Act. Two years later, national emissions standards for cars were set. But it wasn't until the 1970 Clean Air Act that Congress set the framework for air pollution regulation tied to public health.

Similarly, across the pond on December 5, 1952, a fog enveloped London, killing roughly 4,000 people before it dissipated four days later. Parliament acted with dispatch, passing the U.K. Clean Air Act in 1956, effectively reducing the burning of coal.

Court allows Delhi's drastic effort to clean air, but some question if it's working

Date: 11th January, 2016 Source: The Washington Post

NEW DELHI — The High Court in India's capital said Monday that it would not stop the city's -alternate-day driving trial, giving a boost to the 15-day program that officials hope will curb some of the worst urban air pollution in the world.

The court had reviewed several public-interest petitions that had challenged the program, which, since Jan. 1, has limited drivers to odd or even days depending on their license plate number.

Officials have said the odd-even plan has brought down pollution levels during peak hours and removed more than 1 million cars a day from the capital's normally jammed roads.

New Delhi, which is home to 6 million people and 8 million vehicles, has the worst air of any major city in the world, according to a 2014 World Health Organization study.

The Delhi transport and rural development minister, Gopal Rai, praised the court's decision, saying it would help the children of the city — who are increasingly suffering respiratory ailments — to breathe freely.

Delhi residents have carpooled, crammed themselves into crowded buses and dusted off scooters they haven't used for years in an effort to do their civic duty — and avoid a $30 fine. About 6,000 citations have been issued so far.

During restricted travel times — 8 a.m. to 8 p.m., excluding Sundays — traffic flowed as freely as on a holiday, while buses and Metro trains were full at some points during rush hour. Commuters complained that the city's auto-rickshaw and taxi drivers were price-gouging.

"We have a terrible time commuting. It has become a nightmare," said Delhi resident Suraj Sharma, 24, who was trying to get to her job at a school. "Metro is not convenient on my route. And you have to wait for buses, and these days they have become so crowded. Auto-rickshaws overcharge, and now you can't even trust Uber, because most of the time they show surge prices."

Critics questioned whether the Delhi government's plan is improving the city's air, a foul-smelling haze of construction dust, vehicle exhaust, industrial output and smoke.

Harish Salve, a lawyer for the Delhi government, said in court that data — backed by research by the Center for Science and Environment — showed that pollution diminished during peak hours during the trial's first week.

Yet many experts doubted that statement.

The data journalism site -IndiaSpend installed air-quality monitors throughout the city and found that air pollution levels rose 50 percent between the last week of December and the first week of January, although it noted that temperature, wind speed and increased moisture could account for the rise.

At 7 a.m. Monday, the monitor at the U.S. Embassy registered an air-quality index of 318, a "very unhealthy" level, according to the U.S. Environmental Protection Agency, which rates anything below 50 as "good." Delhi's off-the-charts air pollution prompted the embassy to add a new color to its ranking last week — black. That's for air beyond a "hazardous" index of 500.

The odd-even plan was announced in a chaotic rush in December, before most of the details had been worked out.

The Delhi government later issued a lengthy list of people who would be exempt from the restrictions, including single women drivers and those with scooters.

On the program's first day, when volunteers handed out -roses to first-time violators instead of tickets, Chief Minister Arvind Kejriwal tweeted hopeful lyrics from John Lennon's "Imagine."

The government increased Metro service and added buses to its fleet of about 5,000, some of which were commandeered from local schools. Children have been kept out of school for the duration of the trial period.

Air-quality experts said it would be weeks before the results could be fully analyzed.

Beijing to end coal usage by 2020 to reduce smog

Date: 12th January, 2016 Source: Business Line



BEIJING: China's capital and its adjoining areas will end coal usage by 2020 to reduce the recurring smog in Beijing and improve air quality with a host of measures including replacement of coal-fired stoves with that of electricity and gas.

An official of the Beijing's Environmental Protection Bureau said boosting efforts to cut air pollution in northern China, especially winter smog from the burning of coal, is a mission for this year.

Among the efforts, Beijing has declared that it will wipe out coal use in its most rural areas by 2020, state-run China Daily reported.

As much as "60 per cent of smog content is caused by coal burning in the starting phase of each smog", Fang Li, an official with Beijing's Environmental Protection Bureau said.

Studies showed that 30 per cent of the pollution comes from automobiles.

To start with, Beijing will replace coal-fired heating stoves with those powered by electricity or gas in 400 villages this year, before taking the campaign to the districts of Chaoyang, Haidian, Fengtai and Shijingshan by 2017, said Guo Zihua, a municipal rural development official.

Beijing's downtown districts of Dongcheng and Xicheng eliminated coal burning last year, officials said.

The capital and other places in northern China experienced several smog alerts in November and December, when peak readings were many times higher than the national safety level.

Last month Beijing declared its first red alert as the city of over 22 million people was enveloped by heavily polluted smog leading to a host of emergency measures including closure of schools and restriction of traffic with odd and even number plates.

Burning coal for winter heating has been listed as one of the primary causes of air pollution, Chen Jining minister of environmental protection has said at the annual meeting on environmental protection in Beijing.

He said the ministry will do everything to prevent environmental protection from becoming a stumbling block for the country during the 13th Five-Year Plan period (2016-20).

Has odd-even scheme actually succeeded in Delhi or has the Kejriwal govt taken Delhiites for a ride?

Date: 12th January, 2016 Source: Meri News

The Arvind Kejriwal led government in Delhi on Saturday informed the Supreme Court-mandated Environment Pollution Control Authority (EPCA) that almost 60,000 cars have converted to run on Compressed Natural Gas (CNG) after the odd-even scheme was implemented in Delhi from January 1.

It was the Sheila Dixit-led Congress government (1998-2013) which had introduced CNG for vehicles in Delhi. It all started in 1998 after the Supreme Court of India issued a directive which specified a deadline of April 2001 for converting all buses, three-wheelers and taxis to CNG in Delhi.

The results of the Supreme Court directive were instant as by December 1, 2002 the last diesel bus had vanished from the roads of Delhi. Although the automobile industry has always been against CNG, but CNG according to the apex court seemed to be the miracle fuel, which had all the answers for achieving clean air in the capital.

But, the fact is that in spite of total conversion of public transportation to CNG, the air quality in Delhi has continued to deteriorate. But what about CNG emissions? Do they have any adverse effects on people's health?

Council of Scientific and Industrial Research (CSIR) conducted a study in Delhi and concluded that CNG-run buses emit "nanocarbon" particles, which are harmful and may cause cancer.

According to CSIR's Director General, Dr MO Garg this study can change the perception that CNG is a clean fuel as it does not emit any visible smoke, in contrast to the black smoke emitted by diesel run vehicles.

At the Global Green Energy Conclave held in Ahmedabad last year Dr Garg had said, "Natural gas is supposed to be a clean fuel when used in internal combustion engines, right? But, I don't think people realize that what you see (smoke) is perhaps better than what you don't see (no smoke from CNG vehicles)."

"We did a study with a professor of Alberta University, who have developed a device to measure and analyze particles emitted by vehicles. We have installed this machine on the exhaust of a natural gas-run DTC bus in Delhi," he said.

"Can you imagine that we found nanocarbon particles coming out of natural gas combustion. These particles are moving around in the atmosphere and going straight into your lungs through your nose. It then enters into your blood through membranes," said Dr Garg.

According to Dr Garg nanocarbons are carcinogenic and he has already alerted the government about its ill effects.

Dr Garg said, "These nanocarbons are rich in polynuclear aromatic, having huge surface area. They are also carcinogenic (cause cancer). I have been telling the government that we need to look at the situation more seriously."

He further added, "Imagine what will be its effect when all commercial vehicles, such as buses, run on natural gas in Delhi. You can see smoke coming out from diesel engine and tell that it is dangerous. But, nanocarbon particles coming out from vehicles is something we need to look at."

Dr Garg also said, "About 15 years ago, when Supreme Court ordered the implementation of CNG, diesel had 500ppm (part per million) of sulphur content. Now there are catalytic convertors and particulate filters (that make diesel engines cleaner)."

Another advocacy group Embarq has done a study on emissions from buses running on different fuels in Mexico, Brazil and India and concluded that CNG buses emit more micro particles.

Amit Bhatt, strategy head, urban transport, Embarq said, "The low-sulphur diesel particles were found to be slightly bigger than those from CNG. We also found that overloaded CNG vehicles emit more and more micro particles."

He further added, "We can say that Euro V and Euro VI diesel is as good as CNG in terms of other pollutants, and superior if you consider particulate emissions."

Bharat Stage (BS) norms were introduced in India in 2000, based on European emission norms to control air pollution. Each stage specifies a certain limit on the pollutants released in the air. In India BS III was enforced in October 2010 and currently only parts of Northern India including Jammu & Kashmir, Punjab Haryana, Himachal Pradesh, Uttarakhand, Delhi and parts of Rajasthan and western UP are BS IV, while rest of the country still has BS III.

Now, if you take a look around the world, China adopted BS V norms in 2013, and we lag behind European emission norms by at least five years. However in our country BS V norms are not expected to be adopted before April 1, 2020. It is true that upgrading to BS V or BS VI would require massive investments on equipments and technology, but then don't desperate situations require desperate measures?

In my opinion the Arvind Kejriwal government after being rebuked by the Delhi High Court on the alarming rise in pollution levels and acting in haste has without any scientific validation pulled out a half-baked odd-even plan from the bag.

In a city like Delhi, which has distantly located places and lacks a robust public transport infrastructure, it is extremely difficult to survive without a car.

Besides, no one is sure whether cars are actually the real cause of pollution in the city. Different studies say different things, so it's difficult to pin-point the exact source. Delhi government's surveys say that pollution has declined after odd-even but many other surveys contradict it by saying that pollution has risen even more.

The fact is that the PR team of the Aam Aadmi Party has been spot-on and has taken Delhiites for a ride. The Delhi government has managed to attract maximum attention and publicity with radio, television and newspaper ads on the odd-even formula. If at all odd-even has been more of a political success for the Aam Aadmi Party.

Air pollution: UK environment ministers face court action within weeks

Date: 13th January, 2016 Source: The Guardian



Law firm ClientEarth says it will seek urgent court action because of the risk to people's lives from dangerous emissions

UK environment ministers will be taken to court within weeks to make them speed up plans to reduce dangerous urban air pollution.

Law firm ClientEarth, which last year forced the Department for the Environment, Food and Rural Affairs (Defra) to come up with fresh plans to tackle illegal NO2 levels in British cities, warned that it would seek urgent court action because thousands of people's lives were at risk if present government plans were not strengthened.

Under new plans revealed before Christmas, Defra promised clean air zones for five cities by 2020 in addition to one already planned for London. But it will still take at least five years to clean up pollution in many cities, including Manchester, Cardiff and Edinburgh.

"The government seem to think that the health of people in cities like Glasgow, Manchester and Bristol is less important than that of people in London. While London gets a clean air zone covering all vehicles, Birmingham gets a second-class zone and Derby and Southampton third-class, while other areas including Manchester and Liverpool are left out. We all have the same right to breathe clean air," said Alan Andrews of ClientEarth.

Andrews said that ClientEarth would go to the high court by 17 March and would ask for the case to be fast-tracked because people's lives were at risk. Nearly 6,000 people die prematurely each year in London alone because of NO2, according to one study.

"They [the government] have had since 2011. We are looking for a hearing this year, hopefully before the summer. This is such an urgent issue.

"The supreme court ordered government to take immediate action. These plans are an outrageous statement ... that the government doesn't intend to comply as soon as possible. It is an arrogant response that is simply not good enough," he said.

In an article for the Guardian on Wednesday, barrister Justine Thornton, the wife of former Labour party leader Ed Miliband, says air pollution is a political scandal which the courts should resolve.

"The government is still putting short-term political priorities ahead of public health and people's lives. The revised air pollution plan soft pedals on pollution by private motorists while the government appears intent on watering down European legal limits for vehicle emissions.

"The stage is set for a fascinating tussle between law and politics. The UK court will have to roll up its sleeves and decide whether this government is doing what it can to make our air as safe as possible," wrote Thornton, who will next month formally become a QC.

"Ten more years of dangerous air pollution in London puts a whole generation of children at risk. The quality of the air that our children breathe is too important to be decided behind closed doors by government and vehicle manufacturers," she wrote.

NO2 pollution limits for the whole year were breached in Putney high street and Knightsbridge last week. These state that maximum hourly nitrogen dioxide concentrations are not exceeded for more than 18 hours a year.

Public health at risk as Scotland faces 'air pollution crisis'

Date: 17th January, 2016 Source: Herald Scotland

Toxic fumes from cars, lorries and buses are breaching pollution safety limits and endangering health in urban areas across Scotland, according to the latest government monitoring.



Dangerous levels of nitrogen dioxide and tiny sooty particles are polluting busy streets in Edinburgh, Glasgow, Aberdeen, Dundee, Perth, and Falkirk, increasing the risks of disease and premature death. Friends of the Earth say Scotland is in the midst of a 'air pollution health crisis'.

The most polluted street in Scotland is St Johns Road in Edinburgh, which is 60 per cent over the legal limit, followed by Hope Street in Glasgow.

The new figures, compiled from official measurements by Friends of the Earth Scotland, have prompted a renewed threat of legal action against the Scottish Government for failing to tackle the problem. The safety limits on air pollution were meant to have been met in 2010.

ClientEarth, an environmental group that took the UK government to court on air pollution and won, is warning that Scottish ministers could be next. “These results show the scale of the problem facing Scottish cities,” said ClientEarth lawyer Alan Andrews.

“People who regularly walk along these streets are being exposed to illegal levels of pollution that can seriously damage their health. Scottish ministers should be aware that they could be subject to legal action if they do not tackle this public health crisis.”

Thirteen urban streets exceeded the annual average limits for nitrogen dioxide or tiny particles, or both, in 2015. This is fewer than the 23 streets in 2014, but campaigners say last year’s wet weather masked the true extent of the pollution.

Emilia Hanna from Friends of the Earth Scotland welcomed news that Scottish ministers could face legal action. “These figures demonstrate just how serious and widespread Scotland’s air pollution health crisis is,” she said.

“Air pollution causes over 2,000 early deaths in Scotland each year at a cost of over £1.1 billion to the economy. Pollution, mostly from traffic, increases the likelihood of strokes, heart attacks and asthma attacks.”

Hanna called on the Scottish Government and local councils to put more resources into cutting pollution, and to ban high-polluting vehicles from city centres. “The government must support local authorities with funding required to implement low emission zones in our cities to tackle the scourge of dirty air in our towns and cities,” she argued.

She was backed by health experts, who stressed the long-term damage caused by air pollution. “It is disappointing that despite the well publicised and documented health hazards attributable to air pollution, Scotland continues to breach air quality standards,” said David Newby, a cardiology professor at the University of Edinburgh.

“This is harming the population of Scotland and potentially causing avoidable health problems including heart attacks and strokes.”

Fintan Hurley, scientific director at the Institute of Occupational Medicine in Edinburgh, argued that any level of pollution was potentially harmful. “The main damage is done by long-term exposure,” he said.

“It really is important to continue to reduce exposures, especially where standards are being breached, but in fact wherever people are living and working. As far as we know, there are no completely safe levels.”

The Scottish Government and councils stressed that significant improvements in air quality had been achieved in recent years. They pointed out that the failure of car manufacturers like Volkswagen to clean up exhaust emissions had not helped.

“We recognise that there is more to be done to deliver further benefits for human and environmental health where areas of poorer air quality remain,” said the environment minister, Dr Aileen McLeod.

“Air pollution disproportionately affects the health of the most vulnerable members of society – the very young, the elderly and those with existing cardiovascular and respiratory conditions – and can have a very real impact on quality of life for these individuals.”

The City of Edinburgh Council disputed some of the pollution figures, arguing that actual exposures to people were lower. It listed 14 moves it was making to improve air quality, and pointed out that 97 per cent of city streets met required standards.

“We are making every effort to address pockets of poor air quality in the city,” said the council’s transport and environment convener, Councillor Lesley Hinds. The aim was to create a “cleaner, greener city for everyone”.

‘We are aware that there are improvements which can be made to limit emissions across Edinburgh and at St John’s Road and have made use of Scottish Government funding to investigate ways of achieving this, including hybrid buses, increased provision for electric vehicles and measures to reduce traffic queuing.”

According to Glasgow City Council, 95 per cent of the city now met air quality targets. Levels of nitrogen dioxide at Hope Street had reduced over the last five years.

“While we have made good progress, we recognise that there is more to be done,” said a council spokeswoman. “We will continue to work together with our partners to reduce air pollution levels and improve the health of our citizens.”

The safety limit for nitrogen dioxide is 40 microgrammes per cubic metre, and for particles 18 microgrammes per cubic metre. Both limits were meant to have been met in 2010.

Source: Friends of the Earth Scotland and www.scottishairquality.co.uk

'As soon as I walked onto Hope Street I started coughing'

Irene Orr, who has recently retired and lives in Edinburgh, blames traffic fumes for triggering her asthma. "The very calm days are the worst as traffic fumes don't disperse as well," she said.

2015 was the hottest year on record, and the forecast for 2016 is warmer yet

Date: 20th January, 2016 Source: LA Times

2015 was Earth's hottest year on record, and it appears the planet is still getting hotter.

Barely three weeks into the new year, climate researchers from NASA and the National Oceanic and Atmospheric Administration are already predicting that the average surface temperature around the planet is likely to be higher in 2016 than it was in 2015. That would mark the first time the average global temperature reached record-breaking heights for three consecutive years.

"It's not unprecedented to have two years in a row of record-breaking temperatures, but in our records, we've never had three years in a row," climatologist Gavin Schmidt, director of NASA's Goddard Institute for Space Studies in New York, said Wednesday. "If 2016 turns out to be as warm as we anticipate, that would be unprecedented in our record book."

One reason scientists expect 2016 to be even warmer than 2015 is that the lingering effects of the El Niño weather pattern should push temperatures skyward through the first half of the year.

"El Niño takes heat out of the oceans and puts it in our atmosphere, and we've just had the biggest El Niño in a generation," said Katharine Hayhoe, an atmospheric scientist at Texas Tech University.

El Niño is partially responsible for the extremely high temperatures recorded around the globe in October, November and December, the NASA and NOAA researchers said. Still, even before the effects of El Niño were felt, the planet was experiencing considerable temperature anomalies.

Data show that 10 out of 12 months in 2015 broke previous temperature records. The only two that didn't were January and April.

"Even without El Niño this would have been the warmest year on record," Schmidt said. "We are looking at a long-term trend, and the factors that cause this long-term trend are continuing to accelerate, namely the increased burning of carbon dioxide fuels and other emissions."

Unusually warm temperatures were seen almost uniformly around the planet in 2015. Temperatures were well above the 20th century average on all six populated continents and in most of the oceans, the government scientists said.

The one exception was a curious region of unusually cool water in the Northern Atlantic, off the western coast of Greenland. Researchers are still trying to understand what's responsible for this cold spot, although the melting of the Greenland ice sheet might have something to do with it.

"It's something to look at going forward," Schmidt said.

On land, Asia and South America both saw their warmest years since official record keeping began there in 1910, while Africa and Europe reported their second-warmest years on record. North America had its fifth-warmest year, and Australia and the rest of Oceania reported its sixth-warmest year.

Two weeks ago, NOAA announced that the average temperature for the contiguous United States last year was 54.4 degrees Fahrenheit, 2.4 degrees above the 20th century average. That made 2015 the second-warmest year in 121 years of record keeping.

The global temperature data are collected by 6,300 land-based weather stations, as well as research stations in Antarctica and a network of ships and satellite-communicating buoys in oceans around the world.

NASA and NOAA have slightly different ways of interpreting surface temperature data, but they found comparable increases in average global temperature between 2014 and 2015. Specifically, NASA recorded an increase of 0.23 of a degree Fahrenheit, while NOAA measured a rise of 0.29 of a degree.

Although these changes may seem small, experts said they are both significant and unprecedented.

“For every 1-degree Fahrenheit increase in temperature, the atmosphere can hold about 4% more moisture,” said Kevin Trenberth, a climate researcher at the National Center for Atmospheric Research in Boulder, Colo. “With a quarter-degree increase, that means the atmosphere can hold 1% more moisture in 2015 than in 2014.”

One of the consequences of that is increased flooding. Devastating floods in Missouri, central South America and Chennai in southeast India in 2015 could have been the result of the higher global temperatures, Trenberth said.

“A quarter of a degree increase is actually huge,” he said. “It’s bigger than we’ve ever seen before.”

The first detailed global temperature measurements were recorded in 1880. Since then, nine of the 10 warmest years on record have occurred since 2002, according to NOAA. The one exception is 1998, which ranks as the fifth-warmest year in part because of a particularly strong El Niño phase.

The British national weather service, the Met Office, released similar findings about global temperatures on Wednesday, saying 2015 broke records going back to 1850. The Japan Meteorological Agency has also published preliminary findings that show 2015 was on track to be the warmest year since 1891.

Tom Karl, director of NOAA's National Centers for Environmental Information in Asheville, N.C., said the streak was likely to continue this year.

“The odds favor 2016 being warmer than 2015,” he said.

Schmidt said he wouldn’t bet against that prediction.

“I’d give you better than even that will be the case,” he said.

While most climatologists agree that more record-breaking years are sure to come, not all of them expect 2016 to be warmer than 2015.

Tim Barnett, a marine physicist with the Scripps Institution of Oceanography at UC San Diego, said his models predicted “a whopping cold event in the second half of 2016 that would temper or cancel out some of the effects of the El Niño in the first months of the year.”

Regardless of what happens in 2016, scientists who follow the global climate said the announcement that 2015 was the warmest on record did not come as a surprise to them.

“We have this monster El Niño superimposed on a long-term warming trend due to human emissions of carbon dioxide,” Texas Tech’s Hayhoe said. “We saw this coming months ago.

“What did surprise people was how it surpassed the record — it didn’t just break it, it smashed it,” she added. “That’s what we’re going to see going forward. Global warming doesn’t mean every year will be successively warmer than the previous one, but we will be breaking the record more and more frequently.”

Climate Change Raises a Troubling Question: Who Gets to Eat?

Date: 21st January, 2016 Source: Inside Climate News

Policymakers on Capitol Hill got a dire warning that climate change threatens food production, safety and affordability.

That stark message came in a briefing by the American Meteorological Society to congressional staff members, climate scientists and federal regulators that linked climate change to a host of troubling scenarios involving worldwide food availability.

Wednesday's briefing drew on a peer-reviewed study by the U.S. Department of Agriculture released during the Paris Climate Conference last month. That report, "Climate Change, Global Food Security and the U.S. Food System," concluded that the effects of climate change on food will strike urban and rural populations in wealthy and poor nations alike.

While the threat depends on many factors, its impact will increase by mid-century, according to the report. Under the least-optimistic scenario—based on high carbon emissions and low international cooperation to combat climate change—agricultural yields could fall by as much as 15 percent, and food prices could rise more than 30 percent by 2050.

"Climate change puts the world's food security at risk through both direct and indirect factors," said Margaret Walsh, an ecologist in USDA's Climate Change Program Office and one of the authors the report.

Widespread drought caused by climate change could decrease crop production, Walsh told InsideClimate News. At the same time, sea level rise could impact cargo ships' access to docks for importing and exporting food.

"There are many, complex factors that have to be considered when assessing the threat to food security," Walsh said.

Global Warming, Global Warning Global food security—defined as people having access to safe and nutritious food sufficient to lead healthy lives—has improved over the last six years, with 200 million fewer people at risk, Walsh said. (The USDA estimates that 805 million people worldwide do not have sufficient food today.) Yet predictions of increasing global temperatures could signal a halt in the progress toward curbing global hunger.

Risks to food security will increase as the magnitude and rate of climate change increases. Even moderate changes in global warming are predicted to have a detrimental effect on global food sources, Walsh said.

USDA scientists calculated the consequences associated with worst- and best-case scenarios, based on the current level of greenhouse gases, which is around 400 parts per million.

A worst-case projection based on high greenhouse gas concentrations in the 850 ppm range, coupled with high population growth and low economic growth, concluded that 175 million more people will be at risk of undernourishment by 2080. The same socioeconomic conditions at 550 ppm would result in 60 million additional people at risk, and if concentrations drop to 350 ppm, risk does not increase at all.

Climate is the most important influence on agriculture, Walsh said. Crops are adapted to particular patterns of temperature, rainfall and the length of the growing season. When climate changes those parameters, agricultural systems are disrupted.

'Who Gets to Eat?'

Ed Carr, a professor of international development, community and environment at Clark University in Worcester, Mass., used wheat production in northwestern Europe and rice production in eastern Asia to illustrate that tenuous balance. Together, those two regions produce one-third of the world's grain crops.

The wheat and rice output has been pushed to the limits that the soil can support and the grain variety can produce, said Carr, who was one of the speakers at the briefing.

"You add climate change to that mix and you are taking a stressed system and stressing it even more," he said.

Rising temperatures mean the grains won't germinate; rain patterns are disrupted so crops are stunted and growing seasons are altered, Carr said.

"We are already in a world where we are bumping up against the limit of what we can produce so any additional stress factors can have significant consequences," he said.

Less production means price increases and a shifting of markets, Carr said. The food will go to the markets that can afford the higher prices, leaving poorer nations wanting.

"What we see are the consequences of climate change radiating," he said.

Other factors that must be considered, according to the researchers, is that climate change also disrupts transportation, storage, packaging and delivering food— making it harder for people to get enough of the right kind of food, especially in regions already facing shortages.

One of the least recognized factors is how social and cultural norms in various communities and even households will shape food distribution and preferences during shortages, Carr said.

"If there is inadequate food available to households—who gets to eat?" Carr said. "In parts of Africa, boy children will be fed preferentially over girl children.

"So basically we don't know a whole lot about the social and cultural norms that are critical to food access, so most of our measures of food access are related to food price, which is a very partial measure of access at best."

Although the United States may be vulnerable to climate change-related disruptions in productivity, it appears likely to endure with fewer hardships than the rest of the world, USDA researchers said.

No Clear Pollution Trend During Odd-Even Trial: Reports

Date: 24th January, 2016 Source: NDTV

Odd-even experiment suggests that no single action can substantially reduce air pollution levels in the capital.

NEW DELHI: Lack of any clear trend and wide fluctuations in concentration of pollutants during the odd-even experiment suggests that no single action can substantially reduce air pollution levels in the capital, the Central Pollution Control Board (CPCB) has said in a report.



"With no clear trend and wide fluctuations observed in the concentrations, it is evident that the meteorology and emissions from other polluting sources have been major factors impacting air quality of Delhi during the period.

"Overall, it can be stated that while some reduction in air pollution is likely to happen due to odd-even scheme, a single factor or action cannot substantially reduce air pollution levels in Delhi," says the report that analyses air quality in Delhi before, during and after the odd-even experiment.

The board has also called for a "comprehensive" set of actions and an "integrated" approach to make substantial improvement in air quality.

The air quality in Delhi is monitored through a set of Continuous Ambient Air Quality Monitoring System (CAAQMS) and manual stations by National Air Quality Monitoring Programme (NAMP).

The CPCB analysis is based on the data collected by 8 operational CAAQMSs including 4 of its own (Shadipur, Dwarka, Dilshad Garden and Parivesh Bhawan) and other 4 belonging to Delhi Pollution Control Committee (DPCC) (Mandir Masg, RK Puram, Punjabi Bagh and Anand Vihar).

Apart from this, data has also been collected from 7 manual stations of CPCB (Pitampura, Sirifort, Janakpuri, Nizamuddin, Shahzada Bagh, Shahdara and Bahadur Shah Zafar Marg) which operate on alternate days.

The AAP government had implemented the car-rationing experiment from January 1 to 15 with the objective of reducing air pollution in the national capital.

Worst Kind of Heart Attack Linked to Air Pollution, Experts Say

Date: 27th January, 2016 Source: Good4UTAH

MURRAY, Utah (GOOD 4 Utah)- Medical experts from Intermountain Medical Center met Wednesday morning to discuss recent findings linking increased short term air pollution in the Beehive state to serious health problems.

"It primarily effects the worst kind of heart attack, which is STEMI heart attack, where there is a very severe affect on specific vessels of the heart that can cause the major pumping chamber to stop," said Dr. Benjamin Horne, Intermountain Medical Center Heart Institute.

Dr. Horne and a team of medical experts have been studying air pollution and health along the Wasatch Front for over a decade. They know that on bad air days they can count on an increase of people admitted to the hospital.

"It's just something that we've become used to. That we see higher activity for heart attack and chest pain and people whose hearts are laboring more to pump the right amount of blood out to the body--that they come in not feeling well," said Dr. Horne.

From their research they've found those most at risk are people with underlying heart disease. "A lot of people don't necessarily know if they have it, but we know the risk factors. People who are older, people who have high cholesterol, or blood pressure or diabetes and especially smokers," said Dr. Horne.

Their findings have led the team to develop a care process model to help physicians understand what can be done during consultations with patients.

"We've developed some fact sheets for people with heart disease, or stroke, or asthma and COPD, and pregnant women that air pollution tends to effect these groups more," said Dr. Horne.

FEBRUARY 2016

Study shows birth defects result of Haifa air pollution

Date: 1st February, 2016 Source: Arutz Sheva 7



Due to high levels of air pollution babies are born 20-30 percent smaller and with smaller heads. Also cause for high rate of cancer.

Residents from the Haifa bay area together with environmentalists joined a massive protest against the air pollution that has been adversely affecting the area for years. While many people had been convinced that the air pollution caused by the myriad of factories near the Haifa port has been causing cancer in many of the residents, a new study revealed on Sunday a different side effect.

According to a report that appeared on Channel 2 news, the morbidity rate in Haifa is much higher in the Haifa area with regards to babies being born at a smaller weight and with smaller heads than they are in the rest of the country.

It was also reported in a comprehensive study carried out by the University of Haifa that there is a higher rate of lymph node cancer as well as cancer of the lungs in the Haifa area by more than five percent over the rest of the country. Professor Micha Barhana of the school for Public Health in Haifa University told Channel 2 that "it was completely expected to find this result. No matter in which field of medicine you look, the morbidity rate is higher in Haifa than everywhere else in the country."

Barhana continued and said "there is a direct link between the air pollution in the city and the morbidity rate. That air pollution can cause newborns to have less body weight, that is well known. That this study shows there is a link is not a surprise. The air pollution also has a direct effect on heart disease and also causes complications for breathing in young children and infants."

Motti Blitzlow a Kiryat Haim resident and an environmental activist for over 40 years said during the interview "well feel like we are being held hostage by decision makers in the government. They are simply not interested in us. We are talking about billions of shekel in revenue, and all of it is coming at the cost of public health. There are 800,000 people living under the conditions of harmful pollution, it is a situation that cannot be allowed to continue. There is simply no justice in the government."

According to the study babies born in and around the Haifa area are 20-30 percent smaller than babies in other areas of the country that have less air pollution. The study showed that the most affected areas are those of Kiryat Haim, Kiryat Bialik, the southeastern area of Kiryat Tivon and the Carmel ridge that faces the petrochemical plants in the Haifa bay area.

"What is really worrying about this situation is that each time a study comes out we have to convince the government again and again to limit the amount of industry in the area and to clean up the pollution. We've known about this problem for more than 15 years. It is disappointing that we have to conduct more and more studies to convince those in the government who wish to close their eyes and turn away from the issue, that something must be done about the air pollution in and around the Haifa area."

Haifa Mayor Yonah Yahav said that while the “leak” of the information to the media prior to its presentation to the relevant parties for study is worrisome, however, he and the city council are “fighting around-the-clock” to prevent the expansion of new factories in the Haifa bay area.

"For the first time we have a minister of the environment in the government who is promoting a campaign for air quality in the Haifa Bay area," he said of Kulanu's Avi Gabai. "The time has come when the entire Israeli government should get involved in this issue and not stick their heads in the sand.

"For the first time in history, Haifa has a national campaign with a budget and it is time for the Prime Minister to roll up his sleeves and bring about a governmental decision on the issue and provide the residents of Haifa with the immediate response that they need"

Air Pollution Linked to Risk of Preterm Birth

Date: 1st February, 2016 Source: Health Day

Exposure to high levels of air pollution in pregnancy may increase the risk of having a preterm baby, new research suggests.

For the study, researchers examined nearly 225,000 births of single babies in Ohio between 2007 and 2010. More than 19,000 of them were preterm deliveries -- before 37 weeks of pregnancy.

Exposure to high levels of small particle air pollution during pregnancy was associated with a 19 percent increased risk of preterm birth. The risk was greatest when high levels of exposure occurred during the third trimester, the study found.

"Although the risk increase is modest, the potential impact is robust, as all pregnant women are potentially at risk," study author Dr. Emily DeFranco, a physician-researcher at the Center for Prevention of Preterm Birth of Cincinnati Children's Hospital Medical Center, said in a medical center news release.

The type of air pollution looked at in the study is composed of small particles from car exhaust or burning wood, coal and other fossil fuels. According to the U.S. Environmental Protection Agency, this type of air pollution can be inhaled deep into the lungs.

Preterm birth rates were highest among women 40 and older, black women, those with no prenatal care or with lower education level, and those exposed to levels of small particle air pollution above the EPA standard, according to the researchers.

The findings were published online recently in the journal Environmental Health.

The report doesn't prove that exposure to air pollution causes premature births, but the researchers believe the association is significant.

"We estimate that decreasing the amount of particulate matter in the air below the EPA's standard threshold could decrease preterm birth in women exposed to high levels of small particulates by about 17 percent, which corresponds to a 2.22 percent decrease in the preterm birth rate in the population as a whole," DeFranco said.

In a previous study, she found that exposure to high levels of particulate air pollution in the third trimester of pregnancy was associated with a 42 percent higher risk of stillbirth.

Last year, the American Lung Association listed two areas in Ohio -- Cincinnati-Wilmington-Maysville and Cleveland-Akron-Canton -- among the 10 worst regions in the United States for year-round particle pollution.

Following Deonar fire, air pollution level triples in Mumbai

Date: 2nd February, 2016 Source: Mid-day



The smog from Thursday's fire at the Deonar dumping ground is finally settling, but the BMC is yet to clear the air over allegations that its negligence led to the disaster, with officials from the Maharashtra Pollution Control Board (MPCB), as well as BJP MP Kirit Somaiya, holding the civic body responsible.

The fire broke out on Thursday at the city's biggest dumping yard in Deonar, enveloping Mumbai and Navi Mumbai in smoke for days and raising air pollution to nearly triple the normal level (see 'Air Quality Index'). It is yet to be determined how the fire broke out, but the BMC has drawn considerable flak for its own negligence — whether it be in poor security and safety measures, or the lack of roadways or working CCTV cameras in the dump yard.

Alarming pollution

After the fire, Mumbai registered an Air Quality Index (AQI — the measure for air pollution) of 345, which is rated as very poor and can result in respiratory illness on prolonged exposure. In Mumbai, 100-200 is considered the normal range of air pollution. Yesterday, the city witnessed an AQI of 307. However, the AQI is slowly expected to fall in the coming days, with an AQI of 167 expected today.

Future measures

MPCB officials said that while the air quality was improving, they are closely monitoring the situation and have asked the BMC to take steps to ensure such a crisis is not repeated. "We have already told the BMC officials to take all necessary measures to ensure that the incident does not happen again as it has already lead to a huge amount of pollution. If proper measures are not taken to tackle the issue, then action will be taken against those responsible," said an official.

When mid-day asked MPCB spokesperson Sanjay Bhuskute about the BMC's role, he said, "Our investigations are going on so I cannot comment."

However, another official said, "We will send a show cause notice to the BMC for the fire that broke out at the Deonar dumping ground and resulting pollution."

The pollution levels were so alarming that CM Devendra Fadnavis had earlier said that if the situation went unchecked, the city could become like the gas chambers from Hitler's era. The issue has drawn the attention of the Central Pollution Control Board, which will send a team to inspect the dump yard.

On Monday, BMC Commissioner Ajoy Mehta also visited the Deonar ground along with officials from the National Environmental Engineering Research Institute (NEERI) and found the yard sorely lacking roads, which had severely hindered the firefighting operation as well. “The fire brigade took longer to reach the dumping yard due to the bad condition of internal roads. The commissioner instructed us to use construction debris to fill out the roads properly,” said Kiran Digaonkar, M-East ward officer. In addition, the officials were also asked to keep nearby water sources open and accessible for future emergencies, he added.

Stray dog menace

BMC chief Ajoy Mehta also asked the authorities to curb the rising stray dog population at the yard, as they had also hampered the firefighting process. “The large number of dogs had caused a problem for the fire brigade, so the dogs will be sterilised and then released.”

Municipal workers’ strike worsening air pollution in Delhi

Date: 2nd February, 2016 Source: Hindustan Times



The ongoing strike by municipal corporation employees is polluting the city’s air as people are burning garbage that has not been cleared for nearly a week now by striking sanitation workers.

Heaps of garbage have been piling up in most localities in east and north Delhi with over one lakh municipal employees on an indefinite strike.

Burning waste is banned in the city and is punishable with a fine of R5,000. But because of the ongoing strike, there are no municipal officials to check and punish those who are burning garbage on the streets.

Hindustan Times spotted burning heaps of garbage at Gandhi Nagar’s Shanti Mohalla, Kanti Nagar, Jheel Khurinja and Patparganj Road in east Delhi.

BS Vohra, president of East Delhi RWAs Joint Front (Federation), said incidents of people burning garbage on roads had gone up. He said since garbage was piling up at homes and dump yards, people were openly burning waste. “Since garbage is not cleared due to the strike, it is being burnt at various places almost daily. The residents are bearing the brunt of the inefficiency of government agencies,” Vohra said.

Vohra said Jagatpuri, Preet Vihar, Kanti Nagar, Azad Nagar, Krishna Nagar, Vishwas Nagar, Ghazipur, Patparganj and Seelampur -- all in east Delhi -- were the worst affected. “The drain on road number 57, which runs through the entire east Delhi, is now being used as an open garbage dump. It is sad that despite being the most polluted city in the world, we are yet to understand the gravity of the problem and adding to it by burning waste,” Vohra said.

Though vehicular emission is the biggest contributor of pollutants in the city , burning of garbage and leaves contribute to 29.4% of the air pollution when it comes to particulate matter 10.

Exposure to these small particles, which can get lodged deep inside a person’s lungs, can result in cough, wheezing and even a heart attack or a stroke.

To combat air pollution in the city and to comply with the National Green Tribunal 's order, the environment department had earlier authorised sub-divisional magistrates and tehsildars of the revenue department to fine people who burn waste.

Fairbanks borough looks to step up air pollution monitoring

Date: 3rd February, 2016 Source: NEWSMINAR

FAIRBANKS — The borough administration wants to resume the "sniffer" program whereby a vehicle outfitted with a particulate counter makes daily runs, collecting data on particulate pollution in various parts of the Fairbanks North Star Borough.

The program has been in place previous years but was put on the back burner this winter so the municipality could focus on a new program using the sniffer vehicle to respond to air quality complaints, according to air quality manager Ron Lovell.

An $858,858 federal grant would allow the municipality to hire two new full-time employees and to retrofit a second vehicle with a particulate counter, Lovell said. The borough would resume collecting the sniffer data next winter, he said. The program would last three years.

Grant approval by the borough assembly is on the fast track with a special meeting scheduled Thursday. A public hearing and vote is tentatively scheduled for Feb. 11.

"The whole purpose of the sniffer program is to identify hot spot areas that have high concentrations of PM2.5," Lovell said.

When the two employees are not collecting and crunching particulate pollution data, they would be working on spreading awareness about particulate pollution, Lovell added.

"These people will be more hands on," he said.

The "sniffer maps," as they are called, produced by the borough would be published and used as a tool of the outreach efforts, according to Lovell. The borough already publishes pollution readings from various stationary monitors located in Fairbanks and North Pole.

Patrice Lee, of Citizens For Clean Air, said she applauds the borough's efforts to resume the sniffer program and expand air quality outreach. But she is frustrated, saying the municipality is moving too slowly to clean up the air.

"We are starting, for the first time, to make real progress," Lee said. "The borough is trying to see it more from the point of view that this is a health and safety issue."

High counts of PM2.5, nearly-invisible particulates in the air caused by combustion, has landed Fairbanks and North Pole on a U.S. Environmental Protection Agency watch list.

The EPA created a non-attainment area, essentially covering the most developed areas of Fairbanks and North Pole.

To get into attainment, Lovell said, the borough will need to show the EPA that it has cleaned up the air in every square kilometer of the non-attainment area.

The sniffer program will help the borough track efforts to meet that goal.

“We know that there is probably more hot spots out there that we don’t understand yet or we haven’t identified,” Lovell said.

Excessive smoke from wood and coal burning is blamed for the PM2.5 pollution. Scientific research over decades has linked particulate pollution to various heart and lung illnesses.

Deal with outdoor air pollution: WHO urges SE Asian region

Date: 3rd February, 2016 Source: Economic Times



NEW DELHI:Noting that outdoor air pollution increases the risk of cancer, WHO today urged governments of Southeast Asian region to tackle the issue with "urgency" as the area has 14 of the world's top 20 polluted cities.

WHO said that every year 8.2 million people die from the disease across the world and two-thirds of these deaths occur in low and middle income countries.

It also said tobacco use, both in smoke and smokeless forms accounts for 22 per cent of cancer deaths globally and is a "leading" cause of the disease in the region.

WHO's Southeast Asian region comprises Bangladesh, Bhutan, Democratic People's Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand and Timor-Leste.

"Outdoor air pollution, meanwhile, increases the risk of cancer for us all. The region has 14 of the world's top 20 polluted cities, making clear the need for governments to tackle the issue with a sense of urgency," said Poonam Khetrapal Singh, WHO Regional Director for Southeast Asia on the eve of World Cancer Day.

She said that in the region, occupational hazards and exposure to environmental substances continue to be a source of cancer and premature death.

Whether through laboring in fields without adequate sun protection or exposure to cancer-causing chemicals at a factory, workers throughout the region are exposed to risks, she said.

She said that alcohol use, unhealthy diet and physical inactivity similarly contribute to a burden that has profoundly negative social, economic and developmental implications.

"We need to improve access to cancer treatment and services across the care continuum, and build the capacity of the workforce staffing these services.

"We also need to work towards developing and enforcing strong policies to reduce tobacco and alcohol use and reducing exposure to environmental carcinogens," she said.

She said that to address these issues, both at a systemic and individual level, increased awareness is "critical" and the theme of World Cancer Day 2016-2018, 'We can I can', is both welcome and vital.

Are Biomass Briquettes Sufficient to Reduce Air Pollution from Environment?

Date: 3rd February, 2016 Source: Review Examinar

The world today is technologically equipped with efficient gadgets, sophisticated machinery and most advanced techniques to make human life even more luxurious day by day. Unfortunately, with humans focusing on inventing great things and ignoring the after-effects has led to enormous global warming resulting in devastating moments.

However, with some people realizing that reducing global warming is increasing human existence, the world is gradually coming under better hands. One such most reliable methodology is biomass briquetting.

In today's modern world where technology and strategies are adding to increased pollution levels, biomass briquette making comes as a boon to the world, for the method serves as an alternative to natural fuels and also plays an important role in cutting down air pollution unlike other fuels.

Globally, biomass briquettes are considered as a solution to air pollution, for the process involves briquette making from various wastes and residues.

Despite fire, Mumbai air still 95% better than Delhi

Date: 4th February, 2016 Source: Sify News



Mumbai: Large enough to be seen from space, the fire from a burning garbage dump on Mumbai's eastern edge shut schools, but the city's air-pollution levels were almost twice as good–relatively speaking–as Delhi's, according to data from IndiaSpend's #Breathe air-quality sensors.

The city-wise comparison is based on average data taken over four days from five #Breathe devices across Mumbai (Bandra, Lower Parel, Santacruz, Chembur and Tardeo) and Delhi (Nizamuddin East, Civil Lines, Sukhdev Vihar, Chattarpur and Outram Lines).

The average PM 2.5 level in Delhi was 293.3 ug/m3 (micrograms per cubic metre of air), 95% more than Mumbai's 150.5 ug/m3, between January 28 and February 1, 2016.

Delhi's average PM 2.5 level was 'poor', which could lead to breathing discomfort to most people on prolonged exposure.

Mumbai had a 'moderate' reading, causing breathing discomfort to people with sensitive lungs, asthma and/or heart disease.

PM 2.5 are fine particulate matter found in the air with a diameter of 2.5 micrometres or less and are known to pose the greatest risk to human beings. Their measurement is considered to be the best indicator of the health risks from air pollution, according to the World Health Organization.

The average PM 10 (particles between 2.5 to 10 um in diameter) level in Delhi (495.7 ug/m3) was more than two-and-half times (170% more) that in Mumbai (183.8 ug/m3).

The average PM 10 level in Delhi had a 'severe' rating, which affects healthy people and seriously impacts those with existing diseases. Mumbai's average PM 10 level had a 'moderate' rating.

The average PM 2.5 level in Chembur, the area where the fire broke out, was recorded at 116.9 ug/m3 from January 21 to January 25, a week before the fire. The reading surged 49% to an average of 174.5 ug/m3 between January 28 and February 1, 2016, a moderate reading.

Similarly, the average PM 10 level was 150.6 ug/m3 (January 21 to January 25), which increased 35% to 203.1 ug/m3, leading to 'poor' conditions, from January 28 to February 1, 2016.

The average PM 2.5 concentration level in Mumbai was 150.6 ug/m3 from January 28 to February 1, an increase of 66% (90.7 ug/m3) over the previous week, between January 21 and January 25.

Similarly, the average PM 10 level rose 50%, from 122.3 ug/m3 (January 21 to January 25) to 183.8 ug/m3 (January 28 to February 1).

Municipal officials claimed to have the fire under control but added it would take "some more time" to douse the fire. About 74 schools were closed for two days (Friday and Saturday). A few stayed shut even on Monday as the situation did not appear to have changed.

Graphs show a gradual improvement in concentration levels of both PM 2.5 and PM 10 in Mumbai from noon January 28-29 to noon January 31- February 1, as the fire was tamed over these days, indicating improving air quality.

Air pollution: The silent killer

Outdoor air pollution causes 670,000 deaths annually in India, according to this 2014 research paper from the Indian Institute of Management, Ahmedabad.

The relative health benefits of reducing pollution are higher for cleaner cities, such as Shimla, against cities with dirtier air, such as Mumbai.

The study covered five cities–Ahmedabad, Bangalore, Hyderabad, Mumbai and Shimla–based on topographic and climatic zones.

The highest PM 10 level was observed in Mumbai (174.4 + 86.6) and the lowest in Shimla (54.4 + 25.2), according to the study.

Shimla had the lowest number of daily deaths (4.2 + 2.7), Mumbai (225.6 + 30.7) the highest. Deaths were linked to population size.

There is a close relationship between exposure to high concentrations of small particulates (PM 10 and PM 2.5) and increased mortality and morbidity, both daily and over time, according to the World Health Organisation (WHO).

Outdoor air pollution in cities and rural areas across the world was estimated to cause 3.7 million premature deaths in 2012, according to the WHO.

These deaths are ascribed to exposure to PM 10 or less in diameter, which leads to cardiovascular/respiratory diseases and cancer.

Reducing annual average particulate matter (PM 10) concentrations from around 70 ug/m3, common in many cities in developing nations, to the WHO guideline level of 20 ug/m3, could reduce air-pollution-related deaths by about 15%. At the time of writing this, Mumbai's PM 10 level (24 hour average) was 145.6 ug/m3 and Delhi's was 293.2 ug/m3.

Mumbai gasping: Deonar dump fire highlights the need to prioritise fight against air pollution

Date: 4th February, 2016 Source: Times of India

With the fire at Mumbai's Deonar dumping ground pushing the city's air to dangerously toxic levels over the last few days, residents were forced to take out a protest march against the Brihanmumbai Municipal Corporation. The Deonar fire was the result of a criminally callous approach to waste disposal at the massive dumping ground, that receives more than 6,000 tonnes of waste each day. And thanks to politics between the state government and the municipal corporation, a much-needed processing plant at the site is yet to materialise. In other words, the Deonar disaster was waiting to happen – with dangerous toxic gases such as methane building up over decades.

Mumbai, unlike Delhi, is blessed with a sea coast which helps mitigate air pollution with the sea breeze blowing away pollutants. Yet the country's financial capital suffers from a woeful waste management system. Growing public awareness about health hazards like the Deonar fire means that pollution can no longer be treated as a low-priority problem. Nor will whimsical solutions like Delhi's oddeven traffic restrictions deliver the goods. What is required is a holistic approach that integrates pollution mitigation efforts with urban development.

In fact, pollution mitigation in terms of both tackling air pollution and putting in place a scientific solid waste disposal mechanism cannot be divorced from the government's smart cities mission. And to make cities smart, it's critical to have smart governance of cities. In this regard, local municipal authorities and mayors must be granted greater functional and financial autonomy to fix local problems, instead of leaving all to a distant and uncaring state government. Taken together, governance can no longer afford to bypass sanitation and pollution issues critical to the well-being of citizens.

World Cancer Day: Air pollution, tobacco top cancer causes in India

Date: 4th February, 2016 Source: Hindustan Times



Air pollution, certain viral infections, along with tobacco in its many forms, are among the top five avoidable causes of cancer in India, concluded an extensive review of close to 500 known carcinogens by the ministry of health and family welfare.

The top three carcinogens are smoking and chewing tobacco, areca nut (supari) and betel quid (paan, paan masala), which together have made oral cancer the

most common cancer in India. Of them, tobacco in its three forms — chewing, smoking and second-hand smoke — accounts for 30% of all cancers in India.

“Most people don’t link viruses with cancer, but viruses such as human papillomavirus (HPV) have been proven to cause cervical cancer and Hepatitis B is linked with liver cancer,” said Dr Harit Chaturvedi, director of surgical oncology at Max Healthcare.

Getting vaccinated against both these viruses – Hepatitis B vaccine is a part of routine immunization in India – can protect against cervical cancer in women and liver cancers in both genders, Dr Chaturvedi suggested.

Annually, an estimated 30 lakh people in India suffer from cancer; of these 11 lakh are new cases and the disease claims 5 lakh lives each year. The cancers that claim most lives in India are also the most common, including oral, breast, cervical and lung cancers.

The International Agency for Research on Cancer Monographs lists 481 agents and environmental factors that are carcinogenic, probably carcinogenic, or possibly carcinogenic to humans.

“The international list is massive and some causative agents are not relevant in the Indian context. For India’s monograph, 500 known carcinogens were reviewed and recommendations were given on what is being done and what needs to be done to prevent these cancers,” says a health ministry official who did not want to be named.

India’s National Health Profile 2015 estimates that cancer in men will rise by 19% by 2020, with mouth cancer registering the highest spike. In women, cancer cases will go up by 23%.

New car emissions test rules will cut air pollution

Date: 4th February, 2016 Source: EPP Group



Today, the European Parliament paved the way for better emissions test rules for cars.

"The European Parliament has taken a pragmatic decision. While the agreement is far from perfect, the adoption allows for a swift implementation of on-the-road emissions tests. It offers an effective way to cut air pollution by diesel cars significantly in the short term," said MEP Ivo Belet, member of the Inquiry Committee on car emissions (EMIS), in reaction to a vote on whether to object to the recently-agreed test rules for car emissions. In the end, the European Parliament decided not to object to the rules.

The European Parliament has managed to improve the agreement on test rules between the Member States significantly by including an annual review of the Real Driving Emissions test (RDE) conformity factor, taking into account technical improvements in the car industry. The rules allow for some flexibility to give the automotive industry time to adjust to them. And the European Parliament will monitor closely to ensure that the gap between real driving emissions and regulatory limits is closed as quickly as technological innovation allows.

"Vetoing the agreement on new test rules (RDE) would have meant a legal vacuum of at least 2 years, uncertainty for car owners and manufacturers and no progress whatsoever for the environment. Instead,

we can now rapidly implement the on-road tests, which, together with the Commission proposals for a major overhaul of the EU type approval framework, will make it very difficult to circumvent emissions requirements," Ivo Belet said.

However, as MEP Peter Liese, EPP Group Coordinator in the Environment Committee (ENVI), points out, the decision of the Council's expert committee had been criticised by ENVI for being not ambitious enough.

"The problem is that we could not modify the decision, but could only vote yes or no. I could have imagined even more stringent limits, but if we had rejected the current limits, the danger would have been that we would still only have had tests in the laboratory for years. This would not have been a step forward for the environment. The difference between the limits decided now and pure laboratory tests is much higher than the difference between the adopted limits and the theoretically strictest value," Peter Liese said.

Before the vote, the European Commission had issued a statement to announce a review of the conformity factors next year already. In addition, the Commission had submitted a proposal last week to dramatically increase controls on European roads. Apparently, this has changed the minds of a number of MEPs.

Pic-scanning AI estimates city air pollution from mass of photos

Date: 5th February, 2016 Source: New Scientist



Is it safe to breathe today? In cities such as Singapore, Beijing and New Delhi, where air pollution can reach dangerous levels, this question has become part of everyday life.

A project called AirTick is using artificial intelligence to find clarity amid the smog. The app, built by a team at Nanyang Technological University in Singapore, will estimate air quality by analysing large numbers of photos of the city.

Air sensors can be expensive to install, says Pan Zhengxiang, a graduate student who was inspired to create the app from his time fighting forest fires for the air force. A smartphone app provides the opportunity for a low-cost solution – particularly in a country such as Singapore, which has one of the world's highest levels of smartphone ownership per capita.

AirTick will collect photos in bulk for any city it wants to track, recording when and where each was taken and the positioning of the camera. Those images will be checked against official air-quality data. The information will be used to train a machine-learning algorithm, which will learn to estimate the level of pollutants in the air solely on the basis of evidence from photos.

The idea is to gradually improve the algorithm so that the general public can eventually obtain accurate real-time estimates of the air quality in their neighbourhood. Smartphone cameras will act as a proxy for air-pollution sensors, which are less common. "Any camera-enabled mobile device installed with AirTick can become an air-quality sensor," says Zhengxiang.

A study with the prototype app took place with 100 users in November, and the group hopes to roll it out to the public this year. The project will be presented this month at the AAAI Conference on Artificial Intelligence in Phoenix, Arizona.

Dirty air

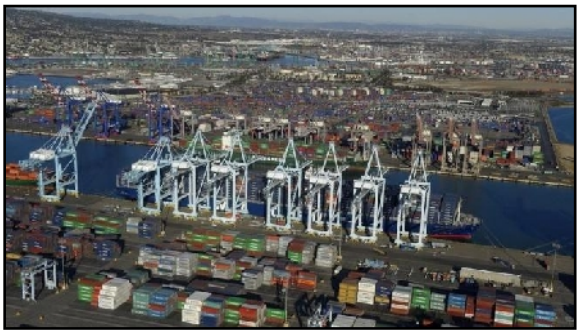
Air pollution is a serious problem in South and East Asia. Schools and factories are shut down on days when pollutants reach dangerous levels. The World Health Organization estimates that one in eight deaths worldwide are caused by air pollution every year.

A smartphone tool could be valuable for people with extra concerns about going outside on smoggy days, such as those with a respiratory disease or young children, says Jiebo Luo, a computer scientist at the University of Rochester in New York. Last year, his group trained a neural network to sort photos taken at Beijing tourist attractions by haze levels.

“If we want to know right now, right here what the air quality really is, then we can’t rely on the sensors. There just aren’t that many of them,” Luo says. “With programmes like this, people could make a better decision for themselves based on where they are.”

L.A. needs fewer platitudes and more action on port air pollution

Date: 5th February, 2016 Source: Los Angles Times



When Port of Los Angeles leaders approved the environmental impact report for the China Shipping company's terminal in 2008, the Harbor Commission chairman at the time boasted that the project would be among the cleanest and greenest terminals in the world. Months later, however, port officials quietly waived some of the most ambitious pollution-cutting mandates, including a requirement that docked ships plug into electric power instead of idling their dirty diesel engines and another that trucks and yard equipment switch to cleaner fuels.

The secret concessions made by port officials under former Mayor Antonio Villaraigosa were revealed last year, infuriating neighbors of the port and clean-air advocates. This week, port officials raised hackles again by disclosing that they had allowed a second terminal operator to skirt pollution-reduction requirements. An audit found that ships docking at the TraPac terminal plugged into shore power only 53% of the time in 2015, well below the mandate of 80%. And the terminal operator did not have all yard equipment running on modern, clean diesel equipment by 2014, as required. Port officials blamed the missed targets on construction and a labor-related dispute, and TraPac called it a “one-time shortfall.”

But TraPac's failure to comply was disclosed only after the China Shipping debacle came to light. And the fact that two terminals accounting for one-third of the port's container traffic were allowed to ignore clean-air measures raises serious questions about whether the Port of Los Angeles and city leaders can be trusted to follow through on their environmental commitments.

The port complex, which includes the Port of L.A. and the Port of Long Beach, is the single largest source of air pollution in the region, with trucks and ships spewing smog-forming pollutants and cancer-causing diesel particles. But international trade is also a major economic engine and job creator for the region, and the L.A. port complex is in constant competition with other ports for shipping business. Balancing the need for continued growth with the need for cleaner operations is a real challenge that demands leadership, not platitudes about being the cleanest and greenest.

Mayor Eric Garcetti and his port general manager have promised to make good on clean-air obligations, but they have to do more than promise. They need to adopt strong air pollution controls, hold terminal operators to the requirements and agree to independent-third party monitoring. And they should push for modern, cleaner technology and pollution-cutting commitments throughout the shipping and goods movement industry, so Southern Californians don't have to sacrifice air quality for economic growth.

Delhi's air not worst in India: CPCB data

Date: 6th February, 2016 Source: The Times of India

NEW DELHI: The capital lost a dubious crown on Friday with the country's pollution watchdog saying it is not India's most polluted city, perhaps not even the second worst. But Central Pollution Control Board's (CPCB) data for the September 2015-January 2016 period clearly shows that Delhi's air is far from healthy.

CPCB has published air quality indices (AQI) for 24 cities that help in comparing pollution levels at a glance with a colour code and a numerical value. In India, AQIs are determined based on the concentrations of seven pollutants, including PM2.5 (fine, respirable particles), sulphur dioxide (SO2), nitrogen dioxide (NO2) and carbon monoxide (CO).

In January, when Varanasi in UP and Muzaffarpur in Bihar had "severe" AQI values of 409, Delhi scored a "very poor" with 362. Even neighbouring Faridabad was worse with an AQI of 399. Only three cities—Bengaluru, Haldia and Panchkula—had moderate air quality during the period.

Although the AQIs will draw attention to the problem of air pollution in smaller cities, experts say the indices are at best indicative because in most cities CPCB has very few monitoring stations, and sometimes these are out of order. For instance, Muzaffarpur, Gaya, Faridabad and Varanasi have only one station each.

Centre for Science and Environment's analysis of Delhi Pollution Control Committee's (DPCC) real-time monitoring data for December shows the capital had 23 severe air quality days although CPCB says there were none. "We have to factor in that many CPCB stations are in background areas or less polluted locations," CSE said.

Delhi is not India's pollution capital

In the past five months, Delhi had 13 "severe" air quality days while Muzaffarpur had 37, Varanasi 24, Agra and Faridabad 22 each, and Lucknow 18. In a "severe" AQI episode, most governments declare an air quality emergency as even young and healthy people can develop a variety of symptoms. People are advised to stay indoors. Delhi, however, had more "very poor" air quality days — AQI of 301-400 — than any other city. It had 69 to Kanpur's 65 and Varanasi's 43. Of the remaining 71 days, 43 recorded "poor" air quality in Delhi. The city also had as many as 43 days in the poor category. Delhi's pollution problem seems worrying because while it swings between bad and very bad, the other cities also have moderate air pollution at times.

Jekyll-and-Hyde cities

Some cities manage to have very bad and very good air days in the rainy months, so their average does not reflect the severity of pollution. In September, Chandrapur in Maharashtra recorded a peak of 420, which is severe, and a minimum of 39, which is good, lowering its average to 111 or inside the moderate category. Agra also had a minimum of 26 in September, as against a peak of 404.

Weather and location influence air quality

Cities with the worst AQIs are mostly in the Indo-Gangetic plains, indicating that weather and location affect air quality as much as emissions. "There are geographical factors as well as anthropological (human)," said Gufran Beig, project director at System of Air Quality and Weather Forecasting and Research (SAFAR) under the ministry of earth sciences. Winds from the north and south of the plains converge in the zone, increasing the pollution, he explained. "The area is also the second largest alluvial plain, it is very fertile land and so naturally it is the most polluted. It also has more emission sources like industries, vehicles and brick kilns," he added. The zone also has a concentration of thermal power plants. Dipankar Saha, additional director, air lab at CPCB, said reducing emissions is the only way to counter the zone's meteorological disadvantage.

Differing fuel standards

Trucks and other heavy vehicles sold in many small cities of north India have BS-III engines although BS IV diesel is available. CSE has called for immediate implementation of BS IV norms across the country. CSE researchers say while places like Chandrapur are highly industrialised, motorisation rates are very high in cities like Kanpur and Lucknow due to rapid urbanisation. "This shows air pollution is a national public health crisis," said Anumita Roy Chowdhury, head of CSE's 'Clean Air' campaign. "Stronger public opinion has provoked action in Delhi but other cities, especially the second rung cities, are victims of policy neglect. We urgently need a national air quality strategy. National air quality standards should be legally binding."

Although the AQIs will draw attention to the problem of air pollution in smaller cities, experts say the indices are at best indicative because in most cities CPCB has very few monitoring stations, and sometimes these are out of order CPCB has published air quality indices (AQI) for 24 cities that help in comparing pollution levels at a glance with a colour code and a numerical value. In India, AQIs are determined based on the concentrations of 7 pollutants, including PM2.5 (fine, respirable particles), sulphur dioxide (SO2), nitrogen dioxide (NO2) and carbon monoxide (CO).

DEQ: Marathon refinery already allowed to hike pollution

Date: 7th February, 2016 Source: Detroit Free Press

The area around Marathon's Detroit refinery will see increased sulfur dioxide air pollution from the plant whether a new air pollution permit is approved or not.

Of the 22 additional tons of sulfur dioxide the Marathon Detroit refinery plans to add to the area's air each year, 16.5 tons are already allowed under its existing permit, and require no additional approval or review, a state Department of Environmental Quality official said.

Marathon officials, however, say they have other projects in the works — including some mandated by the U.S. Environmental Protection Agency — that will, over the next few years, result in a net reduction of sulfur dioxide pollution from the refinery.

The petroleum company is seeking a new air pollution permit from the DEQ that would allow it to increase emissions of at least eight air pollutants at its southwest side facility, including sulfur dioxide, a pollutant for which the EPA considers southeastern Wayne County — including the neighborhoods near the refinery — "in non-attainment," or exceeding federal guidelines. The emissions would be the result of Marathon's plans to update its liquefied petroleum tanks storage, and to install equipment to meet an EPA mandate to produce lower-sulfur gasoline beginning in 2017, its so-called "Tier 3 project."

The refinery's request to hike its pollution emissions has sparked an outcry from area residents who already feel beleaguered by the poor quality of the air in their neighborhoods, which are surrounded by steel factories and coal-fired power plants. Detroit Mayor Mike Duggan last month threatened a lawsuit if the proposal moves forward, and Wayne County Executive Warren Evans also expressed opposition.

Of the 22 tons of additional sulfur dioxide emissions each year mentioned in Marathon's permit documents, only 5.5 tons is related to the refinery's facility upgrades. The other 16.5 tons would come from projected increases in refinery production, according to Andrew Drury, a senior environmental engineer with DEQ's Air Quality Division.

"If the Tier 3 project does not happen, Marathon is already allowed to emit the roughly 16.5 tons under their existing permits," he said.

"I don't think it's fair," said Sharon Bell, 70, who lives less than a quarter-mile from the refinery on Edsel Street.

Bell said her 2-year-old great-grandson often comes to visit her, and she worries about what the local air quality means for his health.

"There's a burning smell in the air sometimes, and when they're releasing whatever, there's a fog," she said.

Michael Tate, 55, a lifelong resident of Annabelle Street just blocks from the Marathon refinery, was incredulous.

"They want to increase the pollutants in air that's already heavily polluted. Wow ... wow," he said.

Drury said that under state and federal regulations, an increase in sulfur dioxide has to be 40 tons per year or more before a "control technology review" is required, where regulatory agencies review a polluters' methods of limiting air pollution and perhaps require updated technology. Marathon's permits allow it to emit 400 tons of sulfur dioxide per year, and the refinery emitted only 211 tons in 2014, he said.

"The Tier 3 project would not increase Marathon's allowed emissions above 400 tons per year," Drury said.

Sulfur dioxide modeling for southeast Wayne County shows Marathon's emissions are not contributing to the problem, Drury said. For perspective, he cited the coal-fired DTE Energy Monroe power plant, less than 30 miles down the road, which ,despite adding $1.2 billion in desulfurizing pollution control technology in recent years, has a limit of more than 14,000 tons of sulfur dioxide emissions per year.

That, however, was of little consolation to residents taking a not-one-bit-more view of the air pollution they live with.

"If the regulations say they can do it, they need to change," Bell said.

Said Tate, "So the regulations say it's OK to over-pollute an area. The DEQ are spokespeople for the refinery."

Marathon's actual spokesman, Jamal Kheiry, said the refinery is responsible for less than 3% of the air pollution in a 2-mile diameter around it.

"We're always looking to reduce our sulfur dioxide emissions — all of our emissions, the criteria pollutants that EPA tracks — and we've had success doing that," he said. "Since 1999, we've reduced our air pollution emissions by over 70%." Those figures were supported by the state's Michigan Air Emissions Reporting System, the DEQ's emissions-data collecting system from permitted industrial facilities.

In response to public comments opposed to its effort, Marathon is voluntarily reducing sulfur dioxide emissions from a portion of its facility as part of the Tier 3 project. The $2 million effort will reduce sulfur dioxide emissions by about 5.2 tons per year, Drury said.

Marathon also has committed to reduce emissions from its flares — the flaming towers where excess hydrocarbon gases that can't be be recovered or recycled are burned off — as part of a settlement with the EPA, a $58.5-million project that will install or modify gas recovery systems on two of its flares, and lead to the shutdown of a third flare. Those modifications will reduce sulfur dioxide emissions by 50 tons per year, based on emissions data from 2013 and 2014, according to company officials.

The DEQ is currently evaluating public comments received on Marathon's permit application, and will then make its decision. The decision will include a document responding to comments, Drury said, adding that there is no timeline on when a permit decision might be made.

Air Pollution: Delhi still breathes poison

Date: 8th February, 2016 Source: Skymet



For those residing in Delhi, if you still have not found that perfect, yet expensive gift for the Valentine's Day, then gifting a pinch or fistful of cleaner air could be your best bet.

During the last five months, Delhi saw 115 poor and very poor days out of which 13 were in a severe category.

Even though Delhi lost its crown of being the most polluted city to Varanasi and Muzaffarpur, it continues to breathe the toxic air.

While the city did fare well than several North Indian cities, in the past few months Delhi did not observe a single good air quality day.

Emissions are not the only thing responsible for air pollution in the national capital, but weather conditions also play an important role. Delhiites did not breathe clean air even for a single day during these last five months.

While several measures were taken by the Delhi Government including the Odd-Even Formula, and a few car-free days, air quality continues to remain poor in most parts of Delhi-NCR. Due to cold weather conditions, schools remained closed for almost the entire January.

A slight improvement cannot be ruled out, as in December and January, the national capital stood sixth as far as bad air quality is concerned losing its top spot to other North Indian cities. However, the situation remains alarming. Places like Anand Vihar and RK Puram are recording poor air quality even today.

As Delhi's air continues to deteriorate drastically, only a certain number of odd even days are not enough. Something more needs to be done to ensure that the national capital becomes a pollution free zone.

W. Visayas sets plans to lower air pollution

Date: 10th February, 2016 Source: Manila Bulletin

Iloilo City – The fast development has set in motion the need to lower air pollution in urban centers of Western Visayas region.

"We want to curb air pollution, especially emitted by vehicles that are not properly maintained," said Jonathan Bulos, Western Visayas regional director of Environmental Management Bureau (EMB-6), an attached agency of Department of Environment and Natural Resources (DENR-6).

Lowering air pollution was the aim of a recent smoke emission test on all vehicles owned by DENR-6 in its Iloilo City regional office.

It has been noted that the region comprising of Aklan, Antique, Capiz, Guimaras, and Iloilo provinces have a growing number of vehicle owners.

Bulos said this upward trend of vehicle ownership means that DENR-6 has to strengthen its operations with the Land Transportation Office (LTO-6) in implementing Republic Act No. 8749 or the Clean Air Act of 1999.

For a start in Western Visayas region, DENR-6 created the Metro Iloilo Airshed Governing Board (MIAGB) to mitigate the causes of air pollution by conducting random smoke emission tests in Iloilo City and neighboring towns.

In a series of smoke emission tests last year, Bulos said that MIAGB found that roughly 22 percent of vehicle owners complied with emission standards while 76 percent of vehicle owners, mostly passenger jeepneys, were non-compliant.

Union station faces air pollution issue, EPA says

Date: 10th February, 2016 Source: Medill Reports Chicago

Passengers on trains at Chicago's Union Station are being exposed to high levels of air pollution on Metra and Amtrak trains, according to the U.S. Environmental Protection Agency.

Over a two-week period in July 2015, EPA researchers used portable aerosol monitors to measure

microscopic particles in the air around the train platforms and streets surrounding the station, said John Mooney, an air quality expert at the EPA in Chicago.



The particles, known as PM2.5, or particulate matter about 2.5 micrometers in diameter, are composed of liquid droplets and acids, metals, or other pollutants in the environment. PM2.5 are a byproduct of diesel-burning engines used in older trains such as the ones at Union Station., 225 S. Canal St.

What EPA researchers found, especially at the south platform of Union Station, surprised them.

"We expected average levels to be lower. They were higher than we like to see," Mooney said.

When passengers are waiting on the platform for their trains, they inhale these PM2.5 particles. If the microscopic particles they inhale are smaller than 2.5 micrometers in diameter, they can easily travel from the nose or mouth where they're inhaled to the lungs according to Dr. Samuel Dorevitch of the University of Illinois at Chicago School of Public Health.

"The Union Station isn't just an ordinary [station]. It also has diesel emissions and those Metra trains run on diesel emissions. Along with being plain old bad, the PM2.5 [are] a known human carcinogen," he said.

He added that people who work as train mechanics or in mining situations and who are breathing these fine particles face an increased risk of developing cancer.

So it's not just commuters who are at risk of long-term health problems, but anyone who works around Chicago's Union Station, he said.

Once the particles pass through the bronchial sacs into the lung cells and into the bloodstream, they can trigger an inflammatory response, which can cause cancer, he said.

EPA researchers measured not only the train platforms, but also the surrounding area using TSI SidePak Personal Aerosol Monitors. The monitors measure air quality by, "pulling air in and running a laser across the sample of air," Mooney said. Particulate matter such as PM2.5 diffracts light in the laser beam. The more diffraction that occurs, the higher the levels of PM2.5 air pollution read by the meter.

Particulate matter such as PM2.5 diffracts light in the laser beam. The more diffraction that occurs, the higher the levels of PM2.5 air pollution read by the meter.

The monitors measured air quality from morning rush hour at 7 a.m. to evening rush hour at 5 p.m. in both one-minute and hour-long intervals at the station's north and south platforms along with the street below.

PM2.5 levels were 23 to 96 percent higher on platforms in Union Station than on roads near the station. What's worse, the highest levels were found on the south platform of Union Station during both morning and evening rush hours.

After finding these elevated PM2.5 levels on the south platform, the EPA began to work with Amtrak and Metra to minimize the effects of PM2.5 on commuters, Mooney said.

"Exposure to PM2.5 is something we try to minimize. We have a situation that needs attention," he said.

During the past six months since the EPA published the survey, Mooney said his organization has worked with Amtrak and Metra, along with building owners around Union Station, to find "short-term solutions." Most of these solutions address the research that PM2.5 levels were highest closest to the engines of Amtrak and Metra trains.

Some solutions have included: changing the direction trains enter platforms, making sure trains don't idle on the platforms and maintaining a safe distance between passengers waiting on the platforms and the train engines.

Mooney said the best solution to the air pollution problem at the station would be long-term solutions such as changing out diesel-burning engines for cleaner, more efficient fuel-burning engines. This requires more time and more money and it hasn't happened yet, he added.

"We all know the long-term solution is to move to cleaner engines. And there are cleaner technologies out there now, the technology has improved considerably. That solution [new engines] is going to take time," Mooney said.

Instead, he said the EPA, Amtrak and Metra have "made the most progress" when they have worked with local building owners to determine whether the ventilation system can be improved.

"We are working closely with building owners to see if the [ventilation systems] can run longer, can run harder," Mooney said.

Marc Magliari, spokesman for Amtrak, said his corporation's main efforts are being put into updating ventilation systems and viaduct systems surrounding Union Station.

"The ventilation is an important issue and it's going to be addressed through an ongoing process through the city's master plan. We are working with the city on the Canal Street [ventilation system] that covers all the tracks," he said.

Metra echoed this focus in a statement: "[We] are pleased to partner with the city of Chicago and the CTA on a long-term solution to address the air quality issues which could be solved through the master plan to reconfigure and redevelop Union Station."

Mooney said it isn't clear whether progress has actually been made as another air quality study has not been performed.

Drop in pollution levels during investors meet, says KSPCB report

Date: 11th February, 2016 Source: Deccan Herald



Air pollution levels dropped considerably in areas where private buses were banned during the recent 'Invest Karnataka-2016' summit, according to a report by the Karnataka State Pollution Control Board (KSPCB).

The KSPCB ambient air quality report states that the level of respiarable suspended particulate matter (RSPM) had come down at six areas across the City were private buses were not allowed to enter. Air pollution levels had come down by 26 per cent in SG Halli, 31.2 per cent in Mysuru Road, 9.6 per cent in Anand Rao Circle, 42 per cent in Hebbal, 15 per cent in Victoria Hospital and 4.3 per cent in and around ITPL and Whitefield.

On the other hand, there was a rise in air pollution levels in areas where private buses were allowed to ply or diverted.

In Yeshwanthpur there was a rise in pollution levels by 23 per cent, International promotion centre, Whitefield Industrial Area reported a 33.9 per cent rise, while, City railway station saw a 9.5 per cent rise and IGC Centre Institute Nimhans saw a 31 per cent rise. This was because private buses were diverted to these areas and their surroundings, said a senior KSPCB official.

The standard permissible levels of RSPM is 100 ug/M3.

The Board monitored the ambient air quality for particulate matter, sulphur dioxide (SO2) and nitrogen dioxide (NO2) levels at 12 locations using ten manual stations and two continuous ambient air quality monitoring stations. Before 'Invest Karnataka-2016', the measured RSPM values exceeded the national limit (100.0 ug/M3) at 10 locations in the range of 15 to 153 per cent and at two locations within the national limit. During 'Invest Karnataka-2016', RSPM values had exceeded the national limit (100.0 ug/M3) at 9 locations in the range of 10 to 142 per cent and at 3 locations within the national limit.

The levels of SO2 and NO2 values were within permissible limits (80.0 ug/M3 and 80.0 ug/M3 respectively) before and during 'Invest Karnataka-2016'.

DH News Service

Change in noise levels too

The KSPCB report also reported a fall in noise levels during the 'Invest Karnataka-2016' summit.

Out of the ten locations, in three locations - Nimhans, Domlur and Marathhalli - noise levels came down from 0.5 to 3.5 per cent and in the remaining seven locations, noise levels increased by 0.5 to 6 per cent.

The noise level from 10 pm to 6 am increased at Nimhans, BTM Layout, Parisara Bhavan on Church Street, Yeshwantpur and Marathhalli. During the day time (from 6 am to 10 pm), there was a rise in noise levels at RVCE Mysuru Road, Parisara Bhavan on Church Street, Yeshwantpur and Peenya Industrial area.

Donating Your Selfies to Science

Date: 12th February, 2016 Source: City Lab



Researchers are tapping into photo-sharing platforms like Instagram to analyze everything from air pollution to street design.

It's not only your friends and family who follow your online selfies and group photos. Scientists are starting to look at them, too, though they're more interested in what's around you. In bulk, photos can reveal weather patterns across multiple locations, air quality of a place over time, the dynamics of a neighborhood—all sorts of information that helps researchers study cities.

At the Nanyang Technological University in Singapore, a research group is using crowdsourced photos to create a low-cost alternative to air-pollution sensors. Called AirTick, the smartphone app they've designed will collect photos from users and analyze how hazy the environment looks. It'll then check each image against official air quality data, and through machine-learning the app will eventually be able to predict pollution levels based on an image alone.

AirTick creator Pan Zhengziang said in a promotional video last month that the growing concern among the public over air quality can make programs like this a success—especially in Southeast Asia, where smog has gotten so bad that governments have had to shut down schools and suspend outdoor activities. "In Singapore's recent haze episode, around 250,000 people [have] shared their concerns via Twitter," he said. "This has made crowdsourcing-based air quality monitoring a possibility."

The app was tested in a 100-person study in November, according to the New Scientist, and results so far show that that it can analyze haze with 90 percent accuracy during the day. When AirTick rolls out later this year, the team hopes the app can provide the public with air pollution readings of a specific area in real time, based solely on crowdsourced photos. If the levels indicate that the air quality is hazardous, the app will tell them the nearest place to get medical attention.

It can also be helpful for urban planners looking to improve clean energy by installing solar panels. In the video, Pan points to the app's "hidden gem"—its ability to track the direction, duration, and intensity of sunlight from the photos. "Based on this insight, I am developing optimization techniques to help urban planners determine not only the location but also the orientations of solar panels for deployment," he said.

Though it may sound like an overly simplistic solution to one of the world's most complex problems, the AirTick app addresses a larger issue with data collection. As CityLab previously reported, even the wealthiest cities have little understanding of air pollution patterns because traditional sensors don't track daily exposure. Instead, many depend on satellite data. That's starting to change as researchers like Pan look to personal or portable air sensors to crowdsource data for environmental studies.

The many practical uses of shared photos

Pan is among a small handful of scientists to use something so readily available: photos. New Scientist reports that in 2015 alone, between 2 and 3 trillion photos were uploaded to the Internet through social media and messaging apps by roughly 2 billion smartphone users. In Singapore, with a population of 5.4 million, about nine in 10 people have access to a smartphone, according to a survey by Deloitte.

In 2012, a professor at City University of New York made headlines when he analyzed the "selfie style" of five cities using hundreds of photos taken from public Instagram accounts. (He added a sixth city, London, in 2015.) The cheeky study used data to determine how happy people were in each city, but the real objective, as CityLab reported, was to illustrate how new digital media can be analyzed and turn into a research tools for scientists.

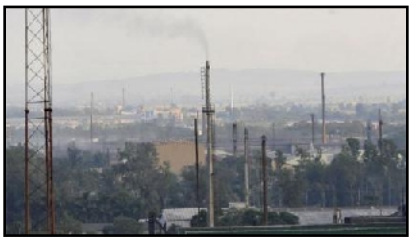
Indeed, photo-sharing platforms offer researchers a seemingly endless database of visuals. A quick search of the term "Instagram" on Google Scholar pulls up dozens of studies on everything from health to feminism to museum experience. In one study from 2013, researchers used Instagram and and Foursquare to look at city dynamics and social behavior in the urban environment. In another study, researchers mined more than 2.3 million Instagram photos from 13 cities to track cultural changes around the world.

Further south, Peru and the U.S. Agency for International Development are encouraging Peruvians to use their smartphone cameras to track the country's alarming waste problem. The ongoing campaign, which enlists the help of vultures with cameras and GPS strapped on to them, uses geographic coordinates from the photos to plot images onto a live map showing just how widespread the problem is.

Among the most widely used photos so far are the ones generated by Google Street View. They've been used to study the effect of neighborhoods on children's health, street designs that are most dangerous for pedestrians, and sidewalk accessibility. As the public's digital presence grows, in the form of photos, tweets, and "check-ins," this information is becoming more useful and accessible for researchers around the world.

PPCB to install 3 machines for monitoring air pollution

Date: 12th February, 2016 Source: Hindustan Times



The PPCB will also display the pollution data outside and inside the Golden Temple, the most visited place in the state.

With air pollution becoming a major issue, the Punjab Pollution Control Board (PPCB) will install three Continuous Ambient Air Monitoring Stations (CAAMS) at a cost of Rs 3.5 crore, which will collect on-the-spot data and display pollutants in air on specially installed electronic display boards on important crossings in cities, to sensitise the public.

The PPCB will also display the pollution data outside and inside the Golden Temple, the most visited place in the state.

The CAAMS, which the board has bought from a France-based company, will be installed at Punjab Agricultural University, Ludhiana, industrial area of Mandi Gobindgarh and at the Golden Temple in Amritsar.

Trials of mobile machine

Besides, the PPCB has been doing the trials of a mobile CAAMS which will collect data from far-away locations and can be used to track pollution from where the complaints were received.

"As air pollution has become a major issue, there was need for continuous monitoring and sensitising public on the issue. Initially, we have set up stations at three major polluting cities; later, we will set these

at Jalandhar, Bathinda and other major cities. The motive is to track the pollution levels and sensitise the public to help the PPCB control pollution," said PPCB chairman Manpreet Singh Chattwal.

He said the CAAMS would monitor 10 parameters of air, including oxides of nitrogen and sulphur, other pollutants, total suspended particulate matter level, comprising wind direction, wind speed, ambient temperature, relative humidity, solar radiation and rainfall. "The data will be displayed live on various electronic display boards, which will be installed at important points in the these cities," he said.

Besides, the PPCB has also been studying the mobile CAAMS, which the Delhi government had used for the first time in India to monitor air pollutants during the odd-even vehicle formula.

"The machines have been installed in stationary stations, usually away from residential areas. The mobile van, which we have called for trials, will help us understand the quality of air a citizen is breathing near their homes. We can use this inside colonies, at traffic intersections, near polluting industries, and even can send it to the spot from where the complaints of pollution are pouring in. This will give us on-the-spot data, on the basis of which the PPCB can act and even recommend action against erring institutes," Chattwal said.

He said the mobile van for trial basis would conduct data of various points in Patiala, Mandi Gobindgarh and Ludhiana.

Air Pollution: Biggest victim in the saga are the Delhi citizens

Date: 12th February, 2016 Source: The Economic Times



Even before Delhi chief minister Arvind Kejriwal announced on Thursday the second round of the odd-even scheme to be made operational during April 15-30, the stormy and rather ill-informed debate over air quality in Delhi took a dramatic turn earlier this week. On Sunday, Jaguar Land Rover CEO Ralf Speth had said that a modern Euro-6 diesel engine emits cleaner air than it sucks in a city like Delhi.

In effect, Speth took on the Supreme Court that, in early January, had witheringly asked automobile manufacturers who want the ban on their larger diesel cars to be revoked whether their diesel vehicles 'emitted oxygen'. Speth has alarmed environmental fundamentalists blind to the scientifically established fact that diesel cars are only a small factor in determining Delhi's air quality, with geography contributing heavily to particulates flowing into the region. The biggest victim in this drama is the citizen who wants to buy a car, a necessity given the pathetic state of public transport.

But before buying, it would be a good idea to consult a lawyer -- or, even better, an astrologer. Going by the way some activists are misleading authorities, there's no way you can anticipate when your car will suddenly be declared illegal and polluting. This isn't because of what your car emits or what scientists at the IIT say.

It is on the dogma regarding the number of years your car has run, or its engine capacity — an outdated concept since smaller engines with more power are hitting 'more careful, cleaner' European markets. Citizens are worried and confused because one tribunal abruptly decided that a 10-year-old diesel car is criminally polluting and should be banned.

Another well-meaning authority decided that new diesel cars should not be registered for some time. Who knows, two years after you buy a car, some authority may order that only electric cars can run in Delhi and Mumbai. Acar buyer, therefore, has a humble request to ministers, courts, tribunals and environmentalists: you are very wise and well-meaning. Just let me know what kind of car I should buy, and please be consistent. I struggle to pay instalments, so I'm terrified of the thought that my car may be suddenly yanked off the road.

Allowing odd- and even-numbered cars on alternate days needs to be applied thoughtfully after judicial scrutiny. People whose children don't have access to school buses will need to buy a cheap second car. Environazis may say that a five-year-old should take public transport to school, or urge a Class 12 girl to take a public bus as her board exam is held at an external centre that does not provide school buses. People will ignore such advice and buy a second car. But who knows? Some authority may ban owning two cars.

People cannot live with this uncertainty. So far, car restrictions have not helped improve air quality, even as taxi drivers and autorickshaw owners prospered. Pollution-control authorities and scientists say car restrictions had only a small impact on air quality, which actually deteriorated due to other factors when half the vehicles were off the roads for two weeks last month. A scientist from an official body told a court that distant dust storms will always keep Delhi polluted.

The Central Pollution Control Board also did not find any obvious benefit of road restrictions, stating that "the meteorology and emissions from other polluting sources have been major factors impacting air quality of Delhi during the period". The board also cited an IIT study to show that the contribution of cars to pollution is barely 10%. Of this, 10-year-old cars would be a tiny fraction. Data also shows that pollution had declined in 2015.

But who cares for what scientists say? Much before any scientific data was available, the media quoted selective environmentalists saying that car restrictions had reduced pollution. Data subsequently showed that for various non-car factors, pollution rose in that period. Some campaigners even went on to say that data-gatherers probably parked their instruments in relatively cleaner parts of the city!

In response to Speth, a leading environmentalist declared that carmakers should not be allowed to push dieselisation, which is raising the level of nitrogen oxides and ozone. This argument is much more polluted than Delhi's air — which, for the record, generally has safe levels of both ozone and nitrogen oxides. And auto companies are not dieselworshippers.

The government forced companies, like Maruti Suzuki, to adopt diesel by keeping the fuel artificially cheap. Unless some environmentalists took huge favours from previous governments, they should be baying for the blood of past oil ministers who distorted the fuel market, and of authorities who fixed emission norms that the industry followed.

Scientists: air pollution led to more than 5.5 million premature deaths in 2013

Date: 12th February, 2016 Source: The Guardian

More than half of the deaths were in India and China, and researchers compared air pollution problem to the conditions under centuries of industrial revolution



Air pollution caused more than 5.5 million people to die prematurely in 2013, according to research presented on Friday, with more than half of those deaths in India and China and illnesses in those countries almost certain to rise.

According to scientists from the US, Canada, China and India, who presented their findings at the annual meeting of the American Association for the Advancement of Science (AAAS) in Washington DC, conditions caused by air pollution killed 1.6 million people in China and 1.4 million people in India in 2013.

"Air pollution is the fourth-highest risk factor for death globally and by far the leading environmental risk factor for disease," said Michael Brauer, a researcher from the University of British Columbia.

Brauer said air pollution contributed to heart disease, stroke, lung cancer, bronchitis, emphysema and acute infections.

He and his colleagues compared the problem in Asia to the conditions under centuries of industrial revolution in the US and Europe: massive economic growth smothered by clouds of toxic matter in the air.

Coal pollution alone killed 366,000 people in China in 2013, according to researcher Qiao Ma. She said coal burned for electricity was the largest polluter in the country, and that China's new targets to reduce emissions, agreed at the Paris climate talks last year, do not go far enough.

"Even in the most clean scenario in 2030," Ma said, China's growing and ageing population will still suffer 990,000 to 1.3 million deaths a year. Beijing, the city of her base at Tsinghua University, had its first "red alerts" for smog last year. By a separate study's count, air pollution kills thousands every day.

"We think that more aggressive policies are urgently needed," Ma said.

Researcher Chanda Venkataraman attributed the India's high air pollution to coal, wood and dung fires, which send enormous amounts of ash and toxic particles into the homes of poor families.

About 920,000 deaths there were attributed to outdoor pollution, such as the particulate matter spread by power plants and vehicle emissions. About 590,000 deaths were attributed to household pollution: the emissions from burning for heating and cooking.

Venkataraman, a professor at the Indian Institute of Technology Bombay, said India needed to confront all three sources: industrial coal, agricultural fires and household pollution.

The researchers hailed lawmakers in the US, Canada, western Europe and Japan – or at least their predecessors, whom were credited with major accomplishments in curbing pollution over the past 50 years.

"We actually know the way to solve this problem," Bauer said.

Dan Greenbaum, the former head of Massachusetts' department of environmental protection, said in a statement: "Having been in charge of designing and implementing strategies to improve air in the United States, I know how difficult it is.

“This research helps guide the way by identifying the actions which can best improve public health.”

The US supreme court halted the most recent attempt to curb carbon emissions in the US, this week ordering the EPA not to enact Barack Obama’s sweeping new rules for coal-fired power plants, at least until its justices decide the rules’ legality.

The setback has raised fears about whether countries who agreed to the Paris accord will back out, but the Obama administration has insisted the decision will not affect the deal.

Op-ed: Air pollution’s damage starts hitting Utah children before birth

Date: 12th February, 2016 Source: The Salt Lake Tribune

Perhaps you've recently heard these comments: "I'm using my inhaler constantly." "My kids are all sick." "Why doesn't the Legislature care?" "The deer in my backyard are so disgusted even they're moving out of state."

Yes, something is terribly wrong when you can see, smell, taste and chew the air. But while everyone notices the inversion, the worst of air pollution's health affects go largely unnoticed.

On any one day, about 40,000 women are pregnant in Utah. During some part of their pregnancy, most of them will have to breathe air we know is toxic. We've known for decades that developmental toxins like alcohol, cigarettes, drugs, some pharmaceuticals and poor nutrition during intrauterine life can have lifelong consequences. Now we know the same is true of air pollution, even short term, like our inversions.

Few of us ever give thanks to our placenta. You should. It's the most important organ you no longer have. It's the ultimate vascular, or blood vessel, structure. Air pollution, on the other hand, is the ultimate vascular insult, causing inflammation, constriction and impaired blood flow. Given that, it should come as no surprise that air pollution could wreak havoc with placental function and jeopardize its irreplaceable role as facilitator of fetal development. When a fetus is deprived of sufficient blood flow, or the blood is contaminated with particles, chemicals or toxins from the mother, the end result can range from fetal demise to subtle but meaningful harm to any and all organs. Poor pregnancy outcomes, like miscarriages, premature birth, low birth weight, pre-eclampsia, gestational diabetes, birth defects and still births, all increase with more air pollution.

The development of the fetal brain is nature's most magnificent biological process. New brain cells are added at a rate of 250,000 per minute, reaching a total of 100- to 200-billion cells. Each cell has to migrate to a precise location at just the right time, connecting to a thousand other cells, with nerve-to-nerve connections estimated at 100 trillion. Even short-term interference with this exquisitely delicate process, for just days or weeks, will impair the end result.

Some lawmakers take the view that we can largely overlook our inversions because our average pollution is acceptable. But averages can tell a misleading story. The tragedy of lead contaminated water in Flint, Mich. illustrates why. The amount of brain damage from lead is inversely proportional to the age of the victim (i.e. the fetus is the most at risk). Lead is so toxic that just a flake of peeling contaminated paint or pipe corrosion can cause brain damage, even though lead only lasts a few weeks in the bloodstream. By looking only at average blood-lead levels of a child, you can completely miss an event that caused

irreversible damage to a young brain. By looking only at average lead levels in the community, you can miss the entire picture.

Just like water, contaminated air can be the delivery mechanism for toxins that include lead and even more neurotoxic heavy metals like mercury. And chemicals ranging from dioxins to PAHs (polycyclic aromatic hydrocarbons). PAHs are found in most combustion pollution, but they are particularly high from oil refineries and extraordinarily high in wood smoke. Numerous studies have shown that the tiny particles in air pollution can have significant clinical affects on brain function and provoke disorders throughout the age spectrum, ranging from children with learning disabilities to adults with Alzheimers. Other studies in both animals and humans document deterioration in brain size, architecture, microbiology, DNA and loss of critical brain proteins and chemical transmitters.

Air pollution can alter the chemical bath, or "epigenetics" that supports and influences the functioning of genes. Epigenetic changes can turn genes on or off inappropriately, triggering a long list of future disease vulnerabilities, like cancer, heart disease and diabetes. Those changes can occur within minutes after exposure, some can persist throughout a lifetime, and can even be passed on to future generations. At least three generations can be placed in harms way by just a brief pollution event. We are what our grandparents inhaled. Our grandchildren will be what we inhale.

The littlest victims of air pollution have no lobbyists on Capitol Hill. But little lives matter. Even short-term inversions can put them in jeopardy.

Dr. Brian Moench is president of Utah Physicians for a Healthy Environment.

1.6 Million Chinese Die Yearly from Toxic Air, While Government System Drags Providing Incentives to Workers Exposed to Smog

Date: 13th February, 2016 Source: YIBADA



Chinese have named the chronic lung disease they get from constant exposure to smog the Beijing cough which air purifiers in homes could not avert because of the unhealthy level of air pollution enveloping urban areas.

Because almost 300 cities in China failed badly in meeting air-quality benchmarks in 2015, 1.6 million Chinese die yearly from breathing toxic air, according to Greenpeace. RAND estimated the cost of pollution to the Chinese economy is about $11 trillion or 6.5 percent of its annual GDP, reported CNBC.

Statements from outdoor workers, such as traffic police, about the ill effect of constant pollution to Henan's pollution and survey results both point to the urgent need for the Chinese government to provide smog incentives to these people at high risk.

However, while there is consensus that the smog incentives, likely in the form of protective gear and cash are definitely needed, Zhengzhou city officials admit the process takes a long time. They cite the need to draft a proposal and present it to the government as the initial step.

The next move is for departments to conduct the necessary research on the planned incentives. A draft policy would be sent to the city lawmaking body to review and decide if a law should be passed.

Those steps are needed for the provincial government to pass the needed law, said Li Guowo, member of Henan's provincial advisory body. The other difficult part is identifying the groups who would be given the incentives because workers in some small plants are also exposed to air pollution in the workplace, added Li.

In December 2015, a labor union that belongs to the All-China Federation of Trade Unions conducted a survey in Henan's capital city which has been severely affected by the smog. About 96 percent of the 400 respondents liked the proposed incentive and 90 percent identified outdoor workers as the first who should be given the subsidy.

The survey did not specify what type of incentives would be provided, but one respondent – a traffic police officer deployed in Shijiazhuang, capital of Hebei Province – stressed the details regarding the incentive such as the type of protective gear or amount of cash is not that necessary. However, what is more urgent is to implement the subsidies as soon as possible while outdoor workers' health could still withstand the toxic air.

Among the reactions to the proposal is that companies do not want to shoulder the cost because of its impact on the finances. Managers have also expressed apprehension if outdoor workers are given shorter working hours or long breaks because it would mean lesser number of workers performing road-cleaning tasks.

Exposure to air pollution 'increases the risk of obesity'

Date: 22nd February, 2016 Source: Wired



Air pollution has already been linked to health problems including asthma, bronchitis, lung cancer, heart disease and more. Now, a new study suggests that another ailment can be added to the list obesity.

A study published in the Journal of the Federation of American Societies for Experimental Biology found that rats who breathed polluted Beijing air gained weight after just three weeks of exposure. They also experienced cardio-respiratory dysfunctions, and decreased metabolic function.

To observe the effect polluted air had on the animal subjects, pregnant rats and their children were placed in two chambers -- one exposed to outdoor air from heavily polluted Beijing, and one in which air was filtered. Researchers found that after three weeks, the rats exposed to polluted air had gained weight, experienced tissue inflammation and had higher levels of cholesterol -- 97 percent higher overall than the rats who were not exposed to the air. They also had lower insulin resistance, a measure that can be an early sign of diabetes.

Importantly, the unfortunate rats also experienced metabolic dysfunction -- a warning sign for obesity. This was in addition to the weight that they gained during the course of the experiment. The same effects were experienced by the infant rats.

"Since chronic inflammation is recognised as a factor contributing to obesity, and since metabolic diseases such as diabetes and obesity are closely related, our findings provide clear evidence that chronic exposure to air pollution increases the risk for developing obesity," said Junfeng Zhang, who worked on the study, in a statement.

“If translated and verified in humans, these findings will support the urgent need to reduce air pollution, given the growing burden of obesity in today’s highly polluted world."

Of course there are potential solutions on the horizon, including the manufacture of building materials that would themselves eat smog. Cities including Oslo are also contemplating a relatively near future in which they ban cars entirely. They will have to move fast, however; recent studies have shown that even stopping at a red light gives city motorists a noticeable dose of air pollution.

Indoor and outdoor air pollution 'claiming at least 40,000 UK lives a year

Date: 22nd February, 2016 Source: The Guardian



Air pollution both inside and outside the home causes at least 40,000 deaths a year in the UK, according to new report, which estimates the cost of the damage at £20bn.

The major health impact of outdoor air pollution is relatively well known but the report, from the Royal College of Physicians and the Royal College of Paediatrics and Child Health, also highlights the less understood impact of indoor pollution, as well as the growing evidence of harm to children’s health and intelligence.

Sources of indoor air pollution include smoking, faulty boilers, gas cookers and heaters, as well as irritant chemicals from new furniture, air fresheners and household cleaning products. House-dust mites, mould and dander from pets can also damage health, according to the report.

Outdoor pollution, much of it from vehicles, causes 40,000 deaths a year in the UK but the number linked to indoor pollution is not known. However, indoor air pollution is estimated to have caused or contributed to 99,000 deaths across Europe in 2012, the report states.

The report found unborn and young children were particularly susceptible to air pollution. “The developing heart, lung, brain, hormone systems and immunity can all be harmed by pollution,” the report said. “Research is beginning to point towards effects on growth, intelligence, asthma, and development of the brain and coordination. Harm to babies and children will have an impact that lasts far into the future.”

“When our patients are exposed to such a clear and avoidable cause of death, illness and disability, it is our duty to speak out,” saidProf Stephen Holgate, an asthma expert at Southampton University who led the report. “We now know that air pollution has a substantial impact on many chronic long-term conditions, increasing strokes and heart attacks in susceptible individuals. And now there is compelling evidence that air pollution is associated with new onset asthma in children and adults.”

Dr Andrew Goddard, at the Royal College of Physicians, said: “Taking action to tackle air pollution in the UK will reduce the pain and suffering for many people with long term chronic health conditions, not to mention lessening the long term demands on our NHS.”

Many people in the UK are currently exposed to illegal levels of air pollution. The UK government lost a supreme court legal battle in 2015 and was forced to produce an action plan. If successful, this will cut air pollution to legal levels by 2020 in most cities and 2025 in London.

The new report found that, although the government and the World Health Organization set "acceptable" limits for air pollution, there is in fact no level of exposure that can be seen to be safe, with any exposure carrying a risk.

The report called for a wide-ranging set of measures to tackle the problem, including tougher regulations to limit air pollution such as reliable testing of emissions from vehicles. Whilst Volkswagen actually cheated emissions tests, most manufacturer's diesel cars produce far more pollution on the road than when being tested. On 3 February, the European parliament failed to veto loopholes in air pollution limits on new diesel cars.

Another measure demanded by the new report is for local authorities to have the power to close or divert roads to reduce the traffic, especially near schools, when air pollution levels are high.

The issue of indoor air pollution also needs more research, said the report: "We must strengthen our understanding of the key risk factors and effects of poor air quality in our homes, schools and workplaces." It noted: "The drive to reduce energy costs, by creating homes with tighter ventilation, could be making the situation worse."

National action to fight climate change will also help to cut air pollution, according to the report, which said meeting the UK's carbon emissions target would lead each year to 5,700 less deaths and fewer hospital admissions for lung and heart problems.

The public can play a part in cutting air pollution too, said Prof Jonathan Grigg, from the Royal College of Paediatrics and Child Health: "We ask the public to consider using public transport, walking and cycling, and not choosing to drive high-polluting vehicles."

Dr Penny Woods, chief executive of The British Lung Foundation, said: "This landmark report lays out in the starkest terms yet the devastating impact air pollution is having on our health, our children's health, our economy and society as a whole. [In particular, children] should not have to pay the price for what has happened to the air they breathe."

Prof Anthony Frew, a respiratory medicine expert at the Royal Sussex county hospital and not involved in the research, said: "While this report is interesting, its findings have to be seen in the context that on average we live longer, healthier lives than we did in previous generations, and that much of this is due to falling pollution levels. Furthermore, the 'deaths caused by air pollution' are generally considered to be deaths that are brought forward, rather than deaths that would not have happened."

As Air Pollution Impacts Cardiac Injuries and Illnesses, Holistic Treatment is Needed

Date: 22nd February, 2016 Source: H & HN

Hospitals consider green initiatives, community needs when tackling effects of pollution on public health, says EPA administrator Gina McCarthy.

Environmental exposure is top of mind for Environmental Protection Agency Administrator Gina McCarthy. During a lecture last week at the University of Illinois at Chicago's College of Medicine Research, McCarthy, who has worked in environmental safety for more than 20 years, spoke to a small group of medical students about the EPA's mission to protect public health.

"I think hospitals have been an important ally for us," said McCarthy in a discussion after her lecture. "They've been working with us to make sure their patients are well cared for in a way that doesn't also provide opportunities for other problems to arise."

Part of that involves making sure hospitals are using cleaning fluids and chemicals that safely and effectively eliminate pathogens. McCarthy pointed to Health Care Without Harm, a largely nurse-led initiative, that focuses on how hospitals tackle medical waste and incorporate the greenest chemicals possible to soften the impact on patients.

Hospitals face the challenge of not only recognizing environmental pollution as a cause for hospital visits, especially for asthma cases, but also working to address the issue on a broader level. After visiting numerous asthma clinics across the United States, McCarthy has noticed a change in the way hospital staff are addressing public health concerns. "Hospitals are beginning to realize, in particular pediatric hospitals, that they see repeat patients all the time, not just in an emergency setting, but having a much broader and more community-based way of addressing asthma in kids."

When she visited a few hospitals in Texas and the Cleveland Clinic, she spoke with physicians who noticed their kids were constantly revisiting the hospital. After a second look, physicians realized a lot of revisits were happening on bad air quality days and a new approach was needed.

"Instead of spending very expensive emergency room time, they needed to work with the kids in the home and the families to manage these cases in a much more holistic way," McCarthy said. "As a result, they are having much greater success in reducing the amount of kids repeating visits to the emergency room."

As nurses and doctors take a step back, she said, "they'll see the challenges they're facing, not just with kids, but with adults, is that air pollution is impacting cardiac injuries and illnesses. There are opportunities to think more broadly to address these issues as a nation and on the community level."

Can Air Pollution Make You Fat?

Date: 22nd February, 2016 Source: Science World



When thinking about the impact of air pollution on human health; respiratory and cardiovascular issues would probably be among the first to come to mind.

But now a new study conducted by an international team of researchers is suggesting that laboratory rats who were exposed to the highly polluted air of Beijing, for three to eight weeks, also gained weight along with having cardio-respiratory problems.

To reach their findings, the research team put pregnant rats, along with their young, in two compartments. One was open to the outdoor air of Beijing and the other included an air filter that removed most of the air pollution.

Both sets of rats were fed the same diet throughout the experiments.

The researchers found that the pregnant rats who breathed the polluted air after only 19 days had heavier lungs and livers along with increased tissue inflammation.

"Since chronic inflammation is recognized as a factor contributing to obesity and since metabolic diseases such as diabetes and obesity are closely related, our findings provide clear evidence that chronic exposure to air pollution increases the risk for developing obesity," said the study's senior author Junfeng "Jim" Zhang, of Duke University in Nashville, TN in a press release.

Compared to those who breathed filtered air, the researchers also found that the air pollution breathing rats also had 50 percent higher levels of LDL (bad) cholesterol; 46 percent higher triglycerides; 97 percent higher total cholesterol and a higher level of insulin resistance. Having a high insulin resistance level can set the stage for Type 2 diabetes.

The research team said that the baby rats displayed comparable results to their mothers, who lived under identical conditions in the same compartments.

For example, an eight week old female rat exposed to air pollution was 10% heavier and a male 18% heavier than those who breathed filtered air.

Since the researchers found that the detrimental effects of air pollution was more noticeable at eight weeks than at three weeks, the study suggests longstanding exposure to high levels of air pollution may be essential to produce the kinds of physiological changes that lead to obesity.

"If translated and verified in humans, these findings will support the urgent need to reduce air pollution, given the growing burden of obesity in today's highly polluted world," said Zhang.

Air purifiers solve indoor air pollution

Date: 22nd February, 2016 Source: NorthWest Herald



Common household items such as new carpeting, disinfectants, and paints emit gases that contaminate indoor air. While allergy and asthma sufferers are especially sensitive, all people should be aware that some of the vapors may contain "volatile organic compounds" that may be harmful. These volatile compounds are in household products that contain formaldehyde, toluene, chloride, and benzene.

Experts say that even the cleanest homes can contain dust, pollen, and fumes. For people with lung problems, airborne irritants may make breathing more difficult.

"Do health symptoms improve when you leave your house? Do they return when you come back in the building? If so, you need to explore potential sources of the problem," advises the American Lung Association (ALA).

"The air in your home can be dirty and hazardous to your health, without any telltale signs. Indoor air can be even more polluted than the air outdoors," reports the ALA. It recommends that "no one should smoke indoors, and all fuel-burning appliances (gas stoves, water heaters, fireplaces) should be fully vented to the outdoors."

ConsumerReports.com adds: "Common sense steps can reduce indoor air pollution: vacuum often, minimize use of candles and wood fires, and use exhaust fans in the kitchen, bath, and laundry areas."

The Environmental Protection Agency and the U.S. Consumer Product Safety Commission endorse using air purifiers in the home, according to AirPurifierGuide.com. Air cleaners, equipped with filters, are available to eliminate odors, gases, and airborne particles including pollen, mold, and pet dander.

Whole-house and portable air purifiers are available. Designed to work with the central heating and cooling system, whole-house purification systems improve air quality throughout the entire home. Portable air purifiers are effective for small spaces, including dorm and hotel rooms, and offices. Compact units can be used in cars to reduce allergens and other pollutants.

Air pollution from China clouds skies in the south

Date: 22nd February, 2016 Source: Taipei Times



WARNING:The EPA said the elderly or people who suffer from chronic lung and heart disease should try to avoid strenuous outdoor activity because of the poor air quality

Southern Taiwan saw very poor air quality yesterday due to pollution from China, with the key indicator of fine particulate matter smaller than 2.5 micrometers (PM 2.5) hitting the hazardous level of 10 in Kaohsiung, the Environmental Protection Administration (EPA) said.

As of 10am, concentrations of PM2.5 reached level 8 in Tainan and Pingtung County and 10 in Kaohsiung mainly because a cold air mass has brought a concentration of dust from China since Saturday, the EPA said.

Level 10 PM2.5 concentrations exceed 71 micrograms per cubic meter and are considered extremely high, but measurements above level 7 are deemed severe enough to cause tangible discomfort and health problems, the agency said.

Given the poor air quality, the elderly and those with chronic lung or heart diseases should avoid prolonged or strenuous outdoor physical activity, the EPA said.

Meanwhile, a physician at Chi Mei Medical Center said seven of the nation's top 10 causes of death by cancer are associated with air pollution.

Hsieh Yi-ju (謝依儒) said the source of PM2.5 can be from natural activities such as volcanic eruptions, forest fires or rock weathering; or from human activities such as emissions from motor vehicles, factories and power plants, or burning, cooking and smoking.

More than 30 percent of the nation's PM2.5 is brought in from across national borders, including industrial pollution and sand storms from China, Hsieh said, adding that these particles are so small that

they can bypass the nose and throat and penetrate deeper into the lungs and bloodstream, bringing toxic substances into the body.

He said PM2.5 matter mainly affects the respiratory tract, triggering symptoms including coughing, breathing difficulties, a decline in lung function, asthma, chronic inflammation or a weakened immune system.

However, PM2.5 matter also affects the cardiovascular system, contributing to chronic inflammation, autonomic nervous system disorders and arrhythmias, Hsieh said, adding that studies showed that it effects the brain too, leading to higher risks of suffering a stoke or developing dementia.

Yu Chia-hang (余佳航), a doctor of traditional Chinese medicine at the Ministry of Health and Welfare's Sinying Hospital, said vegetables and herbs classified by traditional Chinese medical theory as "white foods" might alleviate discomfort caused by PM2.5 pollution.

Exposure to heavy concentrations PM2.5 frequently caused symptoms such as watery eyes, eye pains, coughing, sneezing, runny nose, nasal congestion, throat pain and poor sleep, he said.

To reduce symptoms of exposure to PM2.5 pollution, Yu said people should incorporate medicinal vegetables and herbs classified as "white foods" in their diets because these foods are believed to bolster lung health.

"White foods" include Asian pears, white mu-err mushrooms and the fungus Wolfiporia extensa; lotus seeds, prickly water lily seeds and coix seeds; and the Chinese white radish, cinnamon vines and lilium bulbs, Yu said.

Yu said that only respirators or masks with a N95 rating or higher offer any protection against PM2.5 pollution, and that users should fit the masks snugly to the face without leaving gaps.

Users must replace the mask every four hours to avoid inhaling harmful quantities of fine particles accumulated on the mask, he added.

This is what air pollution does to your skin

Date: 25th February, 2016 Source: Times of India



Dark spots on skin is one of the signs that tell a person is ageing. As you age, the spots start increasing in number especially after crossing 50. Most women suffer from formation of dark spots on their face or hands over the age of 50.

No matter how expensive creams you use, they do not show any positive signs. And after reading the latest report, there is a high possibility that you will stop using (in return abusing your skin) beauty products. According to the large scale survey by Journal Of Investigative Dermatology, traffic air pollution is linked to the formation of dark spots.

The presence of nitrogen dioxide (NO2) gas in the pollution affects the skin, which was not investigated before. Dark spots first appear small, then keep on increasing in size, eventually leading to separate patches, according to Enhance Clinic.

India being under the top 10 of the most populated countries is largely to suffer from this problem. Most women think ageing is the main reason behind pigmentation and appearance of dark spots. But this study has strongly hinted that pollution affects skin negatively.

The accumulation of pollution in the country is largely to blame for the skin problems women and men are facing.

Dr. Aakriti Mehra, Consultant Dermatologist, Enhance Clinics, "As prevention is the best cure of any problem, we can protect our skin by using sunscreen during day time, regular face wash at night and consuming sufficient proportion of fresh fruit juice and water will be the best action we can take."

She also mentions that technology has enabled doctors to reverse most of the damage on skin. People should be careful while stepping out and try to cover their skin as much as possible. Facials, laser treatments and expert care can help people reverse the pollution affects.

Indian Health Authorities must Declare All-Out War On Air Pollution

Date: 25th February, 2016 Source: The Hans India



The founder and CEO of Blueair, Mr. Bengt Rittri, has expressed his 'horror' at the news that India now suffers worse air pollution than China. The head of the world's largest mobile indoor air cleaning technology's company said he was 'horrified by the conclusions of Greenpeace report following analysis of NASA satellite data that said while China was now improving its air pollution levels, the reverse is true in India where contamination has steadily increased to record high levels'.

India overtook China's air pollution levels in 2015 and the average particulate matter exposure was higher for the first time in the 21st century, a Greenpeace analysis of NASA satellite data has shown.The report had also revealed that 23 of the 32 stations across India are showing more than 70 per cent exceedance of the national standards, putting public health at risk. Greenpeace said that India's NAQI (National Air Quality Index) network with 39 operating stations also compares poorly with the 1,500 stations in China.The report also revealed that, in 2015, India particulate pollution stands higher than that of China, after increasing at an average rate of 2 per cent over the past decade.

Mr. Rittri, who last week concluded a two week tour of India to present Blueair's newest IoT-based polluted-air battling solutions, called on the Indian government to declare all-out war on air pollution to help protect public health today and the wellbeing of future generations.

"People need to be empowered with knowledge that allows them to take action themselves to protect their health and that of their families," Mr. Rittri said. He noted that air pollution has been widely linked by scientific research in numerous countries not only to a host of immediate and long-term respiratory problems, but also to rising rates of dementia, learning problems and illnesses among new born infants.

A new study by the WHO Global Burden of Disease Project said 5.5 million premature deaths are caused globally every year by polluted air with over 50 percent of those mortalities occurring in India and China. But, the Blueair founder added, people can do a lot themselves to protect against the dangers of polluted air, at least indoors.

"As home to 13 of the world's 20 most air polluted cities, Indian society as a whole needs to declare war on air pollution. Government and health authorities must strive to ensure India's citizens understand that they can create indoor air defense systems at home or work, where they spend most of their time each day, by simply using high-performance indoor air purifiers to clean their air of contaminants," said Mr. Rittri.

Will Air Pollution Lead to Weight Gain?

Date: 25th February, 2016 Source: Forbes



Even if you don't care about acid rain, asthma, bronchitis, cancer, heart disease, animals choking and crying out "help me, help me," crops and trees being damaged and mutated and the ozone layer being depleted, this may make you pay more attention to air pollution. Increasing evidence is linking air pollution to obesity. Yes, you may not care about the heart disease, diabetes, cancer and many health problems that come from being overweight, but air pollution could affect your…gasp…appearance. The latest evidence may may make you say, "Rats." In a study published in the Journal of the Federation of American Societies for Experimental Biology, scientists founds that exposing laboratory rats to polluted air from Beijing, China, resulted in significant weight gain compared to those rats who breathed filtered air. Gee, who would have figured that inhaling carbon monoxide, nitrogen dioxide, ozone, sulfur dioxide, particulate matters, lead, arsenic, asbestos, benzene, chlorine, bromine, halons, methane and many other unpronounceable chemicals would harm your health in complex ways? Perhaps sucking on a car tailpipe is not a good thing. (What other shocking news will you tell…that some singers actually lip sync?) It's time to realize that controlling air pollution is not just about "saving the Earth", which makes it sound like we can pick up and move elsewhere, like Saturn, Jupiter or (tempted to make a planet joke here). No, reducing air pollution may literally be about saving your own butt…in many different ways.

The Beijing study brings important evidence. Yongjie Wei was the lead author of the study, which was conducted by a team of researchers from Peking University, the Chinese Research Academy of Environmental Sciences, Duke University, Rutgers University, Imperial College and the Chinese Academy of Sciences. During the experiment, exposing pregnant rats to unfiltered Beijing air led to greater weight gain in both the mother rats and subsequently born children rats than those who breathed filtered air. The researchers also found in both the mamma and baby rats many concerning changes, such as inflammation in the lungs, more fat, cholesterol problems and signs of tissue damage and metabolic problems. You may not be a rat, but seeing such changes during a relatively brief exposure to air pollution makes you wonder what years of breathing pollution will do.

Other studies have shown associations between pollution exposure and obesity. For example, a study published in the American Journal of Epidemiology in 2011 revealed that children in New York City (the Bronx and northern Manhattan) born to mothers exposed to polycyclic aromatic hydrocarbons (PAH), common air pollutants, had higher obesity rates, body mass indices (BMI) and percentages of body fat. Also, 2013 study published in Environmental Health Perspectives found that exposing pregnant mice to tributyltin (TBT), commonly found in water pipes and plastic, resulted in increases in fat cell size and

number and accumulation of fat in the liver. While more studies are necessary to scientifically firmly establish whether air pollution causes obesity, we need to take this potential link much more seriously.

What about air pollution may lead to obesity? Well, it would actually be surprising if all the strange chemicals, fluids and substances now floating in the air somehow did not affect how your body digests food, burns calories and all its metabolic processes. How would your car run if you kept throwing strange fluids and objects into its engine, fuel tank, carburetor, sump, electrical system and tailpipe? And even when you feel very lonely, you are never alone. Lots of bacteria are inhabiting your intestines, forming what's called a "microbiome" and helping you digest your food and regulate your body processes. All this weird stuff that's going into your body may be throwing off and killing this bacteria.

Obesity can be a sign that something is wrong in the systems in your life, whether it's the food, drink or medications that you put in your body, your family and friends, your work, your environment or other things around you. Like a bellwether, a canary in a coal mine, a harbinger or a movie advertisement that says "from the makers of…" or "from the producers of…" rising obesity is a warning sign of even worse things to come. (Can we once and for all dispel the notion that obesity is simply the fault of the individual? To those who still think that the obesity epidemic is simply people lacking self-control…no, no, no, no, no…no.)

Students take up project that help monitor air quality

Date: 26th February, 2016 Source: The Times of India

Mangaluru: With air pollution becoming one of the major environmental problems in India, NIT-K students are working on a project that will help monitor air quality.

The project, Remote Air Quality Monitoring System, that is being developed by Richie John, Shishir Sheshadri and Aparna Velampudi of the electronics and communication department, aims at monitoring and studying the changing pollution levels.

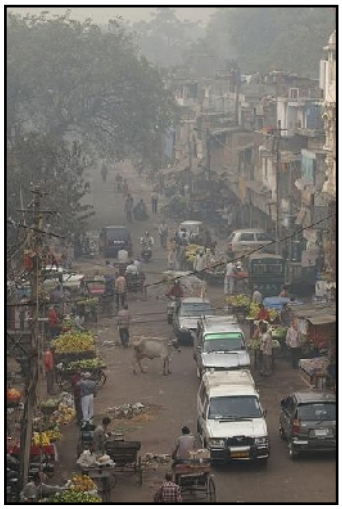
"The project, once completed, can sense the quality of air, store the data and visualizes it graphically on the internet. The end result will be an end-to-end embedded system solution providing complete data with regard to air pollution in an area. This project can also be tuned to detect hazardous gas leakages from factories and give warning to the authorities concerned," said MS Bhat, professor and HoD of the department.

Their motive for taking up the project is to understand the issue in and out, and to find a solution for air pollution.

"To detect the air quality of a region, sensors will be installed at various points. These sensors will be connected to a network and they will detect the presence of carbon dioxide and other hazardous gases. The network will be connected to Raspberry Pi, a credit-card sized computer that is linked to the intranet and internet. This will help make the data online," he said adding that the students have already carried out a study of the air quality of NIT-K campus.

Air Pollution Increases Risk of Obesity and Diabetes

Date: 28th February, 2016 Source: Counsel & Heal



According to new study, increased exposure to air pollution increased the risk of diabetes and obesity in lab rats.

Duke University researchers used lab rats for their experiment and exposed them to Beijing air or filtered air for a period of 19 days. At the end of experiment, the group that was exposed to the Beijing air had increased levels of bad cholesterol (50%), triglycerides (46%) and total cholesterol (97%), factors that attribute to the risk of diabetes and obesity, United Press International reports.

Male rats who were exposed to the pollution reported 18% heavier than their partners in filtered air. If the humans face the same metabolic reaction said one of the authors from the study in a press release, "these findings will support the urgent need to reduce air pollution, given the growing burden of obesity in today's highly polluted world," says Time.com

"Since chronic inflammation is recognized as a factor contributing to obesity and since metabolic diseases such as diabetes and obesity are closely related, our findings provide clear evidence that chronic exposure to air pollution increases the risk for developing obesity," said senior author Junfeng Zhang, a professor of global and environmental health at Duke University and Duke Kunshan University.

"If translated and verified in humans, these findings will support the urgent need to reduce air pollution, given the growing burden of obesity in today's highly polluted world," Zhang added.

Several agencies of Chinese government funded the study. The results are coherent with other studies suggesting that the air pollution stimulates oxidative stress and inflammation in circulatory systems as well as organs. It is also consistent with other studies that suggest how air pollution increases the insulin resistance and altered tissue, as reported by Latino Post.

Staying indoors is not a solution to Shanghai's air pollution

Date: 28th February, 2016 Source: Global Times



Apart from a few pristine summer days last year when PM2.5 levels in Shanghai fell below 25, our city's air quality tends not to be very breathable. This past winter, for example, saw frequent AQI (Air Quality Index) levels hitting over 300 along with multiple Orange Alerts advising residents to immediately cease all outdoor activities and stay inside.

But is indoor air quality really that much better than outside? Is just closing the windows enough to protect ourselves from toxic air? According to Shanghai-based environmentalists, the answer is a resounding no.

A recent AQI white paper issued jointly by Jones Lang LaSalle and PureLiving China revealed that the average indoor PM2.5 levels for Shanghai in 2015 from January to October was 87 micro-grams per cubic meter, compared with Beijing's 115.

"For China, particulate matter (PM) is very often worse inside than outside," said Raefer Wallis, founder and CEO of Global Innovations Green Algorithms (GIGA), a China-based nonprofit environmental research organization.

"About 90 percent of buildings in Beijing that we have monitored show little to no reduction of PM2.5. And about 10 percent of the buildings, including several five-star hotels, have worse PM2.5 inside than outside," said Wallis.

But according to Louie Cheng, founder and president of PureLiving China, PM2.5 is not the only pollutant. Major indoor pollutants include volatile organic compounds (VOC) and microbial organisms.

"Which is worse, the air quality indoor or outdoor?" asks Cheng, who previously worked for over 20 years as a chemical warfare engineer with the US Army. "It is like asking someone if they would rather have diabetes or cancer."

CO2 levels neglected

Wallis started monitoring China's indoor air quality in 2005 after importing an electric air quality monitor from the US. When he turned it on in Shanghai, he thought the unit was broken, as the numbers surged directly to the peak limit.

But throughout Wallis' work with GIGA, he says that too much focus is placed on PM2.5 levels while completely ignoring other important parameters such as carbon dioxide (CO2), which indicates if there is a lack of proper ventilation as well as the existence of other indoor pollutants.

"Schools are the classic places where PM2.5 levels are low but their CO2 levels can be 10 times above what they should be. PM2.5 and CO2 tests should never be separated," said Wallis.

"In the office and at home, the three things that you want to test for are PM, CO2 and VOC. But the government test only tests for VOC, formaldehyde, benzene, ammonia, and radon. There is no CO2 or PM test required, because the test is focused on new construction," said Cheng.

According to Cheng, the best way to improve indoor air quality is not by opening the window, which just lets in particulate matter, but rather by filtering in fresh air. "For people who buy new apartments, they should ask the developer if they have filtered fresh air and what level of filtration they have," said Cheng. "If they live in old buildings, there are other ways. They can install some purifiers that have new air coming inside. The third way is to open the window only a few times a day, for 20 minutes or so, then close the windows and turn on an air purifier."

Cheng says that the percentage of local people who had an awareness of monitoring air quality was only 10 percent six years ago. But this awareness has risen to about 50 percent in recent years as China's AQI levels have been made public and reported on by the local and international media. Cheng has also seen a rising number of residents wearing face masks outside, which means that people are transforming their awareness into action.

"In China, all change comes from the grass roots. It does not come because of government policies or because businesses want to do the right thing. It happens only because people at the lowest level put pressure on their managers, the manager tells their boss, and so on. That causes change," said Cheng.

London's air pollution 'is caused by drivers from outside the capital'

Date: 29th February, 2016 Source: Evening Standards



More than three quarters of car pollution in the south-east is produced by drivers living outside London, according to new research.

An Oxford University study found the reliance on cars in the areas beyond the M25 meant carbon emissions targets would not be met.

The report, published in Transport Policy journal, found that in 2012 the population of 12 million living in the south-east but outside the capital produced 77 per cent of the region's car emissions, compared with just 23 per cent by the eight million people within London.

Researchers found that the average daily car mileage per person was 7.7 miles by Londoners, less than half the 15.6 miles driven by those neighbouring the capital.

The study's author, Dr Caralampo Focas, said the "patchwork" of targets for reducing emissions outside London were unlikely to be met.

"London and New York have been studied as role models for other cities in terms of land use and transport policies. Yet this approach neglects to look at the bigger picture," he said.

"Both capital cities are surrounded by sprawling developments that extend well beyond the main urban centres where residents are heavily reliant on their cars and often have to drive to their nearest shop or other facilities.

"Neither London nor New York has a regional planning or transport authority covering the entire region. These findings suggest that policymakers should view cities in their wider regional context given this is where the greatest use of energy and greenhouse gas emissions is now concentrated."

A debate around air quality was sparked in September last year when VW Group admitted 482,000 of its diesel vehicles in the US were fitted with defeat device software that could cheat emissions tests.

The German-based manufacturer also announcing that some 11 million vehicles were affected worldwide - including almost 1.2 million in the UK. The Oxford University study included Bedfordshire; Essex; Herfordshire; Buckinghamshire; East and West Sussex; Hampshire; Kent; Oxfordshire; and Surrey as being in the South East region, but outside London.

It also includes unitary authorities Luton; Southend-on-Sea; Thurrock; Bracknell Forest; Brighton and Hove; Isle of Wight; Medway; Milton Keynes; Portsmouth; Reading; Slough; Southampton; West Berkshire; Windsor and Maidenhead; and Wokingham. The research was financed under the Marie Curie programme of the European Union.

MARCH 2016

UK government told to take action on air pollution or face legal challenge

Date: 1st March, 2016 Source: The Guardian



ClientEarth has sent a final warning letter to environment secretary, Liz Truss, giving her 10 days to act on dirty air or face action in the high court

The UKgovernment must take steps to tackle air pollution within days or face further legal action, it has been warned.

Environmental law firm ClientEarth has sent a final warning letter to environment secretary, Liz Truss, giving her 10 days to act or face action in the high court.

The group, which won a ruling against the government in the supreme court over its failures on air pollution last year, says the environment department's recently published plans to cut pollutants fall "woefully short" of what the court ordered.

The move comes after a report from the Royal College of Physicians and the Royal College of Paediatrics and Child Health warned an estimated 40,000 people die early each year in the UK because of air pollution. European rules set limits for key pollutant nitrogen dioxide (NO2) which should have been met by 2010, but ClientEarth said the plans which the government was ordered to produce by the supreme court do not see the UK meeting legal targets until 2025.

The "air quality plan" published late last year focused on bringing in clean air zones in five English cities by 2020, in which the most polluting buses, taxis, coaches and lorries will be charged to enter the centre. But the move does not cover private cars, which ClientEarth said are one of the biggest sources of poor air quality in cities.

London, which breached its air pollution limits for NO2 for the whole of 2016 just a week into January, is set to introduce a ultra-low emission zone in London by 2020 which will cover all vehicles, but is not expected to meet legal levels until 2025.

ClientEarth chief executive, James Thornton, said: "Despite an order from the UK's highest court, despite tens of thousands of premature deaths in this country every year and despite clear evidence to show that air pollution has a terrible effect on the health of vulnerable groups like children, the government has consistently ducked its responsibility to ensure our right to clean air.

"We have had to issue this legal warning to the government because of its failure to produce a plan that would bring air pollution down as soon as possible."

The law firm said it had asked the government to produce new plans with a list of measures that will bring air pollution down to within legal limits in the shortest time possible and put the proposals out to consultation. ClientEarth said that if it does not receive a satisfactory reply within 10 days, it will launch legal proceedings in the high court.

Here's how Mumbai's ex-mayor Shubha Raul plans to counter air pollution

Date: 3rd March, 2016 Source: Mid-Day

Mumbai's ex-Mayor wants to turn your housing society green. Shubha Raul has written a letter to the Tree Authority and BMC suggesting that on the backdrop of space crunch and increasing pollution, all city buildings have terrace gardens. She has suggested that a portion of the mandatory refuge areas in buildings be converted into terrace gardens in order to counter air pollution.

The city's pollution levels have come threateningly close to that of Delhi in the past few months. Mumbai has a considerable amount of vehicular pollution as well as presence of particulate matter in the air. The spate of sporadic fires at the Deonar dumping ground has contributed heavily to air pollution and people had taken to the streets to protest against it. This, coupled with loss of open spaces, trees, etc makes Mumbai's air pollution a serious matter.

On this backdrop, Raul had written a letter to the Tree Authority dated February 8, 2016. It was discussed in Friday's meeting. According to the letter, "Considering the city's growing population, cutting of trees, increased pollution levels and rising number of highrises, it is necessary to implement the concept of terrace gardens. The concept needs to be implemented on the compulsory open space after every seventh floor in the building. This will not only increase greenery, but will also be friendly towards the life cycle of small birds, butterflies, bees etc. The terrace gardens can have aromatic as well as medicinal plants that give out a lot of oxygen. The BMC should take the help of experts in the matter."

Thus, she has asked all existing and new buildings have such gardens. Besides, she has also included municipal buildings in the proposal. The tree authority on Friday ruled in favour of it.

"We all unanimously liked the proposal. It will not only improve the appearance of buildings, but will also contribute immensely to the environment. It will now be sent to the municipal commissioner for his remarks," informed Abhijit Chavhan, another member of the authority.

Coal-fired plant permits no longer need proof of pollution standards plan

Date: 13th March, 2016 Source: The Guardian



Environmental lawyers' group says unlawful Environment Agency permits have dropped important requirements

Scores of Britain's coal-fired power stations, steel plants and iron works will no longer have to maintain a plan to show they will meet air pollution standards under the latest permits issued by the government.

ClientEarth, a group of environment lawyers who last year successfully sued the government over air pollution, said the permits deleted a condition that required the plants' operators to publish air quality management plans and to assess how much they might damage protected nature areas.

The group also alleges the permits are unlawful, because they were issued before the regulations for the Industrial Emissions Directive (IED) came into effect.

Around 60 large industrial plants were issued the permits by the Environment Agency in December to keep operating under an EU directive that sets limits on harmful emissions.

The UK is already facing the prospect of fines for breaching nitrogen dioxide (NO2) pollution limits, largely because of diesel vehicles. But industry is a big source of the pollutant too, accounting for half of UK NOx emissions, and the UK was the last EU member state to get sign-off on the transitional plan the IED calls for.

Susan Shaw, a lawyer at ClientEarth who has written to the Environment Agency to ask for an explanation, said it was not European rules that were the problem but UK mismanagement of them. "This is astounding, even by the shambolic nature of this government's energy and environment policies.

"We have coal-fired power stations and other industrial installations now operating on illegal permits and at the same time the Environment Agency – the body charged with protecting our health and environment – has removed key safeguards on air quality modelling and monitoring."

In the new permits, the government has dropped the requirement for air quality monitoring and modelling to demonstrate compliance with the National Air Quality Strategy. The permits also dropped operators' need to assess whether they are causing acid rain and water pollution at Natura 2000 sites, a legally-protected network of Europe's most valuable habitats for wildlife.

Shaw said that there are a further 54 plants for which permits should have been issued by 1 January, but have not been published, and called on the government to explain why.

"These changes were made without any public consultation. What's more worrying is that key information has been withheld from the public registers," she said.

An Environment Agency spokesman said: "We will look into the details of ClientEarth's concerns and respond in due course."

The Guardian has previously revealed how energy company officials on a UK government delegation lobbied in Brussels for weaker pollution limits in the IED.

European legislation to tackle air pollution saved 80,000 lives between 1970 and 2010, according to a study published in the journal Environmental Research Letters last month.

Pigeon patrol takes flight to tackle London's air pollution crisis

Date: 14th March, 2016 Source: The Guardian

Flock of racing pigeons equipped with pollution sensor and Twitter account take to the skies in bid to raise awareness of capital's illegally dirty air

They've been driven from Trafalgar square for being a nuisance, derided as rats with wings and maligned as a risk to public health.

But now pigeons could play a small part in helping Londoners overcome one of the capital's biggest health problems – its illegal levels of air pollution blamed for thousands of deaths a year.

On Monday, a flock of half a dozen racing pigeons were set loose from a rooftop in Brick Lane by pigeon fancier, Brian Woodhouse, with one strapped with a pollution sensor to its back and one with a GPS tracker.

But while the 25g sensor records the nitrogen dioxide produced by the city's diesel cars, buses, and trucks and tweets it at anyone who asks for a reading, its real purpose – and the use of the pigeons – is to raise awareness.

"It is a scandal. It is a health and environmental scandal for humans – and pigeons. We're making the invisible visible," said Pierre Duquesnoy, who won a London Design Festival award for the idea last year.

"Most of the time when we talk about pollution people think about Beijing or other places, but there are some days in the year when pollution was higher and more toxic in London than Beijing, that's the reality."

He said he was inspired by the use of pigeons in the first and second world wars to deliver information and save lives, but they were also a practical way of taking mobile air quality readings and beating London's congested roads. They fly relatively low, at 100-150ft, and fast, at speeds up to 80mph.

"There's something about taking what is seen as a flying rat and reversing that into something quite positive," said Duquesnoy, who is creative director at marketing agency DigitasLBI.

Gary Fuller, an air quality expert at King's College London, said it was the first time he had heard of urban animals being put to such use.

"It's great that unemployed pigeons from Trafalgar Square are being put to work. Around 15 years ago tests were done on around 150 stray dogs in Mexico City, showing the ways in which air pollution was affecting lungs and heart health. But this is the first time that I've heard of urban wild animals being used to carry sensors to give us a picture of the air pollution over our heads."

The release of the pigeons for three days this week, dubbed the Pigeon Air Patrol, came as moderate to high pollution affected much of the city, with Battersea recording 'very high', the top of the scale.

Elsewhere in the UK, Stockton-on-tees and Middlesbrough recorded high pollution readings and the forecast is for moderate and possibly high pollution in urban areas in northern England and Scotland on Tuesday. Other areas will have low pollution levels.

How a flock of pigeons fitted with sensors are helping to beat pollution in London

Date: 14th March, 2016 Source: Evening Standard



Londoners haven't always been kind to pigeons. Children kick them. Adults employ that Woody Allen "rats with wings" slur, and freak out when they board tube trains. And when he was mayor, Ken Livingstone - aka King Newt – even banned the public from feeding the birds in Trafalgar Square, blaming their droppings for damage to Nelson's Column. No wonder there's a Gif of a pigeon nonchalantly declaring "Haters gonna hate".

We may have been unfair, though. For the least-loved member of the Columbidae family is our new recruit in the capital's fight against air pollution, an avian ally to help prevent the Airpocalypse. For the next three days 10 pigeons will fly around London, fitted with backpacks that hold sensors monitoring pollution levels. Londoners can then discover the quality of the air where they are by tweeting the @PigeonAir account on the micro-blogging site, and they'll receive immediate information.

This was all the idea of Pierre Duquesnoy, creative director at the global marketing and technology agency DigitasLBi. He entered this proposal into Powered By Tweets, a competition that Twitter launched last year in conjunction with the London Design Festival to find new ways to use the site. It was one of the winners and ended up featuring in an exhibition at Somerset House.

Duquesnoy, who grew up in Paris and then London, wanted a way to bring air quality to the public's attention. Thanks in large part to diesel fumes from cars, London has the filthiest air in the country. This pollution is a stealth killer, linked to nearly 9,500 premature deaths a year in the capital, and some seven million worldwide.

"It affects us all but we mostly ignore it," Duquesnoy says. "Most of the time the conversations about air pollution are highly scientific and it's quite hard for people like me who are not scientists to understand it all."

Currently there are 120 stations monitoring air pollution in London but they are in fixed locations. "That means there are blind spots," Duquesnoy explains. "The stations are really accurate but only for the immediate vicinity, so scientists don't have a clear idea of what is happening elsewhere. What I wondered was how we can cover some of these blind spots to try to get as much data as possible."

Duquesnoy was particularly keen to have data for rush hour, when there are not only the most vehicles on the road but lots of commuters cycling, walking and running to work. Initially, he thought about collecting this data from the ground, travelling in a car, by bicycle or by foot but decided it would take too long to traverse the city. The next suggestion was to use drones "but this is prohibited airspace and getting authorisation to fly across London — except for in the parks — is impossible". So he thought about what doesn't have its wings clipped with regards to getting about: the pigeon.

At this point, Duquesnoy approached Plume Labs, a tech firm that helps citizens track (and thus reduce) their exposure to air pollution. The two companies teamed up.

"It's one thing to create the best technology in the world but you need people to understand it," says Romain Lacombe, the founder and chief executive of Plume Labs. "What's been missing is an understandable way to access our personal exposure [to air pollution] and advice on what to do about what you're breathing, Most people don't know how much pollution changes day by day, but also hour by hour and even street by street."

Lacombe notes that when people hear about air pollution, they think of Beijing and Delhi, but in Western cities such as London it's a big problem too. "We are blind to something that is all around us, something that surrounds us every hour of the day but against which to have any protection and reduce our exposure, we have to make the air visible."

The light pigeon backpacks were sourced from a US firm. Usually they're worn by pigeons trained to fly along canyons in Utah so that walkers can have photos of their trips ready for when they return. The pollution sensors are stitched into the vests and measure the levels of nitrogen dioxide and ozone.

It takes a special kind of pigeon for this work. “These are professional pigeons,” Duquesnoy says. “They’re very quick racing pigeons, they can fly at 60-80 mph. They live up to 20 years, compared with a street pigeon’s life expectancy of about four years. They’re beautiful birds and far smarter than people think. So we’re turning something that people don’t like into something positive. And people have always used pigeons to communicate, but this is in a very modern way — with Twitter.”

As the data is being collected, Duquesnoy hopes to “create mass awareness of the scandal that is air pollution”. That’s where Twitter comes in. “It’s one of the best platforms to share information rapidly,” he says. “We have created these three pigeon characters [Coco, Julius and Norbert] to make the subject more accessible. We have to make it serious but a bit funny, to have the right balance.”

Helen Lawrence, head of creative agency development at Twitter UK, adds: “This idea is perfect for Twitter because people tweet with their location and get real-time information back. It’s also fun and exciting and very different. I don’t think we ever expected to use Twitter for this.”

Plume’s first piece of air-pollution technology was a mobile app, the Plume Air Report. “It helps people who suffer with air pollution stay ahead of how the air is going to change,” Lacombe explains. “It tells you what time pollution is going to rise or fall, so you know when to do exercise or go out.”

This app helped to build a community of human air-quality monitors. For three years Plume Labs has also been working with scientists to develop tiny sensors that people will carry with them to track pollution. “This is a huge challenge: how do we make it comfortable for the consumer? There’s a whole host of people who are seeking to understand how much pollution they’re exposed to but they’d only want a device if it’s super-light, efficient and beautiful.”

After the pigeon campaign, Lacombe hopes to recruit people to wear the devices and share the data they collect. But this week it’s the pigeons’ turn. So when you see one of our feathery friends flying above you tonight, just think: they may be helping us all breathe a little easier tomorrow.

This Device Lets You Test The Air Pollution In Your House

Date: 15th March, 2016 Source: The Huffington Post



The air inside our homes might not be as fresh as we think. Tiny, invisible pollutants from wood smoke, household cleaners, building materials and other everyday items can put people at risk for asthma, heart disease and more.

For people who can’t afford expensive indoor air quality monitors, detecting these particles is next to impossible. But researchers at Carnegie Mellon University have developed a new in-home sensor, called Speck, and plan to make it available to people virtually for free.

The researchers want to place these Speck monitors in 100 libraries across the country. People would be able to check out a device — just like they’d check out a book — and use it to measure air quality in their home.

“There’s a lot of debate ... about outdoor air quality, but we don’t have a direct ability to control outdoor air,” Illah Nourbakhsh, professor of robotics atCarnegie Mellon told The Huffington Post on Tuesday. “We wanted to empower people to see these invisible particulates [in the home].”

Carnegie Mellon researchers, along with Nourbakhsh’s company, Airviz, developed the Speck air quality monitor several years ago. Speck uses machine learning to ensure the data it collects is accurate and free of noise, according to Nourbakhsh.

The device displays data, along with a description of the air quality level, on a screen. Since it’s small, users can carry it into different parts of the house to check how the air quality differs, running mini experiments to uncover sources of air pollution.

“You can put it in the dining room for a couple of days, or put it in a bedroom and review overnight how was the air quality while the infant was sleeping,” Nourbakhsh said.

Researchers initially hoped Speck could help people who don’t traditionally have access to information about their home’s air quality. But at around $150 per device, Nourbakhsh said, the sensors are still too expensive for many people with low incomes — people who, as a group, tend to suffer the worst effects of air pollution.

Putting the Speck in public libraries is a way to get the device in the hands of people who couldn’t otherwise afford them.

Researchers ran a pilot test of this idea last year, putting Speck devices in 16 branches of the public library system in Pittsburgh, Pennsylvania, home ofCarnegie Mellon and a former steel town with a history of grappling with air pollution.

The initial experiment was a success, said Sara Longo, operations manager at Airviz.

“We’ve reached over 400 people just in the last few months,” Longo told HuffPost. “Every time we go to take photos of an actual Speck, we can’t because they’re checked out.”

As the program prepares to expand, researchers are still deciding where to send the next batch of devices and are accepting applications from interested libraries. They will put three Speck devices in each of the 100 libraries they select.

“There are many ways tech can make life better, but it needs to do that equitably,” Nourbakhsh said. “Libraries have become places for creating more equity in society.”

Letting people check out monitors — as opposed to conducting routine tests in people’s homes — also allows users take control of their own health. If they discover that their air is polluted, they have to decide what additional steps to take to address the problem.

“We want people to really become their own experimentalists, because they know their lives best,” Nourbakhsh said. “The last we want to do is to tell you what to do.”

Government downplays NGO report on air pollution

Date: 15th March, 2016 Source: The Economics Time

NEW DELHI: Downplaying Greenpeace India's recent report which said India overtook China's air pollution levels in 2015, the Centre today said the study was based on "extrapolated and constructed" data "without" field validation.

"Greenpeace India published a report titled 'Clean Air Action Plan: The Way Forward' in February 2016. The report... is on the basis of NASA satellite data which is based on extrapolated and constructed data without field validation," Environment Minister Prakash Javadekar said in a written reply in Lok Sabha.

Greenpeace's analysis said India had overtaken China's air pollution levels in 2015 and its average particulate matter exposure was higher for the first time in the 21st century.

"China's strong measures to curb pollution have contributed to the biggest year-on-year air quality improvement on record while in contrast, India's pollution levels continued a decade-long increase to reach the highest level on record," it had said.

Javadekar said ambient air quality is monitored regularly in 254 cities and towns by the Central Pollution Control Board, Pollution Control Committees and others.

Analysis of these data indicates fluctuating trends on the basis of indivudual pollutants in ambient air.

Of the cities having 46-million plus population, ambient air quality data monitored under National Air Quality Monitoring Programme during 2015 for 41 cities indicate that the values of SO2 are within National Ambient Air Quality Standards (NAAQS) of 50ug/m3.

The value of NO2 in nine cities exceeded NAAQS standards of 40ug/m3 while the value of PM10 in 38 cities do not comply withi the NAAQS standard of 60ug/m3, the Minister said.

Replying to another question, Javadekar said there are six categories namely good, satisfactory, moderately polluted, poor, very poor and severe and each of these categories is decided based on ambient concentration values of air pollutants and their likely health impacts.

He said that at present 23 cities are connected to the web-based system of National Air Quality Index (AQI).

The analysis of AQI values of 23 cities conducted by CPCB during November 2015-January 2016 revealed that in January this year, 16 per cent days fell under severe category, 26 per cent in very poor, 15 per cent in poor and 31 per cent in moderate category. Only one per cent was in good category.

Could A Regional Air Quality Agency Be A Good Fit For Portland?

Date: 15th March, 2016 Source: OPB



Derek Bowen is standing on top of small, enclosed trailer, at the edge of a grassy park in Eugene. It’s overcast and misty but an acronym on the side of this air monitoring station is clear: LRAPA – Lane Regional Air Protection Agency.

Bowen comes down a ladder with a small cylindrical filter in hand. It’s been

collecting super-tiny particles from car exhaust and wood burning that get lodged in people's lungs.

He steps inside the trailer where other equipment chugs and clicks away. Bowen carefully packs the filter away. Back at the lab, he'll check pollution levels by weighing it with a super-sensitive scale.

LRAPA operates one of these stations for every 50,000 people in Lane County. Compare that to one station per quarter million people in the Portland Metro area run by the Oregon Department of Environmental Quality.

Revelations about arsenic and cadmium air pollution in Portland have residents asking why state environmental officials didn't tell them about the toxics earlier.

To prevent similar problems going forward, some Portland officials have floated the idea of creating a regional air quality agency that could better address local concerns. California and Washington use this system extensively. The only such authority operating in Oregon: LRAPA.

Like the DEQ, the Lane County agency issues and enforces air quality permits for business and industry. Its air regulations have to be as least as stringent as state and federal, but for some kinds of pollution, LRAPA can go further, said Director Merlyn Hough.

"We can also regulate smaller sources. For example, coffee roasters were a frequent source of complaints in years past," Hough said. "And there was technology and operation to reduce their emission, reduce their impacts, reduce the complaints."

Responding to air quality concerns from the public is a big part of what the agency does. This is a reason why the city of Cottage Grove pays to be part of the agency. City Councilor Mike Fleck serves as Cottage Grove's representative on the LRAPA board.

"If someone is having problems with their neighbor, for example, blowing smoke through their property all the time, I think it also gives them a local voice to be able to advocate for them," Fleck said.

But it's not all sunshine, clean air and rainbows. LRAPA has taken its share of heat from the community – in recent years from environmental groups for approving a biomass facility in Eugene.

And navigating the fits and whims of four city councils and a board of county commissioners can be challenging, said Bill Becker, head of the National Association of Clean Air Agencies.

"Politics throughout the country oftentimes affect the ability of local and regional air pollution agencies to do their job," he said. "We wish this wasn't the case, but it is."

This makes maintaining local support a challenge. In tight times, it forces local officials to decide between air monitors and jail beds. LRAPA can only afford to test the air for toxics like arsenic and formaldehyde every few years.

LRAPA's Merlyn Hough says if Portland decides it wants to create its own regional air agency, each resident should prepare to pay a dollar per year. And that raises the question: will the city want the burden of local control once the memory of air pollution hotspots begins to fade?

"If you're not confident you're going to have the long term support," Hough said. "There's probably other things that you ought to use that energy and money for."

Construction main cause of air pollution

Date: 20th March, 2016 Source: Hindustan Times



Around 10,000 residents, who shifted to housing complexes in Greater Noida west, an upcoming realty hub, have been complaining about high pollution levels.

A report by the Greater Noida authority has revealed that construction projects are the main cause of air pollution in the city.

The authority had hired a private agency that conducted a survey in 2015. It found that areas where construction activity was going on in full swing recorded a higher level of air pollution. With the help of temporary ambient air quality monitoring stations put up at five locations, the agency monitored pollution, including particulate matter (PM10) levels.

Two of the locations, where air quality was monitored, fall under Greater Noida west that has around 60 under construction housing projects. The report stated that PM10 levels were recorded at 111 and 112 micrograms per cubic metre (mpcm) against the permissible limits of 100 mpcm (micrograms per cubic metre).

The other three locations in eastern part of Greater Noida recorded PM10 levels at 85, 87 and 93 mpcm. These only had a few under-construction projects.

"PM10 level must be higher than what the private agency has recorded in Greater Noida because this place resembles nothing less than a desert. The authority has failed to enforce construction norms on realtors, who have added to the air and noise pollution," said Vikrant Tongad, a local environmentalist.

The Greater Noida authority said that a team will examine each construction project and take action against builders found flouting norms laid down by the National Green Tribunal.

"We will implement each suggestion made by the private agency to reduce pollution levels and save the environment," said Deepak Agarwal, chief executive officer (CEO) of the Greater Noida authority.

The authority in 2013 roped in ENV Das India Pvt Ltd, a Lucknow-based private agency, to prepare an environment management project.

"The national capital region planning board (NCRPB), which approves master plans for urbanisation in the NCR region had suggested that we take steps to contain pollution. So we hired the agency. The authority will now implement suggestions made by the agency," said PC Gupta, additional chief executive officer (ACEO) of the Greater Noida authority.

Around 10,000 residents, who shifted to their housing complexes in Greater Noida west, an upcoming realty hub, have been complaining about pollution levels.

"Residents can lodge complaints and we will take prompt action. It is our job to ensure a clean environment to people living in Greater Noida. We have directed realtors not to cause any nuisance in areas where buyers have moved into their houses," said Agarwal.

Backpack-Wearing Pigeons Tweet About Air Pollution

Date: 21st March, 2016 Source: Forbes



If you live in an urban area, there's a good chance you don't have much love for the feral pigeons who share your city. They're everywhere, in the way, and they poop on everything in sight. Haters gonna hate, but the feral pigeon's domesticated cousins are out to change minds by providing useful and valuable information for their human neighbors. Last week a flock of ten trained racing pigeons took wing over London wearing tiny backpacks with sensors designed to gather and Tweet real-time information about local levels of air pollution.

The pigeons were Tweeting about air pollution to publicize a Crowdfunder project for Plume Labs. Plume is a small technology company that gathers information about air pollution in 200 cities all over the world and then makes this information available on the internet.

Air pollution doesn't receive the attention it deserves. It's often invisible, it's effects can take a long time to manifest, and it's usually a contributing factor to the listed cause of death. It's a silent but deadly killer.

In a report issued this year, the World Health Organization estimates that 8.2 million deaths per year are caused by noncommunicable diseases that are primarily linked to air pollution. That's equivalent to approximately 15.6 deaths per minute, every minute of every hour of every day, 24/7/365.

Air pollution, including second-hand tobacco smoke, contributes to deaths caused by lower respiratory infections, neonatal conditions, cancer, cardiovascular diseases, chronic obstructive pulmonary disease and asthma.

Plume Labs is trying to raise awareness and help people live healthier lives in cities where air pollution can be a serious problem. They use machine-learning algorithms working on data gathered from 11,000 monitoring stations around the world to predict hourly changes in the levels of several different air pollutants. The results are available on an interactive map on the Plume Labs website. People can also view current information about air pollution in their city using Plume's apps for Android and iOS.

The hourly predictions are good but they are inherently limited by the data on which they're based. Air pollution levels at the monitoring station may not accurately predict pollution levels at the user's location. To solve this problem, Plume has developed a small sensor that detects levels of nitrous oxide, ozone, and volatile organic compounds in the immediate environment. The sensors send this information to an app on the user's cellphone and to Plume for building more refined models of pollution levels within cities.

With the help of Twitter TWTR -0.18% and global marketing and technology agency DigitasLBi, Plume launched a Crowdfunding project to raise money to build sensors for 100 volunteers to beta test in the streets of London. This is where the pigeons fly into the picture. DigitasLBi designed the Pigeon Air Patrol promotional campaign for Plume's crowdfunder and submitted it to the London Design Festival's #poweredbytweets competition. They won first prize in the "Solve a Problem" category.

Plume reengineered a tiny version of their sensor that can be carried comfortably in a pack strapped to a pigeon's back. You can see the packs on some of the pigeons in the above video. A veterinarian was brought on board to monitor the pigeons' health and well-being and the birds were let loose. While the pigeons were flying, Plume Tweeted the information they were receiving from the sensors and Londoners

were invited to Tweet their location so one of the pigeons could be directed to fly through their neighborhood. A Pigeon Air Patrol website was set up to make the pollution data gathered by the birds available to everyone when the flights were finished.

The Crowdfunder met it's goal and Plume Labs is recruiting volunteers to wear the sensors around London. After the volunteers have gathered the data, it will be shared with scientists at Imperial College London. The data scientists will work to discover ways to use the data to inform individuals about their personal health risks and to advise policymakers about proposals designed to reduce air pollution.

Most of us look at the feral pigeons that live in our cities and see a nuisance. The innovative thinkers at Plume Labs and DigitasLBi saw an ancient means of communication that could be combined with the Twitter communication channel to link us to information in real time that can help us live healthier lives.

Pollution in London's air was at a dangerously high level earlier this month

Date: 25th March, 2016 Source: Business Insider



The PM2.5 particle has been linked to lung cancer and is regarded by experts as a very dangerous pollutant

London's air was contaminated with record-breaking levels of harmful pollutant earlier this month.

According to The Evening Standard, all air quality monitoring sites in the city hit "high" or "very high" between Thursday March 10 and Sunday March 13 - the peak being on Saturday when 11 out of the 18 measuring sites in the capital hit "very high."

The microscopic particles, known by experts as PM2.5, can penetrate deep into lung tissue and are too minute to be filtered out by the human body's normal defences.

The smog was an accumulation of dirty air from industrial regions of Germany, Poland, and Holland which gradually drifted towards south-east England, where it was made even filthier by the emissions of London's vehicles, the Standard reports.

These new readings are the most severe since PM2.5 levels in the capital were first measured due to health concerns in 2012.

A report published that year said the spikes in the particle were linked to increased hospital admissions and the premature death of the old and sick, and a relationship was found between long-term exposure and lung cancer.

The report, published by the Air Quality Expert Group, also said that no known safe level of the particle had been identified.

Simon Birkett, founder of the Clean Air in London campaign, told the Evening Standard:

It's a national disgrace that it's taken an investigation by the Evening Standard to unearth the worst air pollution episode in recent years. Worse, Sadiq Khan and Zac Goldsmith both refused to share our tweeted smog warnings at the time.

Professor Sir Malcolm Green, founder of the British Lung Foundation, has compared inhaling high levels of the PM2.5 particle to breathing in "little particles of tar" and said they are capable of entering the lungs and finding a way into the bloodstream.

Fewer casualties, dry colours and poorer air quality mark Holi 2016

Date: 25th March, 2016 Source: The Asian Age



The festival of colours was celebrated with much fervour in Mumbai on Thursday. Compared to last year, there were fewer casualty cases reported in city civic hospitals. Traffic police held a special drive to keep an eye on drivers on roads that helped in controlling accidents during the festival. However, air pollution increased further due to the celebrations.

Traffic police held a special drive at several places in the city between 8 am and 4 pm on Thursday. They claimed that owing to the stringent two-day drive, the city did not witness any mishap on the day of Holi. Traffic police said the highest number of offenders was bikers found driving without helmets; 5,691 such cases were registered. This was followed by 1,143 cases of illegal parking and driving without license. A total of 474 cases of drunk driving were reported and 438 cases of triple-seat driving. Fifty six cases of rash driving were registered. More than 8,102 motorists were fined on Thursday for traffic offences like drunk driving, triple-seat driving and rash driving.

In Tunga village near Sakinaka, three people met with an accident after they were riding a bike in an inebriated state. While one died at the spot, the others are injured and have been admitted to a nearby hospital. Their bike was hit by a landcruiser. The driver of the car has been arrested.

Also, a 32-year-old man drowned in Vihar talao in Powai after he tried to swim in the tank in an inebriated state. The deceased was partying with his friends at the talao.

On the environmental side, while Mumbaikars opted to celebrate Holi with dry colours, thus helping preserve water, they failed to maintain air quality level which continued to remain “poor” due to the celebration, as per data accessed from SAFAR (System of Air Quality and Weather Forecasting and Research). In fact, it deteriorated drastically due to traditional Holi celebrations on Wednesday night. “Due to the bonfire that is lit during Holika Dahan and colours used during the celebration, the amount of suspected particulate matter in the air has increased. The air pollution has gone up since Wednesday evening due to the bonfire and increased further on Thursday afternoon due to colours,” said an official from SAFAR. During Thursday afternoon, the air quality index was measured at 270 µg/m3 which was just behind Delhi by 20 µg/m3 as per SAFAR data. Out of nine air quality measuring stations, Borivali recorded the highest amount of air pollution in particulate matter size 2.5 (PM 2.5), with 342 µg/m3 in air quality index. This falls under ‘very poor’ air quality index as per parameters of the World Health Organisation.

With Mumbaikars out in full force to celebrate Holi with their friends and relatives, there were a few cases where people were taken to civic hospitals after sustaining injuries or getting intoxicated after consuming “bhaang”. However, doctors said that in comparison to previous years, the number of such cases was fewer this Holi.

Out of eight patients admitted to Nair Hospital, seven were discharged while one was kept under observation after sustaining injury in a scuffle. Twenty patients were admitted to KEM Hospital and all of them were discharged. Patients mostly complained of sickness due to "Bhang". Eleven people were admitted to Sion Hospital for various complaints; one of them is serious and has been admitted to the trauma ward. Sion Hospital Dean, Dr Suleman Merchant, said, "As compared to previous years, fewer number of cases were reported this year. All patients are fine and there is no serious problem reported."

Local trains get strict vigilance

Mumbai local trains have been safe until Holi evening but Railway Police Force (RPF) of both the Central and Western railway will be monitoring the situation over the long weekend as a precaution.

Western Railway's senior divisional security commissioner Anand Vijay Jha said four teams of five people have been deployed until Monday as miscreants might still take to the local trains with balloons filled with water colour. "Since it is a long weekend we are going to stay vigilant and four of our teams will be travelling in civil clothes in difference sections from Churchgate to Dahanu. Sometimes an untoward incident might not happen on the day of Holi itself but on some other day when we do not expect it hence the extra vigilance," he said.

Also, three assistant commissioners have been assigned round-the-clock duty and will be inspecting the stations on impromptu visits as well, said Mr Jha. On Central Railway (CR) the RPF has come together with the Government Railway Police and conducted heavy monitoring in areas where such incidents are known to occur.

Areas with settlements right next to the tracks are being specially monitored by the authorities.

Infrared cameras reveal hidden air pollution from oil and gas drilling

Date: 27th March, 2016 Source: Houston Chronicle



Emissions from an oil storage tank or other oil and gas sites can't be seen by the naked eye. But the U.S. Environmental Protection Agency says it can spot methane leaks with with the use of an infrared lens. ., escaping methane can be seen according to the U.S. Environmental Protection Agency. Photo credit: EPA

A pair of state and federal government inspectors spent two weeks traveling around northern Colorado's oil and gas fields in early 2012, filming with an infrared camera.

Air pollution was rising in the region, and attention was turning to the rapid increase in drilling activity. The inspectors focused on Houston-based Noble Energy, one of the state's largest drillers with about 7,000 wells in the suburbs and countryside north of Denver.

With the naked eye, there was nothing to see at the nearly hundred sites they visited. But when observed through the infrared camera, again and again they saw plumes of gas radiating from the top of storage tanks near the wells.

"The infrared camera does not quantify emissions, but you can say that's a small leak versus a big leak. And these were big leaks," said one of the inspectors, Cindy Beeler, an energy adviser at the U.S. Environmental Protection Agency's offices in Colorado. "When we showed our findings to Noble, they were surprised."

As the Obama administration accelerates its campaign to blunt the effects of climate change, federal regulators are turning to infrared technology to seek out emissions leaks in the country's oil and gas fields. With state agencies, including the Texas Commission on Environmental Quality, and environmental groups embracing the technology, drillers are increasingly finding themselves staring down the lenses of infrared cameras.

Beyond government inspections, many companies are worried they soon will be required to do their own infrared scans and make what they fear will be unnecessary repairs across the country's more than 1 million oil and gas wells. Industry lobbyists are already challenging the devices' effectiveness.

"Part of our concern is that it really locks us in to this technology at a point in time the understanding of these fugitive emissions is really in its childhood," said Lee Fuller, executive vice president of the Independent Petroleum Association of America. "The presumptive starting point for the EPA is requiring infrared."

With wellheads spread over vast, remote areas of Texas, Colorado and other oil-producing regions, the industry had historically stayed under the radar of regulators. But with tougher new laws in place or in the works on methane emissions and volatile organic compounds, both components of oil and gas emissions, federal regulators are looking to crack down on leaks.

After finding most of Noble's emissions control systems in Colorado violated federal air pollution laws, the EPA reached an agreement last year with Noble, requiring the company to pay $5 million in fines and spend more than $60 million on repairs and upgrades. In September, the agency issued an alert warning oil and gas companies across the country they too could be out of compliance.

Spread across the warning were black and white, infrared images of gas leaks.

’Pin the tail on the donkey’

For decades, companies and government inspectors relied on hand-held sensors to tell them if gas was leaking. But without a means to see the emissions, one was left to guess where to hold the sensor on a drilling site that can run the size of a football field - "like trying to pin the tail on the donkey," Beeler jokes. Then in 2011, the EPA decided to try infrared technology, which uses variations in temperature and other environmental measures to form images - capturing everything from a mouse on the ground to escaping gas.

At the time, the primary mission was reducing the release of volatile organic compounds, a key contributor to smog, which has long been linked to asthma and lung disease in humans. But federal attention is now turning to methane, which makes up about 10 percent of U.S. greenhouse gas emissions and has an impact on global warming 25 times that of carbon dioxide.

The oil and gas industry is pressuring the EPA to look away from infrared at other cheaper technologies, like methane sensors, that would automatically detect leaks as they occur but are still in development. In a memo to EPA in December, the IPAA raised several issues about the infrared devices, including concerns about whether smaller companies could handle the cost - $100,000 each - and whether they were reliable.

"The results of the camera, the 'pictures,' are difficult to interpret and subject to misinterpretation, e.g., what appears to be a leak could simply be a heat plume," the memo stated.

EPA officials countered that infrared is one of a variety of tools for gathering evidence in emissions cases that often was supported by data from the companies themselves.

"Infrared allows us to see hydrocarbons," said Apple Chapman, associate director of EPA's air enforcement division. "It's a faster screening tool and a faster investigative tool."

The Colorado case, which stretched for more than two years, stemmed from the initial infrared footage and also included more than a hundred requests to Noble for data on their emissions control systems. Investigators concluded many of Noble's storage systems were too small to handle the amount of gas coming up through the wells as a side product of oil production.

As a result, natural gas was regularly released into the atmosphere through pressure-release valves intended only for emergencies, contributing to some of highest ozone levels in the country in the suburbs north of Denver.

More than three years after the EPA began its investigation, Noble agreed in a settlement last April to replace or upgrade any storage tank in the basin around Denver that was out compliance.

"By working together with the federal government and the State of Colorado to reduce emissions, we are doing the right thing," Gary Willingham, Noble's vice president of operations, said in a statement last year.

Noble declined a request for an interview about the Colorado investigation.

Delhi to have 3 more air quality monitoring stations

Date: 28th March, 2016 Source: The Times of India

New Delhi: The city is set to have three more monitoring stations and one mobile van to constantly monitor air quality, the government today announced while enunciating steps to combat spiralling air pollution in the budget for 2016-17.

It also earmarked Rs 137 crore for a long pending project under which LED screens will display pollution levels, public awareness messages and real-time traffic information at public places across the national capital.

"We are constantly monitoring the pollution levels on a real-time basis and have installed six Ambient Air Quality Monitoring Stations in Delhi. It is proposed to increase it to nine. In addition, one Mobile Ambient Air Quality Monitoring Van is also proposed," Deputy Chief Minister Manish Sisodia said in the House.

The existing monitoring stations are located at Anand Vihar, Mandir Marg, Punjabi Bagh, IGI Airport, Civil Lines and RK Puram.

Significantly, the government also doubled the one time fixed subsidy for e-rickshaws registered by the Transport Department to Rs 30,000.

It proposed two elevated BRT corridors, one along Anand Vihar Terminal to Peeragarhi (East-West Corridor - 29 km) and the other from Wazirabad to Airport (North-South Corridor 24 km), which may divert traffic from the city's major arterial roads.

Rs 100 crore has been set aside for the "Comprehensive Maintenance of Roads" scheme which includes vacuum cleaning of roads, routine washing and cleaning of street furniture and signages and collection of debris through mechanical sweepers.

"One of the major factors contributing towards air pollution is the dust raised by vehicles running on roads. Manual sweeping of roads contributes to air pollution as fine dust particles do not settle down during sweeping and remain suspended thereafter," Sisodia said.

Car free days and the odd-even scheme also found mention in Sisodia's budget speech. The car rationing scheme is set to make a come back on April 15 for a period of fifteen days.

Does Air Pollution Lead to Weight Gain?

Date: 29th March, 2016 Source: Pollution Solutions



We're all well aware that air pollution is severely compromising the future of our planet. In December, leaders from every nation on the planet met in Paris at the COP21 talks to discuss how to reduce global warming below 2°C (and ideally below 1.5°C) in order to avoid catastrophic consequences for future generations.

However, poor air quality doesn't just jeopardise tomorrow… it could cause serious complications today, as well. A recent study from Beijing found that laboratory rodents exposed to higher levels of pollution were prone to gaining substantial amounts of weight, as well as developing a number of other health concerns.

Like Mother Like Son

The study was a joint venture between the Chinese Research Academy of Environmental Sciences, Peking University, Rutgers University, Duke University and Imperial College and was published in the Journal of the Federation of American Societies for Experimental Biology.

In it, the team exposed pregnant rats to samples of polluted Beijing air, whilst simultaneously exposing a separate batch of pregnant rodents to filtered air. The results were conclusive: at the end of the eight week trial, those exposed to contaminated air supplies were significantly heavier than those which had breathed filtered air in every single case.

Furthermore, the offspring of the rats were found to be more prone to obesity if they had been subjected to air pollution whilst in their mother's womb, suggesting that such glands can be altered by prolonged exposure to contaminants.

The study also found that rats exposed to polluted air were more likely to develop inflammation of the lungs, high cholesterol, tissue stress and elevated fat levels. Although humans are most certainly not rats, it is concerning to see a study prove such conclusive results.

A Mounting Body of Evidence

It's already a well-established fact that air pollution can have a rapid and irreversible effect on our health. Just last year, a study conducted in Belgium found that even safe levels of pollution could cause heart attacks. Furthermore, such damage could be wrought in a single day if a person was exposed to high levels of contaminants and could be irreparable.

Meanwhile, a 2011 study from Columbia University found that New York children born to mothers who had been exposed to air pollution during their pregnancy were more likely to become obese by age five. Indeed, between 20% and 25% of all those tested whose mother had breathed in harmful polycyclic aromatic hydrocarbons (PAHs) during the gestation period had elevated body mass indexes (BMIs).

Lastly, another study involving pregnant rodents found that exposure to tributyltin (TBT) led to a marked increase in both fat cell number and size. This contaminant, commonly found in plastics and in water piping, could easily be infiltrating our bodies without our knowledge.

Of course, in order to fully corroborate these findings, further studies will be required. However, it currently seems as though we should care just as much about cleaning up our planet for today's generation as for those to come. That's why it's never been more important to ensure we improve air quality and reduce transport-related pollution, ensuring a safer world both ourselves and our children.

Air quality in Mumbai descends into the 'poor' category following recent Deonar fire

Date: 29th March, 2016 Source: First Post

The recent fire at the Deonar dumping ground sent the air quality in Mumbai plummeting down to 'poor'.



A Times of India report on Monday said that pollution in the city went from 'moderate' to 'poor' within a span of a few days.

According to System of Air Quality Weather Forecasting and Research (SAFAR), the Air Quality Index (AQI) of Mumbai on Monday morning was 228 which improved by Monday evening to 216. Anything between 201 and 300 will fall into the 'poor' AQI category, said the TOI report. SAFAR has advised children, older adults and people with lung or heart diseases to steer clear of prolonged or heavy exertion. They also said that the speed of wind in the city is expected to pick up after the next 48 hrs, which is will result in improved AQI.

The Times of India report further states that eight out of the 10 locations monitored by SAFAR are suffering from 'poor' air quality, with Mazagaon being the poorest at 283 and Malad being cleanest at 118. Mumbai has surpassed Delhi, which was under the scanner for declining air quality early this year, its AQI stands at 121, much lower than Mumbai.

About 3,000 firemen have been working 8 hour shifts in different pockets of the dumpyard to control the fire. According to the Times of India report, officials are facing issues — the fire that they believe has been doused refuses to die down as it is extremely difficult to get through all the layers of garbage.

According to a report in The Indian Express, the Brihanmumbai Municipal Corporation (BMC) has been digging bore wells at the foot of the dumpyard to dig out non-potable water to douse the fire. This move comes in light of the potable water crisis in the city.

The fire department has also attached hoses to bulldozers to be able to reach every layer of garbage.

Union Environment Minister Prakash Javadekar said that the matter has been taken up seriously and following discussions with Maharashtra officials and Mumbai Municipal Corporation, strict action, if required, will be taken under the Environment Protection Act against violators.

"Our team has just prepared the report which is under examination. I will discuss it tomorrow with my officers. Within two days, most probably on 30 March, we will call the municipal and state officials concerned. Then we will discuss the whole report and ask for a time-bound action plan.

"It is a serious lapse and we have taken it very seriously. We will issue, if required, necessary orders under Section 5 of Environment Protection Act. This means strict action. We will issue directions. They have to comply with it," Mr Javadekar told PTI.

Michigan's Air Pollution Problem Is Much Bigger Than The Water In Flint

Date: 29th March, 2016 Source: Medical Daily



Jacqueline Cason didn't expect to be crawling down the stairs of her own damn house at 38 years old. When Cason lived in Mississippi, her asthma was annoying but manageable—a puff from an inhaler now and again. Then, just over a year ago, she moved into a little modular home on a quiet street in River Rouge, Michigan, a tiny city of 7,000 that kisses the southern edge of Detroit. Now she's awakened in the morning, three days a week, at least, and sometimes seven, by an asthma attack. She gasps, desperately sipping the air but inhaling little or none. "It's like being a fish out of water," she says.

When it hits her, Cason's lungs fill with mucus while her esophagus walls swell nearly shut. Her diaphragm responds by contracting faster, pressing on her lungs, desperate to catch some air, making her gasp rapidly, violently. Her chest feels like someone is sitting on it, collapsing her sternum toward her spine. Minutes become enemies, and letting two or three pass is too many. So when she forgets to leave her rescue inhaler by her bed, she gropes and crawls down the stairs to find it. It's the sort of thing that no one would consider ordinary—unless you've been living in the industrial suburbs south of downtown Detroit a long time. Then it passes for routine.

Cason's son is 10, and he doesn't have asthma. "Not yet," Cason says. She's worried that staying in River Rouge too long will change that. In these parts, it's easy to feel like everyone has asthma, since so many do. The last time Cason went to the doctor, he told her to move. She'll try to eventually, she says, but the rent is low here, and the neighbors are nice. "It's a community, like back in the day." During the last snows, she says, the whole block was outside, digging one another out.

If Cason had known about the pollution, she might have picked a different city. But she's here now. Her grandmother lives down the block, her son is settling into his new school, and her niece just moved up to join them. But her niece also has asthma, and it got dramatically worse when she arrived: She has attacks almost as often as Cason. The two of them are in and out of urgent care so often that Cason has a standing prescription at the pharmacy for the strong type of steroids they give you in the emergency room. It isn't any way to live. "I like my neighbors, but I like my health much more," she tells me while sitting on the velour sofa in her pristine living room. It has to be pristine; letting dust settle is asking for trouble.

It's dirty in River Rouge, and everybody here knows it. The way the air smells, and the gas flares, coal piles and smokestacks around every corner don't let you forget. There are 52 sites of heavy industry within a 3-mile radius; 22 of these either produce over 25,000 pounds or handle more than 10,000 pounds of toxic chemical waste, putting them on the Environmental Protection Agency's Toxics Release Inventory Program. For years, the area has also been "out of compliance" for sulfur dioxide, meaning there's more SO 2—a known contributor to asthma—in the air than federal rules allow. The state says it's working on it. Lynn Fiedler, of the Michigan Department of Environmental Quality (MDEQ, the same department blamed for the disaster in Flint, where lead was allowed to remain in the drinking water at levels high enough to poison children), says they've been "working with companies to get them to reduce their emissions," but she stumbles when trying to explain the holdup: "It's been a difficult negotiation," she says. "It involves changes in operation," meaning polluters will likely need to install new equipment, a prospect costly enough to make them balk.

Some of the biggest SO 2 emitters in the area are two postwar-era, coal-fired power plants owned by DTE Energy, located a few miles apart. One sits in River Rouge, and in 2011 it was ranked the ninth-worst power plant in the country for health outcomes in communities of color by the NAACP. Combined, the two plants pump out 34,000 tons of sulfur dioxide each year, or the weight, in pollution, of a modestly sized cruise ship. Getting DTE Energy to reduce emissions has been a struggle for the regulatory agency. "They are reluctant," Fiedler says. "We are continuing discussions with them." In the meantime, MDEQ granted the plants a permit last year to carry on business as usual.

China Air Quality Study Has Good News and Bad News

Date: 30th March, 2016 Source: The New York Times



BEIJING — You're moving to China with your family, and you're excited but also concerned: What might the country's notorious smog do to your and your children's lungs?

Here's how you can feel the fear and move to China anyway, while minimizing your health risks:

Relocate to Guangzhou, the capital of the southern province of Guangdong, near Hong Kong. Second best: move to Shanghai.

Don't move to Beijing, Chengdu or Shenyang, if you can help it.

Those are some conclusions to be drawn from a new study of air quality in five major cities by a team of researchers at Peking University led by Chen Songxi, a statistician at the university's Guanghua School of Management.

In an interview, Mr. Chen said the study was prompted by a sense of "disgust" at air pollution. "I felt that as scientists we should do something about the situation facing a billion Chinese people," he said.

There was both good and bad news in the report, titled "Air Quality Assessment Report (2): A Statistical Analysis of Air Pollution in Five Chinese Cities" and published online.

The team scrutinized three years of air quality data for the measure known as PM 2.5, the fine particulate matter that is especially hazardous to health. One source of the data was the Chinese Ministry of Environmental Protection. The other was the United States Embassy in Beijing and consulates in Guangzhou, Shanghai, Chengdu and Shenyang.

By using two independent data sets, the researchers answered a second question: Is the Chinese government's air quality data trustworthy? The answer: Yes, at least in these five cities. That was one piece of good news.

China began releasing PM 2.5 figures for hundreds of locations in 2013, five years after the United States Embassy began publishing readings from monitors on its grounds that drew wide attention among Chinese. Suspicions linger to this day about the reliability of the Chinese government data.

Another piece of good news: PM 2.5 levels declined over the last three years in all five cities. In Beijing, they fell from 99 micrograms per cubic meter to 81, and in Shanghai from 61 to 50. In Guangzhou, they fell from 54 to 39.

That was because of two factors: stricter emissions regulations that took effect on Jan. 1, 2015, and a slowing economy.

"The economic downturn helped," Mr. Chen said.

But there was bad news, too. In all five cities, the air pollution readings remained higher than the World Health Organization's upper safety limit of 35 micrograms of PM 2.5 per cubic meter.

China uses a considerably more liberal standard, classifying up to 75 micrograms as "good." Many readings regularly exceeded that.

The researchers defined a level of under 35 as "good," and under 75 as "light" pollution, and found that Guangzhou and Shanghai had the most "good" or "light" days. About 80 percent of days each year fell into those categories. Chengdu and Shenyang had about 60 percent. Beijing came last with 50 percent.

In addition, Beijing and Chengdu suffered the most prolonged spells of heavy pollution, which the team defined as readings of 150 or higher. Even Shanghai and Guangzhou did not have more than 37 percent "good" air days.

"This shows the grave challenge facing China in its air pollution prevention efforts," the report says.

Mr. Chen's interest was ignited after a colleague in the United States sent him a link in 2013 to the Real-Time Air Quality Index with data from Beijing.

"The more I looked at it, the more disgusted I felt," Mr. Chen said. "Then, on a very polluted day in early March" of 2014, "I said, 'I have to do something.' I called together a team."

To test the accuracy of the Chinese government data, the researchers used readings from two or three ministry monitors in each city as close as possible to the American sites. They found a "high" similarity, the report says.

"They show a lot of consistency," Mr. Chen said. "They won't be exactly the same, because of data randomness and because they're not at exactly the same locations."

"If they were still manipulating the data, that would be really hopeless and I'd leave China,'' he said. "But it does show that the government and the Ministry of Environmental Protection are serious."

Still, there were significant data problems on the Chinese side, he said.

The Ministry of Environmental Protection website gives hourly readings, "but it doesn't provide historical data,'' Mr. Chen said. "You have to grab it, hour by hour. The government wants to do something about this, but not 100 percent."

The report recommends improving data collection and publication.

The team also factored in meteorological factors and consumption of coal, petroleum and diesel to get a better picture of the relations among emissions, weather and pollution. But here too they encountered a lack of information.

"The economic and energy data are very sparse,'' Mr. Chen said. "We couldn't find data on consumption, especially of petroleum products. We don't know how much gasoline was sold in 2013, and we think petroleum products may be a bigger problem than coal in Beijing."

Asked where a family moving to China should settle to minimize exposure to polluted air, Mr. Chen said, "I grew up in Beijing and I love Beijing, so you put me in a very hard position."

The North China Plain, where Beijing is, and the Sichuan Basin, where Chengdu is, "are not good places to be. They're not suitable for heavy industry,'' Mr. Chen said. Their physical settings trap pollutants. "If you have heavy industry there, this is what you'll get."

"Shanghai and Guangzhou are more fortunate,'' he said, "because they're close to the sea and have more rainfall."

Beijing's saving grace: a strong northwesterly wind in winter that helps clear the air. But that doesn't address the source of the problem. Another recommendation: reduce emissions.

"The core of the problem is you have to cut down emissions,'' Mr. Chen said. "People blame the weather, but actually they should blame emissions."

India's Once-gleaming Golden Temple Dulled by Air Pollution

Date: 31st March, 2016 Source: The New Indian Express

AMRITSAR, India: The chronic air pollution blanketing much of northern India is now threatening the holiest shrine in the Sikh religion, making the once-gleaming walls of the Golden Temple dingy and dull.



There is little to be done short of replacing the 430-year-old temple's gold-plated walls — an expensive project already undertaken more than a century ago and then again in 1999.

To cut down on pollution, environmentalists and religious leaders have launched a campaign that includes persuading farmers to stop burning spent crops to clear their fields, removing industry from the area and cutting back on traffic. A community kitchen called a "langar" that serves up to 100,000 people free meals every day at the temple is also switching from burning wood to cooking with gas.

But so far the campaign hasn't had much impact, with change happening slowly and still no pollution monitoring equipment installed.

"As far as pollution goes, we are paying attention," said Jaswant Singh, environmental engineer at the State Pollution Control Board, a government regulatory authority. "We are in the process of procuring equipment so that we can check the pollution area, pollution from every source on a day-to-day basis."

Officials have also banned burning trash or cooking with certain fuels in restaurants and communities nearby, but enforcement so far remains weak. The city also wants to build an electricity station to stop people from using diesel-fueled generators, but Singh could not say when that might happen.

"The pollution degrading the Golden Temple is growing," said environmental activist Gunbir Singh, who heads a group called Eco Amritsar. "We need to do a hell of a lot of work to protect the holy city status of this city."

It's unclear how much replacing the gold plating would cost, but it would surely be high.

"This is gold. The cost would be huge, but still would not be a problem," Gunbir Singh said, suggesting Sikh devotees would rally behind the cause if needed. "Most of the activity that goes on there is based on donations — people will take off their bangles and rings and leave them if work needs to be done."

Thousands of Sikh devotees and tourists every day visit Amritsar, the main city in Punjab state, to see the 17th century shrine, surrounded by a moat known as the "pool of nectar," or "Sarovar," and housing the Sikh holy book, the Guru Granth Sahib. Most of the world's 27 million Sikhs, whose monotheistic religion originated in Punjab in the 15th century, live in India.

The country suffers some of the world's worst air pollution, thanks to a heavy reliance on burning coal for electricity, diesel in cars and power generators, and kerosene and cow dung for cooking and lighting homes. Heavy construction amid a decade-long economic boom has also kicked up huge clouds of dust, and farmers still regularly clear their fields with fire, sending even more black carbon into the air.

The capital of New Delhi was named by the WHO as the world's most polluted city, while Amritsar — about 390 kilometers (240 km) to the north — was ranked India's ninth most polluted.

The Golden Temple is not the only major monument to be affected by pollution. The white marbled Taj Mahal has also become dirty from pollution from the nearby city of Agra, and every few years, workers from the Archaeological Survey of India place mud packs on its walls to keep them from turning yellow and brown.

But many across the country remain unaware of the risks in breathing unhealthy air, even as scientists warn it is sickening countless Indians every year. About 1.4 million Indians were killed by illnesses related to air pollution in 2013, according to a recent study by researchers at the University of British Colombia, in Vancouver.

That tally will only rise unless pollution levels are drastically curbed, experts have said. Instead, the pollution is getting worse, according to NASA satellite images revealing particulate matter in the air. An analysis last month by the environmental group Greenpeace showed the overall concentration of PM2.5 — the tiny lung-clogging particulate matter suspended in the air — increasing 13 percent from 2010 to 2015.

With pollution fast damaging the Golden Temple, some in the Sikh heartland said they were reminded of their religious duty to protect nature.

"Our holy book teaches us that the air is the teacher, the water is the father and the earth is the mother. So we have to be mindful of all the elements of nature as true Sikhs," the environmentalist Gunbir Singh said.

Authorities plan to ban vehicles from the area immediately surrounding the shrine. "Even the devotees will have to come on foot," said Harcharan Singh, who heads the Shrimoni Gurudwara Prabhandak Committee, which oversees the six major Sikh temples across India.

But efforts have been slow, and officials admit so far incomplete.

Sikh preacher Baba Sewa Singh said he and his devotees have tried to help mitigate the pollution threat by planting more than 100,000 trees in the region.

"If anyone asks about the saplings," he said, "we plant then for free in their villages."

Exposure to air pollution leads to obesity: Study

Date: 31st March, 2016 Source: The Times of India

NEW DELHI: Exposure to air pollution leads to obesity and makes people prone to other lifestyle diseases such as hypertension and heart disease, a study has revealed.

The study published in the Journal of Federation of the American Society of Experimental Biology said surveys have shown that high exposure to air pollution also increases insulin resistance, which is the precursor of diabetes Type 2.

"The link between air pollution and obesity is indeed a new subject of concern. While it is already well established that toxic air is causing more damage than just to the respiratory system, but its link with obesity is certainly worrisome, because then indirectly it will also lead to a rise in obesity linked complications, like hypertension, heart diseases and type 2 diabetes etc," it said.

Researchers reached the conclusion after they placed pregnant rats and their offspring in two chambers, one exposed to outdoor air and the other containing an air filter that removed most of the air pollutant particles.

After 19 days, the lungs and livers of the pregnant rats exposed to the polluted air were heavier and showed increased tissue inflammation. These rats had 50 per cent higher LDL (bad) cholesterol and 97 percent higher total cholesterol.

Their insulin resistance level, a precursor of Type-2 diabetes, was also higher.

At the age of eight weeks, female and male rats exposed to the pollution were 10 per cent and 18 per cent heavier respectively than those exposed to clean air.

Talking on the prevention of obesity due to air pollution, S.P. Byotra, head of the department of medicine at Sir Ganga Ram Hospital, said: "Given the level of pollution people are exposed to in metros, installing air purifiers at home can be one of the best solutions for air pollution, which is a cause for various types of diseases."

According to the study published in the Journal of the American College of Cardiology in 2015, indoor exposure to fine particulate matter (PM 2.5) from outdoor sources was a major health concern, especially in highly polluted developing countries.

Golden Temple Losing Its Sheen Because Of Air Pollution

Date: 31st March, 2016 Source: Every Life Count NDTV



AMRITSAR: The chronic air pollution blanketing much of Northern India is now threatening the holiest shrine in the Sikh religion, making the once-gleaming walls of the Golden Temple dingy and dull.

There is little to be done short of replacing the 430-year-old temple's gold-plated walls – an expensive project already undertaken more than a century ago and then again in 1999.

To cut down on pollution, environmentalists and religious leaders have launched a campaign that includes persuading farmers to stop burning spent crops to clear their fields, removing industry from the area and cutting back on traffic. The famous community kitchen or "langar" that serves up to 100,000 people free meals every day at the temple is also switching from burning wood to cooking with gas.

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Amritsar has been ranked India’s ninth most polluted city by WHO.

Authorities plan to ban vehicles from the area immediately surrounding the shrine. “Even the devotees will have to come on foot,” said Harcharan Singh, who heads the Shrimoni Gurudwara Prabhandak Committee, which oversees the six major gurudwaras across India.

APRIL 2016

Ozone season begins, county air good

Date: 2nd April, 2016 Source: The Enquirer Journal

The ozone season began Friday as state and local environmental agencies renewed their daily air quality forecasts for ozone in metropolitan areas across North Carolina.

Air quality across the state has improved significantly over the past decade due to declining emissions from industry and motor vehicles and more stringent standards. Over the past three years, ozone levels have been the lowest since the state began monitoring the air in the early 1970s. All of North Carolina currently meets the new, more stringent federal ozone standard that was adopted in October 2015.

"We are confident that North Carolina will continue its trend of improving air quality, but people should be aware of air forecasts," Sheila Holman of the state environmental department said in a statement. "We provide forecasts to inform people about air quality and its health effects. People can use them to help protect their health and take actions to reduce emissions."

State and local air quality programs issue forecasts year-round for particle pollution and during the warmer months for ozone, which needs abundant sunlight and heat to form. Citizens can obtain air quality forecasts by visiting www.ncair.org. They also can download a free smart phone app by searching for "EPA AIRNow," or sign up to receive forecasts by email or Twitter through the air quality website.

The daily air quality forecasts focus on the pollutant likely to reach the highest level on a given day, which could be ozone or particle pollution. The color-coded forecasts show whether air quality is likely to be good (green), moderate (yellow), unhealthy for sensitive groups (orange), unhealthy (red) or very unhealthy (purple).

On Saturday, Union County's ozone reading was 41, with an eight-hour average of 33. This is considered normal or good and received a green forecast.

Green is 50 and below, moderate (yellow) is 50 through 100, unhealthy for sensitive groups (orange) is 101-150, unhealthy (red) is 151-200, very unhealthy (purple) is 201-300 and hazardous (maroon) is 301-500. Hazardous is considered an emergency condition.

The numbers are measured in parts per billion (PPB).

State and local air programs issue forecasts for ozone from April through October in the Asheville, Charlotte, Fayetteville, Hickory, Triad, Triangle and Rocky Mount metropolitan areas. They issue forecasts for particle pollution year-round for the same metro areas. The forecasts come out at 3 p.m. every day for the next day. On Code Orange and Red days, the forecasts also suggest steps people can take to protect their health and reduce air pollution, such as driving less.

High ozone levels generally occur on hot sunny days with little wind, when various pollutants react in the air. Elevated levels of fine particles can occur throughout the year, particularly during episodes of stagnant air and wildfires. Sensitive groups should limit their outdoor activities during periods of elevated air pollution.

North Carolina has taken a number of steps to reduce levels of ozone, fine particles and other air pollutants, including the state Clean Smokestacks Act of 2002, which required power plants to reduce their ozone, particle and haze-forming emissions by three-fourths.

Mexico City's adopting a popular method to fight air pollution. It probably won't work.

Date: 2nd April, 2016 Source: VOX

The 20 million people that live in Mexico City and its surrounding suburbs are plagued daily by a hazy layer of smog.

But after years of struggling to maintain healthy air quality levels, the Mexican capital says it has a temporary fix: Keep more cars off the streets.

Starting Tuesday, Mexico City's metropolitan authorities will implement a comprehensive "no circulation" policy to keep all privately owned cars off the road one day per week, and one additional Saturday per month, the Associated Press reported.

They plan is to keep the rule in effect until late June — the start of the region's rainy season, which typically helps improve air quality. Municipal authorities also said they will be lowering the threshold for declaring smog alerts.

This isn't new: Mexico City has had "no-circulation" laws in place since the late 1980s, which limited certain cars from the roads depending on their license plate numbers (for example, on Mondays cars with license plate numbers ending in "5" or "6" weren't allowed on the road). But those attempts, and many others across the world, haven't worked. So there's plenty of concern about whether this new policy will suffer from the same problems.

Why ordering cars off the road doesn't always work

Lucas Davis, an energy researcher at UC Berkeley, has studied Mexico City's past attempts to order cars off the road. Surprisingly, he found that past programs have actually led to more air pollution in the long term.

One reason, he said, is that complying with these policies is a "HUGE hassle." Mexico City authorities hope people will take public transportation — the city has a metro and dedicated bus lanes. But public transit can be "slow and inconvenient," Davis said. What's more, riding a bus has a (perhaps undeserved) reputation as uncomfortable or dangerous.

So, instead, people find other ways to get into cars. Some single-car families decide to invest in a second car with a different license plate number. Others take taxis or Uber or Lyft. That helps explain why pollution doesn't seem to go down. "I just think that once people become drivers in Mexico City they don't go back," Davis said.

Instead, these rules are mostly a costly inconvenience. "A rough calculation suggest these costs amount to over $300 million per year, or $130 per vehicle owner," according to Davis's research.

Why does Mexico City continue to rely on these "no circulation" days?

So if it's so ineffective, why do authorities persist? "The Mexico City politicians want action," Davis said. "They see a problem and politicians want to do something. These driving restriction make them feel like they are doing something."

To be fair, the latest law has tried to close some of the loopholes in earlier rules. Previous "no circulation" rules had exemptions for vehicles that passed smog-checks. But many residents would just pay mechanics to certify their cars as "lower-emissions" in order to stay on the road. This new rule will not allow for any exemptions.

Municipal authorities in Mexico City said they are planning to implement more modern technology at smog-check centers starting July 1. But eventually, Davis said the city will have to work harder to close loopholes and possibly consider more modern technology, citing cities like Singapore where residents are taxed for driving on major roads during peak hour.

"It could be done — we are there technologically, we are just not there politically," Davis said.

There are also legal barriers. A law that kept cars that were more than eight years old from being on the road one day a week was overturned by the Supreme Court last year, a decision that many environmental activists now point to as cause for recent elevated pollution levels.

Mexico City's air quality is dangerous

Mexico City declared emergency ozone levels two weeks ago after experiencing the highest levels of air pollution since the 1980s and 1990s. Currently, areas of the city still have air quality deemed "unhealthy" by the World Air Quality Index.

In the World Air Quality map below, reflecting air quality measures on Thursday, red and orange tags show areas with "unhealthy" levels of air pollution, which can cause adverse health affects.

It has been well documented that these pollutants have adverse effects on people's health, from watery eyes to respiratory irritation. Conditions escalate depending on residents' ages and current health statuses, confirmed by a post-mortem study of young people's hearts conducted in Mexico City.

Studies conducted in 2010 on the costs of air pollution showed that reducing the levels of pollutants like ozone and PM10 by just 10 percent could save upward of $760 million a year — meaning it would eliminate more than 33,000 emergency room visits and more than 4,000 hospital admittances due to respiratory issues and reduce infant deaths by the hundreds.

How Mexico City plans to fight air pollution

Date: 3rd April, 2016 Source: The Christian Science Monitor



To fight high air pollution levels in Mexico City, the city plans to implement a car-driving ban from April 5 to June 30.

Under the city's new program announced Wednesday, all privately owned cars must remain off streets one day per week as well as one additional Saturday per month. The initiative comes after the city issued a four-day air quality alert on March 14, after the city experienced air pollution at double the national

acceptance level. The city's "Hoy No Circula," or "no circulation," program ramps up the country's previous efforts to tackle air pollution.

"The definitive 'no circulation' program will align with the new rule for vehicular verification that will be presented soon," tweeted federal Environment Secretary Rafael Pacchiano. "In addition to the car ban, the commission is also working on medium-term solutions like improving public transport."

Air pollution is not a new issue for Mexico City: In 1992, the United Nations named Mexico City's air as the most polluted on the planet. And the city has improved its air quality in recent years, but the improvement has caused the government to ease up on quality control. For example, many politicians and environmental activists source March's pollution alert back to a Supreme Court ruling last year which overturned a rule barring all cars over eight years old from the streets at least one day a week, a move which some say put an extra 1.4 million cars back on the road each day.

But March's air pollution alert – the city's first alert in 11 years – confirmed that Mexico City's air problem was not solved, leading officials to ramp up previous prevention efforts. During previous car-reduction trials, cars could earn exemption stickers after passing tests to ensure they were low emission. However many car owners were able to offer bribes to the sticker distributors, rendering the program ineffective.

But some critics say new renovations to the car-barring system won't matter: This type of strategy is ineffective for addressing air pollution.

"I just think that once people become drivers in Mexico City they don't go back," Lucas Davis, an energy researcher at UC Berkeley, tells Vox. Davis says previous driving bans haven't improved air quality because instead of switching over to public transportation, drivers use taxis, Uber, Lyft or simply buy a second family car to skirt the rules. "They see a problem and politicians want to do something. These driving restrictions make them feel like they are doing something."

Instead of driving bans, Davis encourages a city-wide program similar to Singapore's, where drivers are taxed for driving on major roads during heavy traffic hours. And Davis isn't alone in his skepticism.

"What's really behind the problem is the messy urban expansion that affects air quality, ecological reserves, crops, and water resources," the Center of Atmospheric Studies of Mexico's national university (UNAM) said in a statement Thursday. "In summary, the sustainability and viability of the Mexican megalopolis."

UNAM's Héctor Riveros tells Vice News that even if 500,000 cars were removed from the streets, 800,000 people would flood the public transportation system which likely pollutes more than public cars.

"The Hoy No Circula program has never worked, traffic may have diminished a little, but pollutions levels have not changed," Dr. Riveros tells Vice. "The only real solution here is to improve the fuel. If we do that the contaminants in the air would reduce between 30 and 50 percent. But the only real solution is people avoiding having to travel long distances to get to work."

With over 20 million people living in greater Mexico City, it is the third largest city in the world after Tokyo and Delhi. And according to the National Statistics Institute, 4.7 million vehicles were registered in Mexico City in 2014.

Odd-even: 3-tier air quality monitoring to be set up by Delhi government

Date: 4th April, 2016 Source: The Economics Times

NEW DELHI: Delhi government plans to undertake three tier monitoring of air pollution in the second phase of odd and even road rationing scheme, which begins on April 15. This was discussed on Monday when Environment minister Imran Hussain reviewed preparations with government officials.

"In view of forthcoming Odd-Even Part-2 Drive, Environment Department & Delhi Pollution Control Committee (DPCC) have planned to undertake monitoring of major parameters such as PM2.5, PM10 and NO2 during the period from 6th April 2016 to 30th April 2016 in Delhi and its surrounding areas," informed an official government statement. Further, it explained that the three tier monitoring system will involve the Existing Real Time Monitoring Network, Manual Monitoring and Hand Held Light Scattering System.

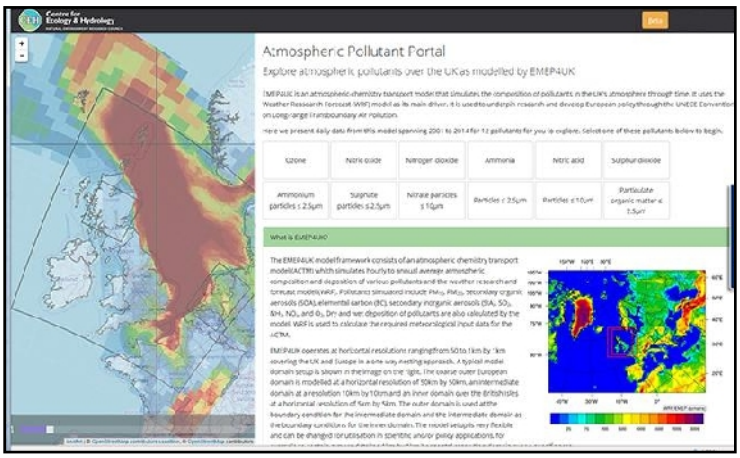
Existing Real Time Monitoring Network gives the data of six locations where monitoring equipments have been installed. These locations are Mandir Marg, Punjabi Bagh, R.K. Puram, Anand Vihar, IGI Air Port and Civil Lines. Manual Monitoring stations will be deployed to collect data, twice before the start of Odd Even 2 period as well as twice during the period of the scheme's implementation. "Such data will be collected and monitored at 10 different locations near road side, 20 different residential areas and 15 industrial areas, thus, totalling 45 locations, said the statement.

The 'Hand Held Light Scattering System' will be used to collect data at 55 locations. Additionally, it will also be put in place at 21 points i.e. 3 different points at each of 7 Border Areas i.e one inside Delhi Border, second on the Border and third one outside Delhi Border.

Hussain reviewed preparations with the Environment Department as well as the Delhi Pollution Control Committee for measurement of various parameters of Ambient Air Quality of Delhi during the road rationing scheme's second phase. During the first phase, the Delhi government had depended upon the six stations and handful of hand held devices for measuring impact on air pollution on account of the scheme.

The Atmospheric Pollution Portal – visualising UK air pollution

Date: 5th April, 2016 Source: CEH



The Centre for Ecology & Hydrology (CEH) has produced a new web-based tool that allows users to overlay and compare concentrations of a range of air pollutants across the UK and see how levels change through time from 2001 to 2014. The Atmospheric Pollutant Portal is a visualisation of the output of a complex 3D atmospheric chemistry transport model (EMEP4UK rv4.3 – a UK specific application of the European Monitoring and Evaluation Program (EMEP) MSC-W model). The model was developed by CEH scientists working in collaboration with the Norwegian Meteorological Institute, and with the University of Edinburgh.

The EMEP4UK model calculates atmospheric pollution levels at the surface for a horizontal resolution of 5km squares across the whole UK. Because the datasets are very large, it has not previously been possible to visualise them easily and the new web-tool enables users, for the first time, to interactively explore the model output. Comparing concentration and deposition maps, as well as displaying the development of pollution episodes over time, allows users to explore the dynamic nature of atmospheric pollution in an unprecedented manner.

The Portal currently shows 12 key atmospheric pollutants. These include the concentrations of particulate matter, nitrogen dioxide, and surface ozone which all can have a major effect on human health. It also displays the amounts and regional variation of sulphur and nitrogen compounds that are deposited from the air which can cause problems for agricultural crops and the natural environment.

Dr Colin Mackechnie, Business Development Manager at the Centre for Ecology & Hydrology said, "The Atmospheric Portal makes it easy for everyone to see how atmospheric pollutants move across the UK, and to understand how different parts of the UK might be affected by atmospheric chemicals that affect the health of humans and the environment."

Air Pollution Modeller Dr Massimo Vieno from the Centre for Ecology & Hydrology who leads the EMEP4UK development said, "The Atmospheric Portal shows that air pollutants can travel long distances, from sources in the UK or other European countries. The EMEP4UK model is driven by real meteorology (temperature, wind speed and direction, etc) in order to calculate the transport and chemical changes of pollutants across the UK. By visualising where hotspots of pollution occur, and how these move through time, we can understand risks to humans and to our environment. In future we plan to add more data and predictions of where problems are likely."

The Atmospheric Pollution Portal is a new tool available from CEH's Environmental Information Platform. Other portals hosted on the Platform include viewers for Drought data, Land Cover, UK Lakes and Rainfall and more.

Additional information

Atmospheric Pollutant Portal - Explore atmospheric pollutants over the UK as modelled by EMEP4UK

Development of the Atmospheric Pollution Portal was funded by the Centre for Ecology & Hydrology's National Capability funding through our Environmental Informatics research

Staff page of Dr Massimo Vieno

Watch a YouTube video of EMEP4UK modelling of surface hourly concentration of SO4 particulate matter for the whole 2008

CEH Environmental Information Platform

What It's Like To Drive A Taxi In A Smog-Plagued Megacity

Date: 5th April, 2016 Source: Climate Progress



Every day, whether rain or shine or alarming smog, Jesús Thomé drives his taxi around Mexico City, experiencing firsthand how air pollution affects his health.

Through his 12-hour shifts, as he maneuvers traffic jam after traffic jam in North America's most populous megacity, he notices how his throat gets progressively dry and sore. His nose gets stuffy, too, as his skin feels covered with a coating that doesn't feel like sweat. He doesn't have to be an expert to understand that smog is responsible. He's lived in Mexico City all his life. He knows the dense fog he sees covering the city when driving in higher-altitude areas is air pollution. He even knows that cars like his are mostly to blame.

"Yes, it's worrisome," the 55-year-old told ThinkProgress in Spanish, "but we can't work on anything else." He can't even take a full day off. If anything, Thomé said, he works four hours on Sundays because the 500 pesos or $30 he earns daily are too important with the last of his three children still in college.

Thomé is just one driver of more than 6.8 million cars circulating Mexico City's metropolitan area. These vehicles are now under an emergency car driving ban that took effect Tuesday and will last until June when the rainy season and winds pick up, ameliorating air pollution. Under this new program, all privately owned cars must remain off the streets one day per week in addition to one Saturday per month. Until now, vehicles were exempt from Mexico City's "no circulation" or "Hoy No Circula" rules if owners had a holographic sticker certifying their cars were low emitters.

Two weeks ago officials issued a Phase 1 emergency for high ozone levels. While ozone is good as a protective layer in the stratosphere, ground-level ozone is harmful for humans, plants and the ecosystem. Ozone is also Mexico City's biggest air pollution problem. Not since New Year's of 2005 had the city issued a Phase 1 pollution warning for ozone.

For more than 40 years the now fourth-largest city in the world has struggled with air pollution that studies and experts said is mostly caused by vehicle emissions in conjunction with the city's geography. Pollution gets trapped in Mexico City's volcano-ringed valley, as the high altitude reduces the efficiency of vehicles' internal combustion engines, and generates larger amounts of pollutants into the atmosphere. Vehicles are responsible for more than 80 percent of atmospheric contaminants, including 50 percent of ozone precursors and some 98 percent of carbon monoxide.

Yet after growing from fewer than 3 million people in 1950 to nearly 21 million as of the most recent figures show, Mexico City's notoriously polluted air had been improving. Aside from implementing driving restrictions in 1989, during the 1990s, the government strengthened emission inspection rules that put old cars off the streets, pushed for lead-free gasoline, catalytic converters, and a reduction of sulfur in diesel fuel. In 2013, it became the first Latin American country to introduce a vehicle fuel efficiency standard, which reduces both fuel consumption and tailpipe emissions.

Meanwhile, however, the government also pressed on big budget projects like double deck freeways and other road expansions that created years of construction work for companies but incentivized car use. What's more, people learned to avoid driving restrictions by bribing emission checkers, purchasing stickers or buying a second or third car. And last year, a Supreme Court decision overturned a rule banning cars over eight years old from the streets one day a week, partly because it said the rule adversely

impacted the poor. The ruling put an extra 1.4 million vehicles back on the roads each day, according to the Associated Press.

Experts reached said the new measures, while a good first step, won't be enough unless the government seriously invests in public mass transit.

"The vehicle fleet grew enormously in the last nine years," said Salvador Medina, a Mexico City-based urban economist, in an interview with ThinkProgress. He explained that in 2005 the city had less than 4 million cars, a figure according to his calculations has almost doubled since then. Medina said funding needs to create better mass transit in the State of Mexico, the area surrounding the metropolitan area, since it has only 17 percent of public transport roadway but holds 60 percent of its people. "The driving program itself generates problematic incentives," Medina said. "It's just a temporary measure."

Bankruptcy hits company that fights air pollution

Date: 5th April, 2016 Source: BusinessDen



A Denver spinoff that makes a powder to capture air contaminants from coal-burning power plants has filed for Chapter 11 bankruptcy.

Novinda, based in the Denver Place downtown, listed as much as $10 million in liabilities and up to $1 million in assets in court documents.

According to Novinda's website, the company makes a powder to capture mercury released by coal-powered utilities and other industrial boilers. The product helps coal-fired power plants comply with emissions standards.

"The challenge they faced was that they lacked capital necessary in order to continue operations," said Joshua M. Hantman of Brownstein Hyatt Farber Schreck, who is representing Novinda. "The goal is to continue operations during the bankruptcy."

Hantman said Novinda is negotiating with existing lenders to obtain new debtor-in-possession financing.

He added that the company has been operating at a loss for the past few years as it incurs research and design costs.

"One of the challenges for them has been to increase the number of customers," he said. "For that reason, (Novinda's) operations have been primarily supported by investors."

ADA Technologies, a Littleton-based technology commercialization firm, received funding from the U.S. Environmental Protection Agency and the U.S. Department of Energy in 2000 to begin researching methods to capture mercury, Hantman said.

CH2M Hill, the Englewood-based engineering giant, then joined ADA to develop the technology as a joint venture called Amended Silicates in 2003. The venture was renamed Novinda Corp. in 2009.

Other methods of capturing mercury change the composition of ashes coal plants produce as a by-product so that they can't be used to make cement, Novinda says on its website. But coal plants that use Novinda's powder can resell their ashes to cement manufacturers and keep them out of landfills.

In a recent report to its investors, one of Novinda's competitors noted that lower natural gas prices and increasing regulation of the U.S. coal industry already have caused the number of coal-powered plants to shrink.

The University of Utah is Novinda's largest unsecured creditor, owed $100,000 in trade debt, according to court documents. Local creditors include Apogee Scientific, an air pollution control company in Englewood that is owed $15,000, and ADA Technologies.

Equity shareholders include Altira Group, a Denver-based oil and energy private equity firm, which has invested $12 million in Novinda in a joint investment with New Jersey-based New Venture Partners.

The company has disclosed raising $25 million in filings with the SEC since 2009, targeting a total of $35 million in outside funding in such capital raises.

Novinda did not return messages seeking comment.

Greenpeace India claims flaws in National Air Quality Index

Date: 5th April, 2016 Source: DNA

Smoggy days like this one in Old Town Clovis in November 2014 are what the San Joaquin Valley Air Pollution Control District is trying to reduce.



The California State Auditor released a report Tuesday pointing out that the San Joaquin Valley Air Pollution Control District charges far less for its permits than is allowed under state law.

The San Joaquin Valley Air Pollution Control District was formed when eight county agencies with similar responsibilities were merged. It includes San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and Kern counties. The district is responsible for ensuring compliance with air quality standards set by the U.S. Environmental Protection Agency.

According to the audit, between fiscal year 2010-11 and 2014-15 the district earned an average of $17.6 million, or 39 percent of its annual operating costs, through fee revenue. California allows the district to recoup all of its operating costs through fees.

The agency uses funds collected from penalties and grants to cover the rest of the costs associated with its various inspections and reviews.

The district recently increased its fees, but auditors believe permit revenues still will be 15 percent to 83 percent lower than the costs associated with regulatory activities. The air district will have to keep using money gained from other sources – possibly its own general fund, which contained anywhere between $13.1 million and $14.3 million between 2010 and 2014.

In another finding, the auditor said the district needs a clearer policy on when to require indemnification agreements, which legally transfer risk from one party to another. It also needs better policies regarding letters of credit. It found that employees use discretion instead of specific case rules when asking for documents.

A clear policy is important, the audit says, because the district could be held liable for damage or injuries if it refuses to require the indemnification agreements.

The audit notes that district officials already have changed the policy in question to include specific case examples for when an agreement is required.

The district could not be reached for comment.

Seychelles' air quality the highest in the world, report says

Date: 6th April, 2016 Source: Seychelles



Seychelles, an archipelago of 115 islands in the western Indian Ocean topped the list of 180 countries for best air on the planet with a score of 98.24 percent.

The Environmental Performance Index (EPI) 2016 report says Seychelles has the best quality of air on the planet.

The archipelago in the western Indian Ocean topped the list of 180 countries with a score of 98.24 percent, ahead of Trinidad and Tobago and the Maldives.

The Seychelles' Minister of Environment says the type of development that government has chosen for the nation has played a big role in how clean the island air is today.

"If we look at the industries that we have, they do not produce any real air pollution, and we have over the years moved away from charcoal and kerosene for cooking," Minister of Environment Didier Dogley told SNA.

Visitors to Seychelles told SNA they are not surprised by the rating and it is the first thing they noticed on their arrival.

"I cannot even begin to compare. It's not just the air, it's everything, it's definitely a little piece of heaven. Yes, if it is said that you have the country with the purest air in the world, there is no way I am going to contradict this. Whoever said this is totally right," said Chelsea Duncan, an American tourist.

"It's almost the first thing we noticed here when we came out of the plane. China is crowded and has (a) lot of smoke from factories and transport. Seychelles, oh it's a beautiful country and yes it is good to breathe clean air in the lungs," said Xierly Young from China.

Seychelles' Minister of Tourism and Culture Alain St. Ange said he is thrilled to see that the quality of life being experienced and enjoyed on a daily basis by the Seychellois and also by visitors to Seychelles is today noticed by the world at large.

The Environmental Performance Index is a ranking done every two years on how countries perform on high-priority environmental issues Finland topped the overall list 2016 at a rating if 90.68 percent.

Seychelles is 112th overall with 64.12 percent.

Since 2010, Seychelles, with a population of 93,000, has been putting a lot of emphasis on environmental protection to guarantee its citizens the right to a clean, healthy and ecologically balanced environment.

World Air Quality Index map ranks Port Talbot, Wales as worst in world

Date: 7th April, 2016 Source: Silicon Republic



A global map that measures the air quality index of sites across the globe has ranked Port Talbot, the Welsh town that is the site of the Tata Steel mill where thousands of jobs are being threatened, as having the highest air pollution in the world.

Port Talbot has found itself in the centre of one of the biggest jobs crises in the UK of the last few decades with the announcement that the parent company of the Tata Steel mill that employs many in the town has put the company up for sale.

While it is not its only operation in the UK, the Port Talbot steel mill is by far one of the largest steel mills of the Tata Steel group, and one of the largest in the UK.

Figures make grim reading

The World Air Quality Index map, which charts close to real-time air quality sensors across many parts of the globe, shows that Port Talbot has the highest air pollution levels of any it is recording, currently sitting at 583 µg/m3 (micrograms per cubic meter of air).

Compare this with the current high (at the time of writing) of 338 µg/m3 in the Chinese city of Weifang and you realise that readings of that scale would constitute a serious health hazard, especially considering that the Air Quality Index says that anything more than 300 µg/m3 is considered a major health hazard.

Despite these grim readings, it appears efforts were being made by Tata Steel and researchers in Wales to improve the environmental situation at its plant, with news of a joint project between the company and Swansea University to develop carbon recycling technology for the plant.

Also, interestingly, given that the production of cheap steel by China is being blamed for the demise of Tata Steel, was the announcement last October that the Chinese government was to build a biomass power plant in the region, as well as an eco-park development valued at £2bn.

Using the internet of things (IoT) to measure air quality levels in urban areas has become one of its key uses. On Siliconrepublic.com, we recently covered news of a group that will use pigeons equipped with sensors to monitor air quality in London.

Evening Standard comment: Reducing air pollution needs political courage

Date: 7th April, 2016 Source: Evening Standard

Air pollution in London means every year thousands of us die before our time; it is the unseen killer around us, far less obvious than smog, and it requires urgent solutions. One has been advanced by the think-tank, the IPPR. Its new report proposes extending the congestion charge to the north and south circular roads with charging bands varying according to location and time of day, and how polluting the vehicle is. It also sensibly proposes amalgamating the congestion zone with the ultra low emissions zone, designed to reduce particulate emissions.

Plainly the extent of the C-charge as it stands doesn't match the extent of congestion or pollution; it excludes roads that are as heavily used than those within the charge area. But congestion charging, even modified, is a blunt instrument for tackling pollution. Given that Uber has created 40,000 new cab drivers and the inexorable increase in population, we need intelligent answers.

We should adopt smarter charging, which technology now makes possible. So, instead of charging over a blanket period and area, motorists would be charged for using the busiest roads at the busiest times. This more refined targeting of road use would benefit those living on busy roads outside the charge area.

This is an issue the mayoral candidates take seriously: at last, clean air is a priority. The Green Party's Siân Berry supports targeted smart charging. Yet Labour's Sadiq Khan opposes it while Mr Goldsmith is more equivocal; both oppose simply increasing the congestion charge. Instead they focus on other proposals such as pedestrianising Oxford Street — which, however attractive-sounding, raises practical difficulties with displaced traffic — or supporting cycling, an obviously worthy cause, or on planting more trees, which is an excellent if insufficient means of reducing pollution.

The reform of the C-charge, however, has to be part of the solution. The outgoing mayor supports it; now it will fall to his successor to implement it.

Just facts on EU please

The Deputy Mayor, Stephen Greenhalgh, has raised the possibility that Brexit could jeopardise the construction industry in London because half the workforce building new homes are from the EU and so are many construction materials. To which the Brexit camp may respond that they have no intention of deporting useful workers in a crucial sector.

The Government itself has gone much further. Today, Michael Fallon, Defence Secretary, has defended spending £9 million on an official document to be sent to every home arguing against Brexit. Certainly, the Government has strong pro-EU views. But it would have been better if it were to send a straightforwardly factual information leaflet to voters about the vote and the issues at stake without being partisan, as a Referendum Commission does in Ireland. This wouldn't preclude the Government separately campaigning for Remain. What voters need most is disinterested information, not more propaganda.

Tube etiquette

A poll of 1,000 Tube users has come up with a useful list of breaches of passenger etiquette. Those who push into carriages without waiting for people to get off are the main sinners followed by those who refuse to move down a crowded carriage, blocking the doors. But how about those who refuse to take small children on their lap, which would allow older passengers to sit down on crowded trains? This list could go on and on.

Advertise air pollution on lines of odd even-scheme: NGT

Date: 7th April, 2016 Source: Business Standard

The National Green Tribunal today asked Delhi government and other authorities to create awareness about air pollution caused by vehicular emissions and burning of municipal solid waste and issue advertisements on the lines of the odd-even scheme.



The green panel said the city government should keep a tab on ambient air quality (AAQ) standards in the national capital and directed it to maintain AAQ within permissible limits.

"Why don't you maintain ambient air quality standards in the city? We appreciate the odd-even formula introduced by the government. But what is your stand on vehicular pollution and burning of municipal solid waste? Why don't you advertise it in the same way as odd-even scheme," a bench headed by NGT Chairperson Justice Swatanter Kumar observed.

It also suggested introduction of destination buses in order to decongest the Delhi roads.

"Why don't you introduce destination buses? Say for example a bus which originates from Dwarka and terminates directly at Connaught Place. This will help reduce emissions," the bench said.

The NGT also asked advocate Tarunvir Singh Khehar, appearing for Delhi government, to implement it order banning vehicles more than 15 years old from plying in Delhi.

With the odd-even scheme set to return in the national capital from April 15, the tribunal has set up a committee of officials and asked it to collect samples of ambient air quality from different locations in the city.

During the proceedings today, advocate Balendu Shekhar, appearing for East Delhi Municipal Corporation, sought directions to the Transport Department of Delhi government to allow registration of new municipal vehicles beyond 2000 cc.

Advocate Shekhar told the bench that EDMC was facing "massive" difficulty in handling transportation of municipal waste due to acute shortage of municipal waste handling vehicles and that it needed 45 new vehicles for the purpose.

When NGT sought Delhi government's response, advocate Khehar told the bench that Supreme Court recently passed an order that no trucks will be registered in the city.

Noting the submissions, the bench posted the matter for next hearing on April 8 and asked the counsel appearing for various parties to seek clear instructions on the issue.

Air pollution in Barnet is at shocking levels

Date: 8th April, 2016 Source: North London



SHOCKING levels of air pollution have been detected outside schools in Barnet.

Tests carried out by Barnet Green Party have revealed that levels of nitrogen dioxide outside Wessex Gardens Primary School, in Wessex

Gardens, Golders Green, were 65 per cent above the legal limit.

Outside Dwight School, in Friern Barnet Lane, levels were 25 per cent above the legal limit.

Green Party London mayoral candidate Sian Berry said: "Barnet Greens have uncovered something that will shock many local people.

"Their findings are especially worrying if you have small children because this kind of pollution can permanently impair the development of their lungs.

"I wish I could say I'm surprised by these readings, but I can't because they' re consistent with what other citizen scientists – ordinary people gathering information in their own localities – are discovering all over London."

The air quality was recorded using diffusion tubes from the Gradko International Laboratory, in Hampshire, where the results were also analysed.

The reading outside Wessex Gardens school, on its boundary with the A41 Hendon Way, was 66 micrograms per cubic metre (µg/m3), the legal limit being 40 µg/m3, while outside Dwight School, in Friern Barnet Lane, it was 49.60 µg/m3.

In Oakleigh Park South, near the Sacred Heart Roman Catholic Primary School, a reading of 45.75 µg/m3 of nitrogen dioxide was recorded.

The Barnet Green Party has also raised concerns about air pollution at Staples Corner on the A406 near roundabout, where a reading of almost twice the legal limit (79.05 µg/m3) was recorded.

The proposed £4 billion development there, which includes 7,000 new homes and doubling the size of Brent Cross shopping centre, will bring an estimated 29,000 more cars to the area each day.

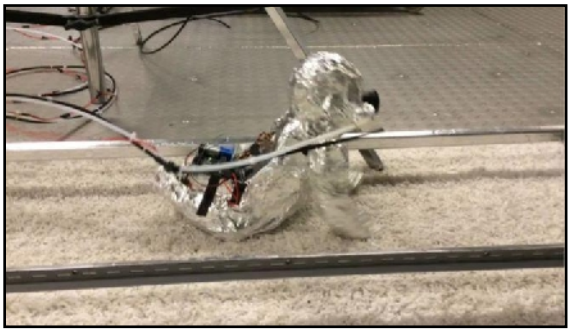
A Barnet Green Party spokeswoman said: "In some UK cities, planning permission for developments has been turned down if the increase in traffic would raise the level of nitrogen dioxide above 40 µg/m3. "

A spokesman for the Mayor of London's office, which is responsible for maintaining the city' s air quality, said he was unable to provide comments due to pre-election restrictions.

But the mayor' s website outlines action being taken, including a £20million Air Quality Fund to help local authorities. It also states there has been a reduction in nitrogen dioxide emissions from buses by 20 per cent since 2012 and a £1bn investment in cycling facilities across London.

Indoor air quality research helps build safer buildings

Date: 8th April, 2016 Source: The Exponent



A Purdue professor is researching how better indoor air quality will improve the construction of buildings and their ventilation systems.

According to Brandon Boor, an assistant professor in civil engineering, a lot of people measure pollutants and other health risks in the air outdoors but not as much indoors. "You spend 90 percent of your time inside buildings, so your exposure to air pollution (of)

both indoor and outdoor origin occurs primarily inside (buildings)," he said.

Boor is part of an architectural group with the Lyles School of Civil Engineering, along with Robert Jacko, a professor in the same department. Jacko agreed with Boor, also adding that it's important that "a significant design effort is put into the location and height of any vents or stacks on the roof of a building to prevent aerodynamic crosstalk between the pollutants exiting an exhaust vent and the fresh air intakes as well as the return air filtering process and hardware that is placed in the air delivery system in a building."

Boor started his research at University of Texas at Austin, where he observed how our sleeping patterns affect the indoor air quality in our own homes. To achieve this, he conducted experiments using different mattresses while factoring in, for example, how they were made and what chemical compounds were then dispensed into the air. Some examples of the chemical compounds he looked at were volatile organic compounds and flame retardants.

"We do spend 90 percent of our time at home, but 30 percent of that is spent sleeping," Boor said. "The mattress is an accumulation zone for a lot of material coming from the human body and allergen particles, not just dust mites ... Once you get into the mattress, stirring those dust deposits, all that stuff gets into the air."

This tied in with Boor's next study, in which he worked with a microbiologist focusing on how infants disperse dust particles into the air when they crawl. Then, they looked at how much of those particles would be inhaled by the infants. To study this, Boor used a robot that mimicked a baby's movements on the floor, which then stirred the dust into the air. Boor reflected that this particular research largely benefited as an interdisciplinary project.

"It's the same exact concept, where there is a disturbance that detaches these particles from the surface," Boor said. "This contributes to our exposure to larger particles, bigger than one micron, and a lot of the stuff tends to be of biological origin."

Boor hopes to move forward with this particular study by looking at how big those particles are and how they are dispersed in real time. He sees human activity and occupancy as very transient processes and believes that by having the additional information, they could be able to use control engineering strategies to monitor the different particles in the air and reduce bioaerosol exposure in real time.

"To design buildings, the important thing to consider is indoor air quality and people's health," Boor said. "It's not just saving energy ... it's also about designing safe ventilation and filtration systems."

Boor plans to go deeper and broader in this field to build a better understanding towards indoor air quality. For example, he plans to use low-cost sensors to measure indoor air pollution in Kenya to "better understand population exposure to air pollution."

"I see these instruments as being the future in terms of improving air quality," Boor said. "By having these sensors, we have a much better understanding of what people are exposed to."

Air pollution costs lives, researchers say

Date: 8th April, 2016 Source: The Charlotte Observer

Recent findings underscore the cost of air pollution on human health, and the benefits of reducing it, researchers said Friday at the N.C. BREATHE conference in Charlotte.

While pollution is rarely a direct cause of death, it raises risks that can shave years off an individual's life. One recent study placed air pollution as the fifth-highest risk factor globally, contributing to 5.5 million deaths in 2013.

The first BREATHE conference was held in Raleigh last year. It moved to UNC Charlotte Center City as UNCC's "Keeping Watch" initiative focuses this year on air quality, said June Blotnick of Clean Air Carolina, one of the event's sponsors.

Air pollutants come to life on the side of the UNCC Center City building each night through April 23. The "Particle Falls" animation measures fine airborne particles in real time and displays them in a stream of light.

Fine particles, which come from dust, motor vehicles or industries, are particularly lethal. One-thirtieth the width of a human hair, they work deeply into the lungs and were linked to 3.2 million deaths worldwide in 2010, said scientist Antonella Zanobetti of Harvard University's T.H. Chan School of Public Health.

Zanobetti cited a study showing that exposure to particles is more likely to lead to hospitalization for patients with Parkinson's disease and Alzheimer's disease. A second study, of New Englanders over 65, linked increased deaths even when particles are within federal standards.

Because pollutants circulate widely in the atmosphere, air pollution poses global health problems, said UNC Chapel Hill's Jason West. Ozone pollution from North America and Europe causes more deaths elsewhere than in the regions where it originated.

Taking steps to control greenhouse gases linked to climate change can have the added benefit of curbing air pollution. West recently led a study that found that controlling methane can reduce premature deaths by curbing the formation of ozone.

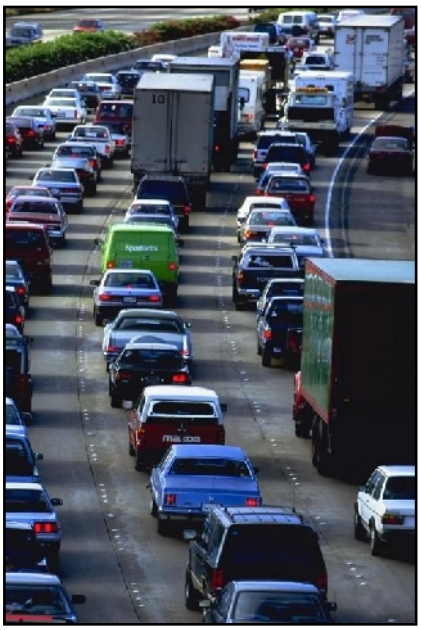
Because it's expensive to control air pollutants, costs are weighed against public health benefits when federal standards are proposed. That's the field of Chris Timmins, a Duke University environmental economist.

The last major overhaul of federal clean-air standards, in 1990, cost industries $65 billion in compliance expenses, he said. But the benefits, including fewer premature deaths and work days lost to illness, have been calculated at $2 trillion.

Even low levels of air pollution appear to affect a child's lungs

Date: 11th April, 2016 Source: EurekAlert

Dramatic improvements in air quality in U.S. cities since the 1990s may not be enough to ensure normal lung function in children, according to new research published in the April 15 American Journal of Respiratory and Critical Care, a journal of the American Thoracic Society.



In "Lifetime Exposure to Ambient Air Pollution and Lung Function in Children," researchers report that children exposed to higher levels of air pollution, including fine particulate matter (PM2.5) and soot (black carbon), had worse lung function than those living in less polluted areas. By age eight, the lung function of children living within 100 meters of a major roadway was on average 6 percent lower than that of children living 400 meters or more away.

"Few studies have examined childhood exposure to air pollution after the dramatic improvements in air quality of the 1990's to see if exposure to air pollution at these lower levels is linked to children's lung function," said lead author Mary B. Rice, MD, MPH, an instructor at Harvard Medical School, who noted that PM2.5 levels in Boston have declined by more than 30 percent between 1996 and 2006.

Researchers studied 614 children born to mothers who enrolled between 1999 and 2002 in Project Viva, a long-term study of women's and children's health in eastern Massachusetts. Authors calculated the distance from the child's home to the nearest major highway, and estimated first year of life, lifetime and prior-year exposure to PM2.5, using satellite measurements. They also estimated first year of life, lifetime and prior-year exposure to black carbon using 148 monitoring stations.

At age eight, children underwent lung function tests. Researchers found:

Children living the closest to major highways had the greatest reductions in their lung function.

Recent air pollution exposures most negatively impacted lung function measures.

Children who experienced greater improvements in air quality after the first year of life (either due to a move or changes in local pollution around the home) had better lung function compared to those whose air quality did not improve as much.

"These important findings are from a novel study combining modern modeling of exposures to air pollution with robust measurements of lung function, conducted in a community with pollutant levels now under EPA standards," wrote Cora S. Sack, MD, and Joel D. Kaufman, MD, MPH, of the University of Washington, in an accompanying editorial. "This adds to the urgency for more work to understand the impacts of these low-level exposures on human health."

Study limitations include the fact that lung function was measured only once and a relatively homogenous study population.

The study will follow these children into adolescence. "We plan to evaluate if the benefits of cleaner air endure by investigating if children with the greatest improvements in air quality continue to have better lung function than their peers in the teen years." Dr. Rice said.

About the American Journal of Respiratory and Critical Care Medicine

The AJRCCM is a peer-reviewed journal published by the American Thoracic Society. The Journal takes pride in publishing the most innovative science and the highest quality reviews, practice guidelines and statements in pulmonary, critical care and sleep medicine. With an impact factor of 12.996, it is the

highest ranked journal in pulmonology. Editor: Jadwiga Wedzicha, MD, professor of respiratory medicine at the National Heart and Lung Institute (Royal Brompton Campus), Imperial College London, UK.

Colombian city promotes bicycle use to fight air pollution

Date: 12th April, 2016 Source: Fox News

Officials and forward-thinking citizens in the northwestern Colombian city of Medellin have decided to promote the use of bicycles by means of a digital application with specific benefits for users, as a means of lowering pollution levels in a city going through an environmental emergency.

To complement other projects and restrictions aimed at cleaning Medellin's air - such as limits on automotive traffic - a group of innovators presented the "Biko" app for mobile devices, which encourages the use of bicycles by converting the number of kilometers (miles) pedaled into points that can be donated to worthy causes or spent at restaurants and places of entertainment.

"This technological platform motivates riding bicycles in urban areas for the three benefits they offer: transportation, protecting the environment and healthy living," Emilio Pombo, co-founder of the Colombian company Biko, told EFE.

Over the past few weeks, the Air Quality Monitoring Network of Aburra Valley, in charge of studying and measuring air quality in the Medellin metropolitan area, said that now is a "critical" time with as much as twice the normal concentration of PM2.5 particles (the finest and most harmful to human health).

Though restrictions on autos have diminished the pollution a little, the environmental emergency continues, which makes the Biko app an invaluable resource. It now has more than 40,000 registered users and was launched a year ago in Bogota, to help the capital alleviate similar problems.

Pombo said that in addition to its impact on Bogota and being added to the program for cleaning the air in Medellin, Biko will be launched next May in Mexico City, where there are "huge problems" of air pollution, as well as the public health crisis of widespread obesity.

This application, besides exchanging kilometers (miles) for redeemable points, encourages calorie-burning exercise and reports the average savings of CO2 emissions achieved by riding a bike rather than driving a car.

For her part, the deputy director of Metropolitan Area Mobility for Aburra Valley, Viviana Tobon, said the current situation makes it essential to look again at "the city we want to build," after decreeing a red alert for the high contamination levels.

"What has occurred in recent weeks has put us on the alert and shows that an ultra-motorized city based on individual transportation is asphyxiating us," Tobon told EFE.

In the US, the cost of illnesses triggered by air pollution is falling

Date: 12th April, 2016 Source: PRI



In the endless tug-of-war between industry and regulators over air pollution, industry issues repeated warnings about the economic costs of regulation, but rarely mentions costs of pollution to society. Yet, according to the World Health Organization, air pollution causes 3.3 million premature deaths worldwide.

In the US, where more than 200 coal-fired power plants have been retired in recent years, data indicates that lowering the amounts of fine particle pollution is generating significant public health dividends and lowering the overall cost to society.

Paulina Jaramillo, a scientist at Carnegie Mellon University who studies the environmental impacts of energy systems, wondered if society could place an actual dollar amount on the savings created by improving air quality. She and a team of colleagues designed a model to find out.

The researchers plugged in pollution reports from the Environmental Protection Agency, weather models and population data. They took into account the effects of pollution on crops, forests and infrastructure — and human health. Much of that cost hinges on one basic number — a number with a somewhat disconcerting name: "value of a statistical life."

The value of a statistical life (VSL) is a controversial technique, widely used in policy analyses, to estimate the amount of money we as a society are willing to spend to save one person's life. According to the federal government, the current average VSL is around $6 million.

Jaramillo's model showed that, since the early 2000s, as emissions from coal-fired power plants declined, the annual cost of pollution also declined, by about 25 percent, to $130 billion.

Jaramillo says the big changes came about for a couple of reasons: New regulations forced many coal-fired power plants to clean up, The Great Recession lowered energy demand for a few years and cleaner sources, like natural gas, have cut into coal's share of the electricity market.

"Reducing these emissions reduced health impacts," Jaramillo concludes. "These models cannot pinpoint who specifically benefitted, but on a population basis there are benefits."

Jaramillo and her colleagues may not be able to pinpoint individuals who benefit from reduced emissions, but others can: emergency room doctors, for instance.

Arvind Venkat is an emergency physician at Allegheny General Hospital in Pittsburgh. He says patients will often come in because of a cold or an allergic reaction, but the underlying causes often include other factors, including air pollution. Many patients suffer from allergies or viruses, but some sort of trigger requires them to seek acute care and pollution is a well-recognized trigger, Venkat says.

In addition, studies show that ER visits for heart and lung conditions increase on days when pollution is highest. At around $1,000 a visit, ER costs can add up quickly. Reducing air pollution helps eliminate one of the triggers that can cause or worsen health conditions, which, in turn reduces the overall costs to the medical system and to the larger society.

For Jaramillo, the takeaway is simple. “We need to continue regulating these emissions and putting controls on these emissions, because they have been effective,” she concludes.

This article is based on a report by Reid Frazier of the Pennsylvania public radio program, the Allegheny Front. The report aired on PRI’s Living on Earth with Steve Curwood.

Hong Kong indoor air pollution so bad it could be making you chronically ill, tests show

Date: 12th April, 2016 Source: South China Morning Post

Pollutant levels up to 1,250 per cent higher indoors than outdoors, and PM2.5 fine-particle pollution worse than beside some of the city’s busiest roads, shock research by Baptist University finds

The air pollution inside some Hong Kong homes is worse than beside some of the city’s busiest roads, tests show. And it could be making the homes’ occupants chronically ill, worried scientists say.

Levels of small-particle pollution, known as PM2.5, that can lodge deep in people’s lungs were on average nearly 10 per cent higher indoors than the highest level found outdoors.

Levels of volatile organic compounds (VOCs) - carbon-based chemicals that easily evaporate at room temperature - were, on average, over 1,250 per cent higher in kitchens than outdoors. And the median level of VOCs in 27 of 32 homes tested exceeded the recommended maximum level for Hong Kong offices. One of the researchers said indoor air pollution - from perfumes, cleaning products and cooking fumes - turned the average Hong Kong home into a “mini chemical warehouse”.

Studies in other countries have also found indoor air pollution is higher than that outdoors. The situation in Hong Kong could be aggravated by factors such as high-rise living, subdivided flats, a lack of windows and ventilation in some rooms, and restaurants occupying ground-floor premises in residential buildings, one of the researchers said.

The research was conducted by Baptist University’s biology department and household appliances manufacturer Dyson. Air quality was tested in 32 homes, with samples taken in their living rooms and kitchens, and directly outside these rooms.

The tests showed the median level of indoor VOCs in most of the homes tested was 345 parts per billion (ppb) compared with 95.5ppb outside the flats. Hong Kong’s Environmental Protection Department says VOCs should not exceed 200ppb in offices. Kitchen VOC levels were far higher.

“VOCs are consistently higher indoors than outdoors. Even so, the research found that the kitchen VOCs are on average 1,258 per cent higher than outdoors,” said Baptist University’s Dr Lai Ka-man, who led the research in March.

The researchers’ report, citing the US US Environmental Protection Agency, says: “Toxic fumes released from cleaning solvents, deodorants and scented candles are some of the most common indoor air pollutants. Other major indoor air pollutants include gases from cooking, mould, pet hair, pollen and allergens.”

The scientists tested for two classes of particulate matter (PM), fine particles resulting from combustion such as that by vehicle engines and power stations. In the home, particulate matter can be produced by

cooking and by smoking tobacco. Exposure to excessive levels can lead to allergic reactions of the lower respiratory tract, such as asthma, and to strokes and heart attacks, according to health professionals.

Readings were also taken at seven outdoor locations around the city.

The tests found micro-particle pollution, or PM0.1, was on average 68.5 per cent higher inside homes than outside. (PM0.1 is one-thousandth the diameter of a human hair, and can penetrate the lungs and enter the bloodstream.)

"The highest outdoor PM0.1 was 94 million particles per litre (ppl), recorded at the junction near the Sogo department store in Causeway Bay. The highest indoor sample was a worrying 46.8 per cent higher, at 138 million ppl [recorded in a Tai Wo flat in the New Territories]", Lai said.

Hong Kong has no guidelines on recommended levels of indoor particulate matter, but it is indicative that outdoor readings in busy roadside areas often reach dangerous levels on the air pollution index – levels that, ironically, trigger warnings to residents with respiratory problems to stay in their homes.

Surprisingly, Lai said, indoor levels of PM2.5 were higher than outdoors. Indoor readings were on average 9 per cent higher than the highest reading recorded outdoors, of 369 ppl, outside Sogo in Causeway Bay; the PM2.5 reading in Nathan Road, Mong Kok, one of the city's busiest urban roads, was 363ppl.

W.Va. cement plant fined $38K for air-pollution violations

Date: 13th April, 2016 Source: Herald Mail Media

MARTINSBURG, W.Va. — Essroc has agreed to pay a $38,400 penalty for air-pollution violations at its Martinsburg cement plant, which triggered several complaints last year from nearby residents.

Essroc will be required to perform weekly, instead of monthly, "visible emission observations" at its South Queen Street plant as part of efforts to prevent future violations, according to Jesse D. Adkins, assistant director of compliance and enforcement for the West Virginia Department of Environmental Protection's Division of Air Quality.

The plant also is required to keep a specified number of replacement bags used to contain dust on hand and also implement a "cement clinker handling fugitive emissions control plan" for engineering improvements to the plant's clinker silo-dust collector systems, according to a consent order signed by plant Director Heinz Knopfel and Division of Air Quality Director William Durham.

Division officials conducted an inspection of visible emissions at the cement plant between Oct. 21 and Nov. 2 in response to citizen complaints, the consent order said.

The inspection revealed that dust was coming from near the top of a silo that houses clinker, Adkins said Wednesday in a telephone interview. Nodules of clinker typically are ground to a fine powder and used as a binding agent in cement products.

The investigation also found that seals on the access doors to enter the silo were not sealing properly, allowing dust to escape, Adkins said.

"From what we saw, this was the primary issue," Adkins said of the source of the dust.

Nearby residents said the dust had repeatedly coated their vehicles, and it was difficult to remove without using vinegar or other special treatment.

Inspectors found on Oct. 27 that the average amount of dust obscured by pollution in the air during six-minute blocks of time exceeded the plant's permitted 10 percent emission limit, with the highest average reaching 40.4 percent, the DEP said last fall in a violation notice.

In November, an engineering study of the plant's clinker silo-dust collectors was conducted by a firm on behalf of Essroc that said excessive air temperatures might have caused premature deterioration of the bags meant to catch the dust, the consent order said.

After Division of Air Quality representatives observed a dust "plume" coming from access doors of a clinker silo on Jan. 6, Essroc said additional repairs to the silo door seal had been done.

Plant officials said on Jan. 21 that they made other adjustments to increase the efficiency of a dust-collector system.

The DEP's investigation was separate from actions that Essroc took several days before the Oct. 27 inspection to keep dust from leaving the plant.

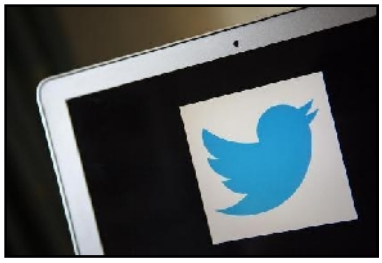
The company decided Oct. 21 to halt a special operation to haul clinker to the company's sister plant in Nazareth, Pa.

The company said it also increased road sweeping and watering as part of efforts to contain dust as a result of truck traffic.

Considered a "major stationary source," the portland cement plant is required to have an operating permit under the federal Clean Air Act because it has the potential to emit more than 100 tons per year of various pollutants, including carbon monoxide, nitrogen oxide, particulate matter, sulfur dioxide and volatile organic compounds.

Now, a Twitter app to measure Delhi's air quality in real time

Date: 14th April, 2016 Source: ANI News



New Delhi, Apr.14 (ANI): As the Odd-Even initiative returns to Delhi's roads on April 15th, a Twitter app will provide a real-time eye-opening glimpse into New Delhi's air quality.

Delhi-based social entrepreneur Amrit Sharma's automated Twitter account, @DelhivsBeijing, urges New Delhi's citizens to wake up to the hazards of air pollution. But there's a twist to the campaign - it compares Delhi's pollution levels to Beijing's.

"My goal is to make air pollution metrics easy to understand, and help people realize that they need to pay attention and take action," said Sharma.

The Chinese capital's hazy skylines and deteriorating air pollution levels constantly make headlines, but Delhi residents often breathe in much more toxic air.

Every hour, the @DelhivsBeijing app tweets real-time air quality data from New Delhi and Beijing. Each tweet also includes a custom-designed image that juxtaposes Delhi's famous ?Humayun's Tomb with Beijing's Tiananmen Square to visually emphasize the current levels of air pollution.

According to the WHO, Delhi is the most polluted city in the world. 5.5 million people die prematurely every year around the world because of air pollution, and roughly 1.3 million of those deaths occur in India.

Sharma applauds the Delhi government's Odd-Even experiment, which debuted in January this year, but adds that extreme air pollution in Delhi won't subside significantly unless both the government and civilians truly understand the implications of air pollution on health and quality of life. "Air pollution kills," Sharma says. "New Delhi needs a concerted year-round effort to systematically keep air pollution within healthy or moderately healthy levels, or we should expect a continuous rise in respiratory illnesses, skin diseases and other aggravated health issues to plague us all."

He adds, "I really hope that @DelhivsBeijing and other awareness initiatives can drive home the point that we are breathing dangerously toxic air and must address this to improve everyone's quality of life."

Meanwhile, will the Odd-Even initiative live up to the expectations? "I'm cautiously optimistic," says Sharma. "Until then, Delhi residents should be proactive and wear a face mask while outdoors, use an air filter in their homes and follow @DelhivsBeijing on twitter."

Rule change sought on Air Pollution Control residues

Date: 14th April, 2016 Source: Air Quality News



Current rules on the disposal of hazardous materials left over from procedures designed to reduce air pollution from waste incineration plants could be set to change, AirQualityNews.com has learned.

Ministers are expected to give a decision next month on whether they will scrap rules allowing the landfilling of hazardous waste materials from UK energy from waste and similar facilities which use emission control systems.

Waste management companies have been allowed to landfill Air Pollution Control (APC) residues – material (such as lead and chromium) left over after the removal of hazardous air pollutants from the waste incineration process – under a derogation of hazardous waste rules.

Estimates compiled by the government in July 2015 suggested that around 300,000 tonnes of APCr arise in the UK annually, although this is likely to rise significantly in future years as a greater proportion of the UK's household waste is treated via incinerator facilities. This could rise to as much as 600,000 tonnes by 2020, it is thought.

A significant increase in the volume of material arising in the UK would increase the need for a major alternative to landfill, with the capacity at UK landfill sites continuing to decrease as sites are shut.

According to the government, the continued allowance of landfilling of the APCr material has been due to a lack of sufficient treatment routes for it.

But the derogation allowing the landfilling of the material has been under review for a number of years, with the government having originally promised to remove the arrangement in its 2010 Hazardous Waste Strategy.

What is Air Pollution Control residue?

APC residue is typically a mixture of ash, carbon and lime. It is a hazardous waste which is currently disposed of at a hazardous waste landfill or undergoes further processing such as washing or stabilisation to send to a non-hazardous landfill.

A consultation by the Environment Agency in 2014 previously mooted setting an 'expiry date' for any remaining derogations of December 2015 .

However, the government then pushed back a decision until autumn 2015 and then again to May 2016, citing "insufficient evidence and data gaps in a number of areas".

And, when contacted this week, a spokesman for Defra said of any future rule change that: "The decision will be made in due course."

Calls for rule change

In recent years, companies including waste management firm Castle Environmental and Carbon8, with involvement from Grundon, have developed 'recycling' processes for APC residues, which largely sees them used as a replacement for aggregates in concrete for construction processes.

Companies investing in alternative treatment process for the material have claimed that a lack of a timetable for a phasing out the derogation allowing landfilling has acted as a barrier to further investment in new outlets for the material, and have continued to call for clarity from the government.

Roger Hewitt, director at Castle Environmental – which treats APC residues at sites in Ilkeston and Cardiff to create an aggregate feedstock that is then used in the company's range of concrete products – said investment in alternative treatment could increase if a decision is made.

He said: "We have developed the ability to wash APC residues and remove the harmful constituents. We end up with a cake that we have developed various routes for."

He added: "People often talk of recycling as being something that is difficult to establish because often the end market is not clear." Mr Hewitt pointed out that his own company and Carbon8 have both invested in processes which seek to divert APC residues from landfill and into a product.

"Both operations highlight the fact that investment has gone into research and development and that puts an end to the argument that there is no established process for it," Mr Hewitt added. "We have end markets that are hungry for material.

"If the derogation ends we will be looking at building many more plants."

Alternative treatment

Pressure has also been exerted by trade body the Environmental Services Association (ESA) which has continued to highlight the issue to government, most recently in its call for stronger implementation of the Hazardous Waste Strategy, issued in February.

Commenting on the issue, Roy Hathaway, policy advisor at ESA, said: "The ESA view is that without a date [for the end of the derogation] nobody would invest in alternative treatment. ESA has always said there should be a definite date so people will react and put in place the alternative methods for dealing with the material."

Consultation

Debate on the issue has come back to light again this week, having been brought to the attention of the resources minister Rory Stewart in Parliament.

Mr Stewart issued a statement outlining Defra's progress on the derogation on Tuesday (12 April) in which he said that the government is continuing to assess the "availability of sufficient alternative treatment capacity and the costs of that treatment" for APCs.

He added: "The government is making an assessment of the quantity of air pollution control residues produced at energy from waste facilities to inform its decision on whether or not to remove the derogation to allow the landfilling of air pollution control residues that are three times above normal waste acceptance criteria."

Even Low Levels Of Air Pollution Damage Children's Lungs

Date: 15th April, 2016 Source: Clean Technica



Even relatively "low" levels of common air pollution damage the lung functioning of children, according to a new study published in the American Journal of Respiratory and Critical Care.

The study found that children living within 100 meters of a major highway had, on average, lung function around 6% lower than that of children living 400 or more meters away from major highways.

he lead author of the study, and an instructor at Harvard Medical School, Mary B Rice, MD, MPH, commented: "Few studies have examined childhood exposure to air pollution after the dramatic improvements in air quality of the 1990s to see if exposure to air pollution at these lower levels is linked to children's lung function."

The above comment is in reference to the fact that fine-particulate matter (PM2.5) air-pollution in the Boston area fell by over 30% between the years of 1996 and 2006.

Green Car Congress provides more:

The researchers studied 614 children born to mothers who enrolled between 1999 and 2002 in Project Viva, a long-term study of women's and children's health in eastern Massachusetts. Authors calculated the distance from the child's home to the nearest major highway, and estimated first year of life, lifetime and prior-year exposure to PM2.5, using satellite measurements. They also estimated first year of life, lifetime and prior-year exposure to black carbon using 148 monitoring stations.

At age eight, children underwent lung function tests. Researchers found:
Children living the closest to major highways had the greatest reductions in their lung function.
Recent air pollution exposures most negatively impacted lung function measures.
Children who experienced greater improvements in air quality after the first year of life (either due to a move or changes in local pollution around the home) had better lung function compared to those whose air quality did not improve as much.

Cora S Sack, MD, of the University of Washington, commented: “These important findings are from a novel study combining modern modeling of exposures to air pollution with robust measurements of lung function, conducted in a community with pollutant levels now under EPA standards. This adds to the urgency for more work to understand the impacts of these low-level exposures on human health.”

Air pollution increases 69 per cent as coal named top polluter

Date: 18th April, 2016 Source: The Sydney Morining Herald

Air quality across Australia has deteriorated to alarming levels with the coal industry the nation's worst polluter, new data has shown.

The most concerning rise in air pollution is from PM10, a coarse pollution particle about the width of a human hair. Nationally, total PM10 emissions have increased 69 per cent in one year, and 194 per cent in five years.

The figures come from the National Pollutant Inventory's 2014-15 report which collects information about toxic pollution. Non-profit legal practice Environmental Justice Australia (EJA) spent the weekend analysing the figures, which were released on Friday.

EJA researcher Dr James Whelan said the findings raise serious questions about the future of Australia's air quality and called for tougher federal government regulation, an urgent transition from coal to renewable energy, and a National Air Pollution Control Act.

"Watching the continuing escalation of air pollution across Australia, particularly from coal mines and coal-fired power stations, is like seeing a car speed faster and faster with no police response."

Air pollution kills more than 3000 people in Australian every year, almost three times the annual road toll, and costs the nation more than $24 billion in health care costs each year.

Dr Whelan said reducing particle pollution is critical to avoiding a public health crisis in mining areas.

"Particle pollution accounts for more than 90 per cent of the total health impacts of air pollution in general."

Dr Whelan said just like smoking, there is no safe level of particle pollution.

"Any reduction has direct health benefits including preventing premature death," he said.

While PM10 emissions from the coal industry have fallen 8 per cent in 2014-15 to just under 400,000 tonnes, they have increased 84 per cent over the past five years.

Other findings from EJA's analysis include:

- Coal companies reported almost 400,000 tonnes of PM10, an 84 per cent increase in the past five years
- Newcastle's three coal terminals account for 62 per cent of the city's PM10 emissions (295,000 kilograms this year)
- PM10 emissions from Maules Creek coal mine increased 187 per cent in 2014-15
- Emissions of toxic pollutants from coal mines including PM10, lead, arsenic and fluoride increased by 100-200 per cent during the last decade
- Australia's 20 most polluting coal mines are located in the Bowen Basin and the Hunter Valley
- Particle pollution emissions from Mackay's two coal terminals increased by 50 per cent in just one year and 254 per cent over five years.

Reporting pollution data is mandatory, but is not audited and data is often missing, inaccurate or blatantly false, Dr Whelan said.

Will Delhi's Extreme Traffic Restrictions Have an Impact on Air Pollution This Time?

Date: 18th April, 2016 Source: The Wall Street Journal



Delhi has implemented severe restrictions on which cars are allowed on the road again in hopes of combating the megacity's horrendous air-pollution problem. Similar air-clearing measures had mixed results during the peak Winter smog season but this time citizens are hoping for better results.

For the two weeks starting April 15, most cars in the Indian capital will only be allowed on the roads every other weekday. In the so-called odd-even program, cars with license plate numbers that end in odd numbers are allowed on the roads on odd-numbered days and Sundays while cars with even license plate numbers are allowed on even days and Sundays.

For the first few days of the plan most offices and schools were closed for a string of national holidays and the weekend, so Monday is the true test of whether the restrictions are working.

"Today is the litmus test for the odd-even plan. Like the last time, we all need to cooperate to make it a success," Delhi's Transport Minister Gopal Rai tweeted from his verified account on Monday.

There are 2.6 million private cars and almost 5 million motorcycles and scooters registered in Delhi, according to the latest figures from the capital's Transport Ministry.

There are many exceptions to the regulations, meaning the number of cars on the streets will not be slashed by half. Women driving alone or with children, disabled drivers, emergency services, cars with diplomatic plates and motorcyclists are all exempt from the restrictions as are military vehicles and taxis.

Commuter Raj Kumar Sharma said the city needs to expand its public-transportation infrastructure by adding more trains and buses before it tells drivers they can't use their cars half the time.

"Unless you have a proper transport system, what's the point in penalizing single-car owners like me in this sweltering heat," he said.

Some politicians of the ruling Bharatiya Janata Party, which does not run Delhi, seemed to agree.

"Why not make OddEven a permanent feature? If there is no infrastructure then first build the infrastructure and then implement it in one go," tweeted Vijay Goel, a BJP lawmaker.

In Delhi, levels of dangerous particulate matter, known as PM 2.5, which can cause serious respiratory illnesses, regularly exceed the amount deemed safe by the World Health Organization. The particles, from dirt, soot and smoke, can lodge in the lungs and cause respiratory illnesses. On many days Delhi records higher PM 2.5 levels than anywhere else in the world.

Whether restrictions on cars alone can solve the problem is debated. Delhi implemented similar restrictions in January and there was not a huge difference in pollution levels. A study by Delhi-based think-tank–the Council of Energy, Environment and Water– that independently measured air quality and traffic volumes at five locations in the capital, showed that pollution levels in the two weeks of January were actually worse than those observed in the last week of December.

Garbage burning undermines AAP govt's focus on reducing air pollution

Date: 20th April, 2016 Source: Hindustan Times



Fumes of burning garbage undermine the AAP government's odd-even road rationing formula aimed at reducing air toxicity in Delhi.

Piles of leaf and garbage are burnt with impunity in Delhi's parks and landfills, filling the air with foul smoke containing dangerous levels of carcinogens and carbon dioxide that is blamed for stoking weather extremes.

The fumes of burning rubbish, a major source of pollution that goes unchecked, undermine the Arvind Kejriwal government's odd-even road rationing formula to reduce air toxicity.

Penalties to offenders in the past year — north and south municipal corporations' 26 challans and their east counterpart's 191 — show how much importance is given to the green watchdog in New Delhi that the World Health Organization (WHO) ranks as the world's worst city for air pollution.

The National Green Tribunal had banned in April 2015 the practice of burning leaves and trash in the city — a ritual followed almost religiously in the absence of a robust garbage disposal system and a strict monitoring system.

Delhi's never-ending stream of traffic contributes 8% to air pollution in summer, which is just 1% higher than the burning of garbage, an IIT-Kanpur study found.

Smoke from leaf and trash burning releases PM10, a coarse particle that can embed deep in the lungs. Studies have shown PM10 leads to respiratory and heart problems, especially in children.

"We regularly monitor leaf burning to curb the practice," North Delhi municipal commissioner PK Gupta said.

A civic official defended the relatively low compliance, saying garbage is burnt mostly before dawn or after sunset.

Another official said wood and leaf piles were burnt by poor people to keep warm in winter. "These people can't pay the lowest fine amount, which is Rs 5,000."

But at the root of such man-made emissions is the lack of an effective waste management system.

Errant municipal employees find it easy to burn garbage, mostly of biological origin — from horticulture waste to food — than taking the rubbish to dumping sites.

"Sanitation workers, especially those on contract, indulge in this practice on the sly. It becomes hard for enforcement officials to catch them because they escape after lighting the waste," said an official.

Green activist demanded more accountability, saying burning does not make the waste disappear but transforms it into a formidable pollution problem.

"It requires vigilance to catch offenders. Communities should be involved to ensure the burning doesn't happen in their neighbourhood … the municipal agencies must work to provide a solution to the problem of waste disposal," said Anumita Roy Chowdhury, executive director of the Centre for Science and Environment (CSE).

Often residents were clueless about a garbage fire until smoke enters their homes.

"In such a scenario, the sanitation staff, local officials and even residents must be held responsible to ensure accountability," said Bharti Chaturvedi of Chintan, an NGO.

More than half US population lives amid dangerous air pollution, report warns

Date: 20th April, 2016 Source: The Guardian



American Lung Association's 'state of the air' report finds 166 million Americans are living in unhealthy ozone or particle pollution with serious health risks.

More than half of the US population lives amid potentially dangerous air pollution, with national efforts to improve air quality at risk of being reversed, a new report has warned.

A total of 166 million Americans live in areas that have unhealthy levels of either ozone or particle pollution, according to the American Lung Association, raising their risk of lung cancer, asthma attacks, heart disease, reproductive problems and other ailments.

The association's 17th annual "state of the air" report found that there has been a gradual improvement in air quality in recent years but warned progress has been too slow and could even be reversed by efforts in Congress to water down the Clean Air Act.

Climate change is also a looming air pollution challenge, with the report charting an increase in short-term spikes in particle pollution. Many of these day-long jumps in soot and smoke have come from a worsening wildfire situation across the US, especially in areas experiencing prolonged dry conditions.

Six of the 10 worst US cities for short-term pollution are in California, which has been in the grip of an historic drought. Bakersfield, California, was named the most polluted city for both short-term and year-round particle pollution, while Los Angeles-Long Beach was the worst for ozone pollution.

Small particles that escape from the burning of coal and from vehicle tail pipes can bury themselves deep in people's lungs, causing various health problems. Ozone and other harmful gases can also be expelled from these sources, triggering asthma attacks and even premature death.

It isn't all bad news – the total number of unhealthy air days has fallen and year-round particle pollution has dropped as old diesel engines are retired and coal-fired power plants are cleaned up. The federal Clean Air Act, established in 1970, is credited with cleaning up many US cities that were previously blighted by harmful smog. According to the Environmental Protection Agency, the legislation will have saved around 4.2 million lives by 2020.

But environmental groups have warned that some members of Congress are actively attempting to weaken the Clean Air Act. A bill backed by the Republican presidential candidate Ted Cruz would prevent the federal government from regulating various toxins under the Clean Air Act. Republicans have also objected to the act being used to reduce greenhouse gas emissions, prompting a US supreme court challenge to the Clean Power Plan.

"There are wide-ranging extreme measures to undermine the Clean Air Act," said Paul Billings, senior vice-president for advocacy at the American Lung Association. "If we roll back and weaken these protections, the health consequences will be dire.

"We've certainly seen dramatic improvements in air quality but far too many cities and counties exceed levels where adverse effects occur. Progress should be faster. Americans deserve to breathe clean air and there's still a lot of work to be done."

Billings said more needed to be done to prevent pollution from wood stoves and from oil and gas extraction.

Air Pollution Levels May Rise Significantly By 2050, Causing Health Risks

Date: 21st April, 2016 Source: Medical Daily



People swim next to an industrial area in Fos-sur Mer, southern France while ozone pollution levels peaked in the area in 2015.

You may recall ozone is the gas that surrounds the Earth's atmosphere; it makes up the stratosphere, which can extend from 4 to 31 miles above the Earth's surface, and is typically beneficial for us. The ozone layer is like a protective bubble that protects humans, animals, and plants from damaging ultraviolet rays coming from the sun.

Though ozone — consisting of three oxygen atoms (O3) — is naturally produced in the atmosphere, it can also be a man-made product that floats in the lower atmosphere, at a much closer distance to us. In the cases where ozone reaches the air we breathe, it's often created by reactions between two different types of air pollutants during intense heat and sunlight, and can contribute to smog and hazy summer days. This

type of ozone can mess with our respiratory systems and lead to health issues. Days in which ozone levels are unusually high in the air are considered unhealthy "ozone days," or "ozone episode days."

The United States may experience three to nine more days of unhealthy ozone levels each year by 2050 if our air quality continues to remain poor, according to a new study out of Harvard's John A. Paulson School of Engineering and Applied Sciences (SEAS). The study found that California, the Southwest, and the Northeast would be at highest risk, with each region expected to experience up to nine more days of hazardous ozone levels.

"In the coming decades, global climate change will likely cause more heat waves during the summer, which in turn could cause a 70 to 100 percent increase in ozone episodes, depending on the region," said Lu Shen, a graduate student at SEAS and first author of the study, in the press release.

For the study, the researchers analyzed existing observations about the link between temperature and ozone levels. In the past, scientists have noticed that increased heat — or global warming — was linked to more dangerous ozone levels. By examining these observations, the researchers of the latest study attempted to predict what would happen in the future if emissions continued to increase.

"Ozone production accelerates at high temperatures, and emissions of the natural components of ozone increase," said Loretta Mickley, a co-author of the study, in the press release. "High temperatures are also accompanied by weak winds, causing the atmosphere to stagnate. So the air just cooks and ozone levels can build up."

The researchers also focused on a phenomenon known as ozone suppression, in which ozone levels stop rising at very high temperatures, typically in the 90s. In the past, ozone suppression had only been observed in California (which is notorious for having high levels of air pollution), so they wanted to see if it occurred anywhere else, and whether it is caused by chemistry or the weather. Their study suggests it is the weather, since it turned out 20 percent of measurement sites in the U.S. experienced ozone suppression at really hot temperatures.

"Typically, ozone is tightly correlated with temperature, which in turn is tightly correlated with other meteorological variables such as solar radiation, circulation, and atmospheric stagnation," Shen said. "But at extreme temperatures, these relationships break down."

Last year, the American Lung Association released a report that listed Los Angeles, Porteville, Hanford, Bakersfield, Fresno, and Sacramento (all in California) as the most ozone-polluted cities in the U.S., where it was deemed "dangerous to breathe." Air pollution has been linked to lung cancer, infertility, heart disease, and increased mortality risk, and the latest study suggests that rates of these diseases may increase if America doesn't reel in dangerous emissions. On an even bigger scale, climate change has been linked to health risks across the entire world, particularly among children — increasing their risk of asthma, mental health issues, and infections.

Despite the fact that ozone levels are particularly high in southern California, the study also hints that as years go on they can expand to any part of the country — even rural areas. "Ozone formation is not limited to big cities like Los Angeles, Houston, Atlanta, and New York City," the EPA states on its website. "It is also formed in smaller cities like Raleigh, N.C. and Cincinnati, and it is transported hundreds of miles downwind from where it is created to affect ambient air quality in other urban and rural areas."

As a result, the researchers concluded that emissions controls should be more vigorous to prevent ozone increases in our future. “This research gives us a much better understanding of how ozone and temperature are related and how that will affect future air quality,” Mickley said. “These results show that we need ambitious emissions controls to offset the potential of more than a week of additional days with unhealthy ozone levels.”

Source: Shen L, Mickley L, Gilleland E, et al. Geophysical Research Letters . 2016.

Emissions scandal blows big hole in VW's bottom line

Date: 22nd April, 2016 Source: E & E Publishing, LLC

Volkswagen Group has suffered a significant financial loss in fiscal 2015, largely because of revelations that it rigged cars to skirt federal air emissions standards, the company said today.

"The emissions issue significantly impacted the Volkswagen Group's business" in fiscal 2015, Volkswagen said in a released consolidated financial statement.

While the company's sales revenue is up 5.4 percent this year, its operating profit fell dramatically this year from a net profit of $12.7 billion in fiscal 2014 to a net loss of $4.1 billion in fiscal 2015.

Volkswagen attributed the almost $17 billion total profit reduction to "special items, mainly relating to the diesel issue."

The company said its brands will "press ahead" in fiscal 2016 but acknowledged that it is facing many challenges, including its emissions scandal and fluctuating prices of raw materials as well as market downturns in Brazil, China and Russia.

In response to the losses, Volkswagen's board of management has agreed to a severe pay cut.

Board members were paid $5.3 million in fiscal 2014 and have agreed to receive $3.2 million in 2015, a 30 percent decrease. Payment of the remaining 30 percent will be delayed by three years and tied to the price of Volkswagen's performance shares. Board members will only be paid back the full 30 percent if the price of those shares rises by at least 25 percent.

"This will present both a risk and an incentive for the Board of Management as further parts of remuneration will be linked to the future business success of Volkswagen," the company said.

The information about Volkswagen's financial troubles comes in advance of its annual investor conference on Thursday.

VW will not disclose interim results

Volkswagen also announced that it will not release the interim results of an internal investigation into its emissions cheating scandal as previously promised due to the fast-moving pace of a federal settlement with U.S. EPA and other American authorities.

The company had previously said it would update investors at the Thursday conference but now says it is backtracking from that commitment on the advice of attorneys from the law firms Jones Day and Sullivan & Cromwell LLP, which are representing Volkswagen in legal proceedings with EPA, the Justice Department, the Federal Trade Commission and the California Air Resources Board.

"Volkswagen regrets that it has had to move away from the original plan to disclose interim results of the investigation by the end of April," the company said. "After a thorough examination of the legal situation, the Supervisory Board and the Management Board of Volkswagen have nevertheless had to recognize that a disclosure of interim results of the investigation at this point in time would present unacceptable risk to Volkswagen and therefore cannot take place now."

The decision comes the day after a preliminary agreement between Volkswagen and American authorities was announced. Volkswagen has agreed to either buy back or repair about 480,000 vehicles equipped with software designed to skirt federal emissions standards, though additional details are still being negotiated (Greenwire, April 21).

Critics have complained that the automaker did not move more swiftly to rectify environmental and consumer harm it created in its emissions scandal, which came to light six months ago.

But the automaker says it cannot release interim results of its investigation because negotiations with regulators "have entered a decisive phase sooner than anticipated and require Volkswagen to maintain the highest degree of confidentiality."

Disclosing any results of an internal investigation -- which has already involved the review of 65 million documents and 450 interviews with employees -- could put Volkswagen at a disadvantage as it negotiates the rest of the settlement with the Department of Justice, the company said.

Volkswagen hopes to earn "credit" with authorities for "full cooperation," and the company's attorneys have advised that publicly disclosing information could detract from that credit.

"This could have very substantial negative financial consequences," Volkswagen said.

The automaker noted in its release that, if a full settlement can be reached with DOJ, it would include a statement of mutually agreed-on facts that would be made public.

Efforts pursuing criminal charges

Volkswagen's legal troubles may not end once it has a full settlement with DOJ.

Rep. Mark DeSaulnier (D-Calif.) this week introduced a bill (H.R. 5024) that would amend the Clean Air Act to create "criminal penalties for knowingly bypassing, defeating or rendering inoperative air pollution control parts or components in motor vehicles and for other purposes."

The text of the bill has not yet been released, and it is unclear whether such legislation could retroactively apply to Volkswagen.

However, DeSaulnier is not alone in calling for Volkswagen executives to be held criminally responsible.

Yesterday, Sens. Ed Markey (D-Mass.) and Richard Blumenthal (D-Conn.) said in a statement that the proposed preliminary settlement between the government and Volkswagen would not do enough to punish the company. They also called for criminal charges to be brought against executives "who knowingly deceived regulators."

Last week, a coalition of environmental and consumer groups wrote a letter to regulators demanding "full justice" to be brought against Volkswagen (Greenwire, April 18).

"Full justice includes criminally charging individual executives who are responsible for the scandal," Clean Air Watch, Environment America, Public Citizen and the U.S. PIRG Education Fund wrote. "It also includes the full array of criminal monetary penalties and other criminal remedies available under the law against the firm, not only to punish it but also to deter similar misconduct by others."

Indoor air can be deadlier than outdoor air, research shows

Date: 22nd April, 2016 Source: CNBC



Indoor air pollution may be as much or more of a problem as pollution outdoors, according to new research.

Smoke, fungal spores, and chemicals used in certain paints, varnishes and cleaners have been shown to be harmful to human health, and yet indoor air quality is not as well understood as pollution outdoors, according to a study published in the journal Science of the Total Environment.

"When we think of the term 'air pollution,' we tend to think of car exhausts or factory fumes expelling gray smoke," said study co-author Prashant Kumar of the University of Surrey. "However, there are actually various sources of pollution that have a negative effect on air quality, many of which are found inside our homes and offices. From cooking residue to paints, varnishes and fungal spores, the air we breathe indoors is often more polluted than that outside."

Of course, as the study notes, communities can take action to tackle the problem.

The team of scientists from Australia and Europe that wrote the paper is calling for greater efforts to monitor indoor air pollutants in real time, saying that doing so could bring serious health benefits.

Environmental sensors have become relatively cheap and don't require much energy. It would not be difficult to begin placing them inside buildings to monitor air quality, the researchers noted in their study.

Those who live in cities spend up to 90 percent of their time indoors — most of the air they are breathing is "indoor air."

Sometimes that air is similar to outdoor air, especially in well-ventilated buildings. But additional pollutants are killing significant numbers of people worldwide.

For example, the World Health Organization has said that household cooking with coal or biomass-burning stoves led to 4.3 million deaths in 2012, compared with 3.7 million deaths from outdoor air pollution.

Spores from mold are a common problem — particularly in old buildings or humid environments.

Kumar's previous research in the field showed that buildings near traffic intersections had substantially higher levels of pollutants indoors.

There is even a phenomenon known as "sick-building syndrome," where simply spending time in a polluted structure can cause symptoms of sickness.

In the study published Wednesday, the researchers said that a wide deployment of sensors could provide critical information. They acknowledge technical challenges — monitoring devices may not be sensitive enough to detect low but harmful concentrations of chemicals, and there are questions about how to handle the massive amounts of data that sensors could collect.

At 7 am, pollution is at its peak

Date: 3rd April, 2016 Source: Tribune India



Analysis of air-quality sensors in 4 cities shows morning air no more healthy

If you think mornings are the best time for outdoor exercise, you're wrong. Mornings experience the worst air pollution in four Indian cities, according to an analysis of particulate matter (PM) 2.5 data from IndiaSpend's #Breathe air-quality sensors in Bengaluru, Chennai, Delhi and Mumbai between March 15 and April 15.

Bengaluru: Best at midnight

The worst air was at 7 am, as PM 2.5 concentrations peaked at 61.54 micrograms per cubic metre of air (µg/m3). The air quality improved as the day wore on, worsening by evening around 5 pm, reaching a late-evening high at 7 pm (57.60 µg/m3). The best air quality was registered around midnight when PM 2.5 levels fell as low as 40.12 µg/m3.

Chennai: 3 pm best time

The worst air was at 7 am, with PM 2.5 levels (61.54 µg/m3) reached their peak. Levels began to peak over the night and slide during the day, after 7 am. The best air quality was recorded in the afternoon, at 3 pm, with PM 2.5 levels reaching as low as 20.76 µg/m3.

Delhi: Cleanest air at 4 pm

Mornings were the worst time, with PM 2.5 levels reaching as high as 108.16 µg/m3 at 7 am. Air quality gradually improved as the day wore on, registering the cleanest air at 4 pm. (22.84 Âµg/m3). Pollution levels then picked up through the night. Delhi topped the list of the world's most-polluted cities, according to the WHO.

Mumbai: Best quality at 5 pm

The worst hour for a Mumbaikar is 8 am, with PM 2.5 levels reaching 48.61 µg/m3. The air starts worsening after 5 am. The best air quality was registered at 5 pm, when PM 2.5 levels were 22.38 µg/m3.

Outdoor air pollution causes 670,000 deaths annually in India, according to a 2014 research paper from the Indian Institute of Management-Ahmedabad.

Air pollution has become a global concern with rising air pollution levels, as outdoor air pollution in cities and rural areas across the world estimated to cause 3.7 million premature deaths in 2012, according to the WHO.

Particulate matter is the term for particles found in the air, including dust, dirt, soot, smoke, and liquid droplets. These are classified according to their diameter. Particles less than 2.5 µm (micrometres) are called PM 2.5. They are approximately 1/30th the average width of a human hair. Particles between 2.5 to 10 µm in diameter are called PM 10.

PM 10 and PM 2.5 include inhalable particles that are small enough to penetrate the thoracic region of the respiratory system. There is good evidence of the effects of short-term exposure to PM 10 on respiratory health, but for mortality PM 2.5 is a stronger risk factor. There is a close relationship between exposure to high concentrations of small particulates (PM 10 and PM 2.5) and increased mortality and morbidity from cardiovascular/respiratory diseases and cancer.

Odd-even 2 has no impact on air pollution so far in Delhi, says Teri

Date: 24th April, 2016 Source: Hindustan Times

Garbage being burnt at Minto Road Railway Station in New Delhi on Saturday



The first week of the odd-even scheme has not made a significant impact on air pollution. Data from four Delhi Pollution Control Committee (DPCC) monitoring stations show fluctuating levels of air pollution over the first eight days of the scheme, say The Energy and Resources Institute (Teri) experts.

Experts say changing wind speeds have led to the fluctuation, making it difficult to assess the impact of the odd-even scheme on air quality .

"Wind speeds have been lower during the odd-even week in comparison to a week before. This is one of the reasons why pollutant concentrations were higher this week," said Teri's Sumit Sharma, who led the monitoring team.

Teri is collecting data from four DPCC monitoring stations daily. It is also monitoring five other locations for air quality. This data shows that from April 15 (day 1 of odd-even scheme) to April 22 (day 8), PM 2.5 has gone up and down. PM 2.5 are fine particles that can cause respiratory problems.

The Indian permissible standard for PM 2.5 is 60 µg/m3, while World Health Organisation limit is 25 µg/m3.

Sharma said a detailed analysis was required to ascertain the actual impact of the second phase of road rationing after it concludes on April 30.

Even the CPCB on Thursday, during a hearing at the National Green Tribunal, said there was no data to suggest that the odd-even scheme had brought down vehicular pollution in Delhi.

"Fluctuations in PM 10 and PM 2.5 are due to the weather and change in wind patterns. Prima facie, there is no data to suggest the odd-even scheme has decreased vehicular pollution," it said. The national pollution control body plans to submit a detailed report by May 2.

The DPCC mobile monitoring stations on Friday showed that nearly 55 locations registered PM 2.5 level at below 60, while PM 100 level was below 10 at 21 spots.

According to SAFAR (System of Air Quality and Weather Forecasting and Research), PM 2.5 rose from around 70 µg/m3 to 94 µg/m3.

A study conducted by the School of Planning and Architecture showed that the share of private vehicles in the city has risen by almost 50% during odd-even phase two compared to the first round.

The Government Needs to Stop Passing the Buck on Air Pollution

Date: 25th April, 2016 Source: The Huffington Post

Diesel emissions have been shown to be up to 12 times the EU limit when vehicles are driven on roads and the Transport Secretary's response it that he is "disappointed the results are as bad as they are". Unsurprisingly from a government that never misses a chance to pass the buck, he added the "industry needs to raise its game".

I agree with him the industry needs to act, but we desperately need Ministers to raise their game too. When air pollution causes 50,000 premature deaths each year in the UK; when it's linked to cancer, asthma, strokes and heart disease; when primary schools are forced to close because they are exposing young children to dangerous levels of pollution: it is not enough to be "disappointed".

Air pollution disproportionately affects more deprived communities and restricts the life chances of the next generation by impairing children's development. People are angry and the government needs to act.

And this is not just an issue for the Department of Transport. It is the Environment Secretary who is responsible for clean air, despite her silence on the topic.

This week's emissions results should not have been a surprise for the government. Their own air quality plans state that "The current differences between laboratory testing and real world emissions are unacceptable".

Yet Ministers have failed to act and, even worse, tried to block EU legislation to require random inspections of vehicles' real world emissions. They supported loopholes that give car companies permission to pollute well about the legal limits. And Defra cut funding for improving air quality by nearly 80%.

In December, on the last day of Parliament before Christmas, Defra quietly published its air quality plans. You would have thought they would be proud to publish a strategy that should save lives, but perhaps they knew that it would not stand up to scrutiny. After all, the Environment Secretary only published the plan because the Supreme Court ordered her to take action.

There is no urgency and no ambition in the government's timid plans. They are simply aiming to reduce air pollution so that we scrape over the line to comply with EU limits. Not this year, not next year, but by 2020. 2025 in the case of London.

Defra has decided that just five cities outside London will be required to have limited Clean Air Zones. But while other towns and cities blighted by air pollution remain ignored, there can be little confidence in the government's ability to tackle the problem.

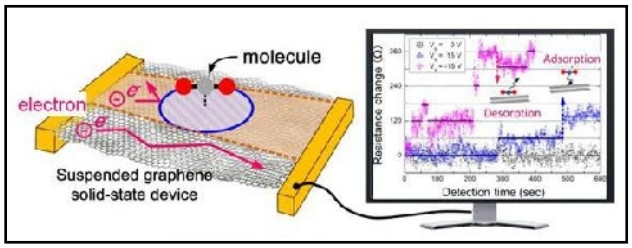
The government's failure on air quality demonstrates again the vital importance of the environmental protections afforded us by Europe. Without EU rules on air quality, ClientEarth could not have taken the UK government to court over its repeated failure to tackle air pollution. But the Environment Secretary cannot continue to treat this as a bureaucratic tick-box exercise, only doing the bare minimum to comply with the Supreme Court ruling.

In light of the latest evidence on real world diesel emissions, the Environment Secretary must urgently review her air quality plans. We need a national framework for low emission zones and genuine action at EU level to close the loopholes in emissions testing. The government must stop passing the buck and establish a comprehensive and effective strategy to improve air quality across the whole country.

For Super-Sensitive Air Pollution Sensors, Just Add Graphene

Date: 26th April, 2016 Source: Asian Scientist

Researchers have developed a graphene-based sensor that can detect even single molecules of indoor air pollutants such as carbon dioxide.



AsianScientist (Apr. 26, 2016) - In recent years, there has been an increase in health problems due to air pollution in personal living spaces, known as sick building syndrome, along with other conditions such as sick car and sick school syndromes.

Now, scientists from the Japan Advanced Institute of Science and Technology and the University of Southampton in the UK have developed a graphene-based sensor and switch that can detect harmful air pollution in homes while running on very little power. Details of their device were published in Science Advances.

Some of these harmful chemical gases have low concentrations in the parts per billion range—extremely difficult to detect with current environmental sensor technology, which can only detect concentrations of parts per million (ppm).

The sensor works by detecting individual carbon dioxide (CO2) molecules and volatile organic compound gas molecules found in building and interior materials, furniture and even household goods. The CO2 molecules bond, by way of adsorption, to the suspended graphene sheet one by one by when an electric field is applied.

According to the researchers, led by Professor Hiroshi Mizuta who holds a joint appointment at both universities, the detection time is only a few minutes.

“In contrast to the commercially available environmental monitoring tools, this extreme sensing technology enables us to realize significant miniaturization, resulting in weight and cost reduction in addition to the remarkable improvement in the detection limit from the ppm levels to the parts per billion (ppb) levels,” said Mizuta.

Certain research group members have also recently developed graphene-based switches using a uniquely thin film. The switches, which require remarkably low voltages of below three volts, can be used to power electronic components on demand, greatly improving the battery lifetime of personal electronic devices.

Mizuta and the research group are now aiming to bring the two technologies together to create ultra-low-power environmental sensor systems that can detect single molecules.

National parks facing stronger air pollution regs

Date: 26th April, 2016 Source: The Hill



The Environmental Protection Agency (EPA) is proposing stronger air pollution rules at national parks, but climate activists and conservationists say it may be too little, too late for the great outdoors.

The views at national parks, and the air tourists breathe, are often distorted by air pollution, the EPA said.

"The regional haze program helps to protect clear views in national parks, such as Grand Canyon National Park, and wilderness areas, such as the Okefenokee National Wildlife Refuge," the agency said. "Vistas in these areas are often obscured by regional haze caused by emissions from numerous sources located over a wide geographic area."

The EPA proposed Monday strengthening the regional haze rule for states, which are required to submit plans to improve visibility and progress reports.

Climate activists cheered the proposed requirements for pollution reduction at national parks but said they are disappointed by a three-year delay that would give states more time to comply.

"Some of these changes are a step in the right direction and, if adopted, will result in every state being held accountable for achieving steady reductions in park pollution," Stephanie Kodish, senior director of the National Parks Conservation Association's Clean Air Program, said in a statement. "However, other proposed changes would allow known polluters to delay cleaning up their act and set back efforts to clean up the air in national parks by years."

Earthjustice echoed those concerns.

"We oppose EPA's proposal to delay the next round of plans to clean up dirty air in our parks and wilderness areas," David Baron, managing attorney at Earthjustice, said in a statement. "A stronger regional haze rule requiring measurable and timely pollution reductions will help provide much-needed and long-awaited clear views and cleaner air to everyone who visits our most treasured landscapes."

The public has 60 days to comment on the EPA's proposed rule to crack down on air pollution at national parks.

Air pollution is 22 times more deadly than car accidents in West Midlands

Date: 26th April, 2016 Source: Birmingham Mail

Experts say local authorities don't have the tools to address the plethora of pollutants in the air we breathe Air pollution is 22 time more deadly than car accidents in the West Midlands – claiming more than 1,300 lives last year.



Public Health England claims 5.8 per cent of the total number of adult deaths in the area were down to air quality, which means 1,355 deaths in a single year across the region. That compares to 62 people who died in car accidents in the area that year.

While authorities are trying to combat the issue – including Birmingham City Council launching a green taxi scheme yesterday – experts say they don't have the power to address it.

Professor Roy Harrison, Professor of Environmental Health at the University of Birmingham, said: "It is quite hard for local government to know what to do in that they have very few of the policy levers but they get blamed when levels are too high.

"Predominantly, they are doing things like limiting the vehicles that can travel through central Birmingham but these measures don't tend to make a huge amount of difference.

"My personal view is, with a few exceptions, we are getting to a point where the costs of improving are such that this is a risk we have to accept."

The number of deaths attributed to air pollution differs across the West Midlands, from 6.1 per cent in Sandwell to 5.4 per cent in Dudley.

In Birmingham, the figure stands at 5.9 per cent.

Dudley had the smallest air pollution problem with 5.4 per cent of deaths attributable to it.

Dispatches: What's Really in Our Air?

Across the whole of England 24,807 deaths were attributable to air pollution in 2013 - 5.3 per cent of the total number of adult deaths that year.

This is an increase compared to 2012 when 5.1 per cent of deaths were attributable to air pollution however it is less than in 2010 when the figure was 5.6 per cent.

The city council launched its latest attempt to clean up Birmingham's air yesterday when its green cabs went on show.

Five cabs were booked into Harborne Garage to have new LPG (liquefied petroleum gas)-fuelled engines fitted as part of the NOx Reduction Champions Project – a partnership between the garage, engine manufacturer KMS and the council.

Anne Shaw, assistant director – transportation and connectivity at Birmingham City Council, said: "The fact our city has an ageing fleet of cabs means we need to look at how we can work with drivers to re-profile the vehicles serving customers in the city as their impact on air quality is significant.

"Through the funding the council has successfully unlocked from the Government, we've been able to play a part in forming links with technology providers and engineers to come up with part of the solution to one of the city's major public health issues."

Prof Harrison said while local authorities have little sway over cleaner air, car manufacturers hiding emissions data were making the situation worse.

He said: “There are exceptions, like nitrogen dioxide, where because car manufacturers have cheated, we have more in the atmosphere than we should have. They could do something about it quite inexpensively, but haven’t.

“In other areas, getting better air quality can be hugely expensive, and that is an issue the public has to take a view on.”

MPs: UK air pollution is a 'public health emergency'

Date: 27th April, 2016 Source: The Guardian



Air pollution in the UK is a “public health emergency”, according to a cross-party committee of MPs, who say the government needs to do much more including introducing a scrappage scheme for old, dirty diesel vehicles.

The government’s own data shows air pollution causes 40,000-50,000 early deaths a year and ministers were forced to produce a new action plan after losing a supreme court case in 2015.

But the MPs’ heavily critical report, published on Wednesday, says even more action is required to tackle the crisis, such as giving dozens of cities which currently suffer illegal levels of air pollution stronger powers to deter polluting vehicles with charges.

Vehicle exhausts are a major cause of air pollution and the Guardian revealed on Saturday that 97% of all modern diesel cars emit more toxic NOx pollution than the official limit when driven on the road. A less comprehensive government investigation came to a similar conclusions.

In February, UK ministers backed more realistic EU regulations but these still allow new vehicles to emit double the official limit until 2021 and 50% more afterwards. The MPs report says ministers must instead “argue robustly” for lower limits in future.

“The government must act now to tackle this public health emergency,” says the report from the environment, food and rural affairs (Efra) select committee, which is chaired by Conservative MP Neil Parish. “Poor air quality is damaging the UK’s environment and harming the nation’s health: emissions have declined significantly over many decades, but not far enough to prevent the early deaths of 40-50,000 people each year.”

lan Andrews, a lawyer at ClientEarth which defeated the government in the supreme court in 2015, said: “We’ve been telling the government it needs to act on air pollution for five years. Due to our legal case, the government was ordered to act. Now, almost a year on, a cross-party group of MPs has told the government it must get a grip. It seems there is near unanimous agreement on the need for urgent action from everyone other than the ministers responsible for dealing with our toxic air.”

“It’s time for the government to act in the interests of our health,” said Andrews. “Instead, ministers are championing weak emissions standards for cars and trying to get major air pollutants from agriculture dropped from European laws.”

A spokeswoman for the Department of Environment, Food and Rural Affairs (Defra), which is responsible for air quality, said: “Tackling air quality is a priority for this government and our plans set

out how we will achieve this through continued investment in clean technologies and by encouraging the uptake of low emission vehicles." She said councils already have the power to charge polluting vehicles though the government was only requiring its use in five cities. The MPs said these powers are neither strong enough nor easy enough for local authorities to use effectively.

ClientEarth previously called the government's latest plan "an insult to those being made sick and dying from air pollution" and is mounting a new legal challenge.

The MPs' report adds to mounting pressure for a diesel scrappage scheme to help clean up the roads. It has already been backed by air quality experts at Kings College London, London mayor, Boris Johnson, and another committee of MPs.The Efra committee says the financial incentives to trade in vehicles should target those older than 10 years old. The government ran a £300m car scrappage scheme in 2009, in order to boost the recession-hit motor industry.

Parish said existing subsidies for clean vehicles were welcome but added: "More action is needed if we are to get older, more polluting diesel vehicles off the road quickly. People need more of an incentive."

However, the RAC Foundation said taking 400,000 diesel cars of the road with £2,000 incentive could cost £800m but only cut diesel emissions by 3%. Steve Gooding, RAC Foundation director, said: "The big problem is that not only have the oldest diesel cars failed to live up to official environmental standards, so too have many more recent ones." The most recent Defra air quality plan includes Clean Air Zones for five cities - Birmingham, Derby, Leeds, Nottingham and Southampton - where councils will impose charges on polluting vehicles to discourage them from coming into city centres. London already has plans for an Ultra Low Emissions Zone to take effect in 2020.

But, referring to other polluted cities, the MPs cited evidence from the Institute for Air Quality Management, which said "if councils were able to solve air quality problems using [existing] powers.... they would have done so already".

Air pollution involves not only Defra but also transport, health and other departments. However, the MPs report is deeply critical of overall government efforts: "Despite mounting evidence of the costly health and environmental impacts of air pollution, we see little evidence of a cohesive cross-government plan."

It says the group tasked with co-ordinating efforts, led by Cabinet Office minister Oliver Letwin, is seen as "secretive" and "does not publish information on its meetings, outcomes or action plans."

The MPs' report also says farmers must step up action to cut pollution. A study in September indicated that the air pollution from farms, which reacts with traffic fumes in cities to produce tiny particles, was the ultimate cause of half the premature deaths. The MPs said Volkswagen, the company which used cheat devices to fool emissions tests on its vehicles, should pay out to people who bought the cars: "Where proven to have misled customers, the company should pay appropriate compensation."

Richard Howard, from thinktank Policy Exchange, welcomed the new report, but said: "It could go even further by making the case for wider fiscal reforms – for example changes to road tax and company car tax to dis-incentivise diesels."

Jenny Bates, Friends of the Earth air pollution campaigner, said: "Dirty air is already the nation's biggest killer after smoking. The solutions are out there but we need the government to listen to MPs and campaign groups and take more urgent action now."

May 2016

Friends of the Earth want next London Mayor to tackle air pollution in the capital

Date: 2nd May, 2016 Source: Blue & Green

Friends of the Earth has asked the London mayoral candidates to commit to ten polices that will help make the capital a cleaner, greener and healthier place to live, work, and visit. They have found that all the main contenders have stronger green policies than the current government, although some do not address the on-going problem of air pollution in the city.

Friends of the Earth drew on expert thinking from scientists, campaign groups, its supporters, and communities facing the worst of London's environment and came up with ten key policies to test how the next mayor will tackle London's environmental problems.

They say Londoners are "tired of living in a city that's filthy" and they want a mayor who will deliver the "cleaner, greener, fairer London they deserve".

Friends of the Earth have assessed each of the main candidate's responses to these ten environmental policies and have found that, regardless of who takes the keys to City Hall, all candidates have stronger policies than the Government on new-build housing standards, renewables, preserving nature, fracking, and divestment.

Based on their assessments, the greenest candidates are Sian Berry and Caroline Pidgeon. Sadiq Khan is just ahead of Zac Goldsmith on green policies, but by less than one point.

However, most important to their supporters was cleaning up London's air – and the lead candiates have failed to impress with their current proposals. They also want London to run on 100 per cent renewables by 2050, and improved housing for London's renters.

Friends of the Earth campaigner, Sophie Neuburg, said: "Our assessment shows that whoever is the next mayor, Londoners will benefit from greener policies than those of central Government, which has torn up initiatives from insulating cold homes to supporting solar energy.

"The frontrunners have signed up to policies including protecting the greenbelt, opposing Heathrow, and building high-quality, zero-carbon homes.

"On the critical issue of air pollution though, they still need to toughen their plans if Londoners are to be protected from one of the biggest threats to our health."

Friends of the Earth supporters have expressed that they want the next Mayor of London to make the city greener and healthier, provide affordable high-quality homes for Londoners and protect them from runaway climate change.

Findings from Friends of the Earth highlighted that Sadiq Khan and Zac Goldsmith have made some good commitments on air pollution, but their pledges are not enough to deal with the crisis Londoners face.

The next Mayor of London needs to do more to make London's air cleaner and healthier. The front-runners need to strengthen their campaigns on how they would plan to address chronic air pollution faced by people in the capital.

Study again links air pollution to increased cancer risk

Date: 2nd May, 2016 Source: C TV News



According to a study by the University of Birmingham and the University of Hong Kong, long-term exposure to environmental pollutants, and more specifically, to ambient fine particulate matter, is associated with an increased risk of mortality for many types of cancer.

The study followed 65,000 people in Hong Kong over 13 years. For women, there was an 80 per cent increased risk of mortality from breast cancer, and for men the risk of dying from lung cancer increased by 36 per cent.

The new study supports the 2013 decision by the World Health Organization's International Agency for Research on Cancer to classify outdoor air pollution as a whole, as well as the particulate matter contained in outdoor air pollution, as carcinogenic to humans.

The cancer risk is caused by the hydrocarbons and heavy metals produced by transportation and power generation which are diffused in the atmosphere. This fine particulate matter, which has a diameter of less than 2.5 micrometers (PM2.5), finds its way into the body via the respiratory tract.

The study recruited 66,280 people aged 65 or over between 1998 and 2011. Smoker status was adjusted for, and deaths that were possibly due to competing diseases were excluded. In terms of the environment, annual concentrations of PM2.5 were estimated at the subjects' homes using satellite data and fixed-site monitors.

The findings were published in the journal Cancer Epidemiology, Biomarkers & Prevention. They indicated that the risk of dying from any cancer rose by 22 per cent for every 10 micrograms per cubic meter increase in exposure to PM2.5.

This 10 microgram per cubic meter increase was associated with a 42 per cent increased risk of dying of cancer in the upper digestive tract. And the risk of mortality from cancer in the accessory digestive organs -- the liver, bile ducts, gall bladder and pancreas -- increased by 35 per cent.

The most alarming result was for women. Every 10 microgram per cubic meter increase in exposure to PM2.5 was associated with an 80 per cent rise in the risk of dying from breast cancer. And for men, the figure was 36 per cent for lung cancer.

The researchers put forward a number of explanations for this phenomenon: defects in DNA repair, an impaired immune response and inflammation that triggers angiogenesis which enables tumors to spread. In the case of the digestive organs, pollution could affect gut microbiota and therefore facilitate the development of cancer.

This work will lead to further research in other countries to establish whether there is a similar association between particulate air pollutants and cancer deaths.

The scientists concluded that while pollution is a risk factor for cancer, it is just one among numerous such factors. They added that diet and exercise could be more significant risk factors and are more easily modifiable.

Merits of exercise outweigh demerits of air pollution even in Delhi, Cambridge-led study claims

Date: 6th May, 2016 Source: The New Minute



The international study included authors from the UK, Switzerland, Spain and Brazil.

The merits of exercise outweigh the negatives of air pollution, even in highly polluted cities like Delhi, a new international study led by Cambridge University claimed on Thursday.

The new study, published in the journal 'Preventive Medicine', found that evidence suggests that the benefits of exercise, even in an environment filled with noxious gases, outweighs the problems brought on by no exercise at all.

"Even in Delhi, one of the most polluted cities in the world - with pollution levels 10 times those in London - people would need to cycle over five hours per week before the pollution risks outweigh the health benefits," said Dr Marko, Tainio from the Cambridge University's MRC epidemiology unit, who led the study.

"We should remember, though, that a small minority of workers in the most polluted cities, such as bike messengers, may be exposed to levels of air pollution high enough to cancel out the health benefits of physical activity," he added.

The researchers studied the concentration of fine particulates, measured in micrograms per cubic metre, to gauge the levels of pollution in the air of several major world cities.

They then used data from previous studies to estimate how harmful those levels of pollution would be.

The researchers modelled the effects of cycling and walking at different levels of air pollution and established a tipping point - the length of time after which there was no further health benefit, and a break-even point, when the harm from air pollution began to outweigh the health benefit.

For Delhi, the most polluted city on the World Health Organisation's database, the tipping and break-even points for cycling were 30 and 45 minutes per day respectively, while for walking they were 90 minutes and six hours and 15 minutes respectively.

The authors of the international study, from the UK, Switzerland, Spain and Brazil, insisted that their findings should not be a cause for complacency in tackling air pollution levels.

Could these e-autorickshaws bring us some respite from Bengaluru's air pollution?

Date: 6th May, 2016 Source: The New Minute



Come June, 500 ElecRics would be launched in Bengaluru

Known for its poor air-quality, Bengaluru has been grappling with extremely high pollution of air. According to the National Air Quality Index 2015 (NAQI), the city's air-quality levels were worse than Delhi at times. The Indian government has announced the introduction of e-autos across the country. However, a Bengaluru-based private company RJMS-EV has taken a plunge into the market. They are retro-fitting the existing 2 stroke autos to give the Bengaluru autos an e-makeover.

"Converting rickshaws that are 7 years or older, we replace the existing engines in the vehicle with variable motor containing hall sensors," says Umesh Chandra, co-founder of the company.

A panel manufacturing company, RJMS-EV formulated this idea back in January 2013. A zero-emission, zero-decibel model, ElecRics cost under Rs 2 lakh, compared to its imported counterparts, which cost over Rs 6 lakh, he says. An overhead solar panel on the auto powers indicators and headlights, while it comes with batteries for charging.

Other electronic auto-rickshaws give a speed of 20-25 km per hour, but Umesh claims that ElecRics give a greater speed of 60 km per hour. "While the motorised e-rickshaws offer only last-mile connectivity, they can often cover only a maximum of 2 km," he adds, stating that the alternative motor system in ElecRics makes them similar to a normal rickshaw.

Launched as a pilot project in 3 cities - Delhi, Bengaluru and Nagpur - on March 6, ElecRic has been approved by the ARAI (Automotive Research Association of India), after which it recently received a road-worthy certificate for commercial production.

"The initiative is a two-way prototype that is favourable to the commuter as well as the driver," Umesh says. "Each battery costs about Rs 120, which then gives a capacity of 100 km. So, it costs them just over a rupee per kilometre. However with LPG, it costs them Rs 3 per km," he continues, claiming that ElecRics would help them save 50% of the expenses.

Shankar, who has been driving the vehicle since its launch in the city, speaks about its feasibility. "With the clutch and loud gears replaced with motors, all we have to do is press the accelerator for a noiseless ride," he says. "The battery takes about 3 hours to charge and it runs for the whole day. Oil-maintenance is one problem we don't have to worry about," he continues, declaring that he would continue riding his ElecRic.

With the government providing a subsidy of 50%, coupled with low-interest loans, drivers would now have the choice of retrofitting their old autos, Umesh claims. "Our pilot project has covered around 1 lakh kilometres, across the 3 cities and the 9 autos are still up and running."

Looking forward to their commercial launch in June, where around 500 such rickshaws would be launched in Bengaluru, Umesh speaks about their plans of inventing electronic cars by the end of the

year. “We have the prototypes of Tata Indica and Wingers ready. All that is left is ARAI’s permission and we will be good to go,” he says.

Our say: There's some good news for state in the air

Date: 6th May, 2016 Source: Capital Bazette

Not everything in the past evokes nostalgia.

Remember all those Code Red summer days, when warnings went out that it was a good idea for those vulnerable to air pollution — including children, older individuals and people with lung conditions such as asthma and chronic bronchitis — to limit outdoor activity?

Remember the smog-ridden years of 1996 through 1998, when the county had two extremely polluted days — known as Code Purple days — as well as 21 Code Red days and 69 Code Orange days? Remember 2000, when county residents endured the worst air pollution in the state and the 11th worst air of any county in the nation?

Perhaps such memories have dulled because you haven't heard the words "Code Red" much recently. There has been only one Code Red day in the past three years.

The reasons for this are detailed in the Maryland Department of the Environment's Maryland 2016 Clean Air Progress Report, which begins, "For the first time in 30 years, Maryland is very close to meeting all federal air quality standards."

Maryland has been meeting the particulate air pollution standard since 2012, and this year met the old Environmental Protection Agency ozone standard of 75 parts per billion for the first time. It is not yet in compliance with the newer EPA standard of 70 ppb, but the computer models suggest it will be next year.

While the state has been lucky with weather patterns and summer temperatures lately, it has also, as the MDE notes in the report, benefited from cleaner vehicles and fuels, and from utilities that have put billions of dollars into pollution controls.

Progress in other states has also played a large role — air pollution is no respecter of state lines, and it's estimated that 70 percent of the ozone in Maryland comes here on prevailing winds from the west. Maryland has been collaborating with other states on pollution reduction.

All this is good not just for the health of Marylanders but for the bay, as it ultimately reduces the nitrogen that finds its way into the water and encourages algae growth.

This ties the news on air pollution to another encouraging finding: The state Department of Natural Resources recently reported that underwater grass abundance increased 29 percent in Maryland waters from 2014 to 2015. The vegetation was estimated at 52,277 acres — 94 percent of the state's 2017 goal of 57,000 acres. The more underwater grass, the more habitat there is for young crabs and largemouth bass, and the healthier the bay.

Tighter federal standards and years of state effort are helping to clean up the bay and literally allowing us to breathe more easily — and we're hoping to see the progress continue.

Air quality improves in Franklin County

Date: 7th May, 2016 Source: Public Opinion

FRANKLIN COUNTY - Franklin County residents can breathe easier knowing the quality of the air they're breathing has improved within the area, according to the 2016 State of the Air report released by the American Lung Association.

The report focuses on air quality during 2012-2014, and shows the number of days each county had with high ozone levels.

An orange day means the air quality is unhealthy for sensitive people and puts them at a higher risk of health problems due to exposure; a red day means the air quality is unhealthy for all groups of people; and a purple day is considered hazardous, but is also very rare for even the most polluted areas in the United States.

According to the data, Franklin County received an overall grade of a C with four orange days and no red or purple days, compared to the 2015 State of the Air report which covered 2011-2013 and showed Franklin County had five days with high levels of ozone.

Franklin County also did well in terms of ozone levels, compared to other counties in Pennsylvania. The county was one of eight to get a C grade, with the other counties receiving an average grade of D or F. The county also had a weighted average of 1.3, which is calculated by weighting each day with above average ozone levels based on the color of the day, adding up the total number of days and then dividing the number by three. John Repetz, a spokesperson for the Department of Environmental Protection, said one of the reasons air quality could be improving is because "emission reductions from vehicles, power plants, factories and consumer products have resulted in significant reductions in pollution, providing substantial health and welfare benefits."

Kevin Stewart, director of environmental health for the American Lung Association of the Mid-Atlantic, said Franklin County's location could also be another reason the ozone levels are improving.

“For the most part (Franklin County is) getting relatively clean air to work with, so that your ozone levels don’t get that high," Stewart said. "But whatever air pollution is produced locally there gets sent downwind, so some areas then have to deal with the fact that the air they’re getting isn’t quite as clean as the air that Franklin County is getting.” The report does not show data for fine particle pollution in the area. Stewart said this could be because of the county's low population.

"Franklin County has about 150,000 people, so it’s on the small side and therefore not necessarily one of those counties that would need monitored for fine particle pollution, unlike some larger ones," he said.

However, Stewart also said if fine particle pollution was measured in the county, "it probably would've been a passing grade for the long-term average," but "it's hard to tell what it would've been for the short-term average."

Despite the improvement in air quality, Stewart said bad days can still affect populations at risk, which according to the report include children and adults with asthma and residents suffering from chronic obstructive pulmonary disease, cardiovascular disease and diabetes.

“It’s still a C, which is a passing grade, but at the same time, we always do like to point out that if you have chronic lung disease, you have a child with asthma – one bad air day can still be one bad air day to many in terms of causing some exacerbation," he said.

Residents part of these at-risk populations should watch out for hot and sunny air or air that is moving slow, because ozone is more likely to form on these days.

Stewart said residents can also minimize air pollution by driving vehicles that are properly tuned and avoid spilling gasoline when it is hot out.

PCA issues air-quality health alert

Date: 7th May, 2016 Source: Post-Bulletin



Much of Rochester smelled like a bonfire Saturday morning.

The odor, and patchy visibility is the result of two fires, the Lake Hattie Fire near Bemidji and wildfires near Alberta, Canada, said meteorologist Mike Welvaert of the National Weather Service in La Crosse.

The city sat under a thick haze, which began to gradually clear as the day went on, and though Walvaert said the worst of the air-quality concerns are likely through, the Minnesota Pollution Control Agency issued an air pollution health alert for the Twin Cities and much of southern Minnesota, effective through 10 p.m. Saturday.

The health alert is for the Twin Cities metro area, Rochester, Mankato, Owatonna, Faribault and Winona, according to the news release.

At risk populations include those sensitive to fine particle pollution, according to the PCA, including those with preexisting cardiovascular or respiratory disease, the elderly, children and individuals who participate in activities requiring extended or heavy exertion.

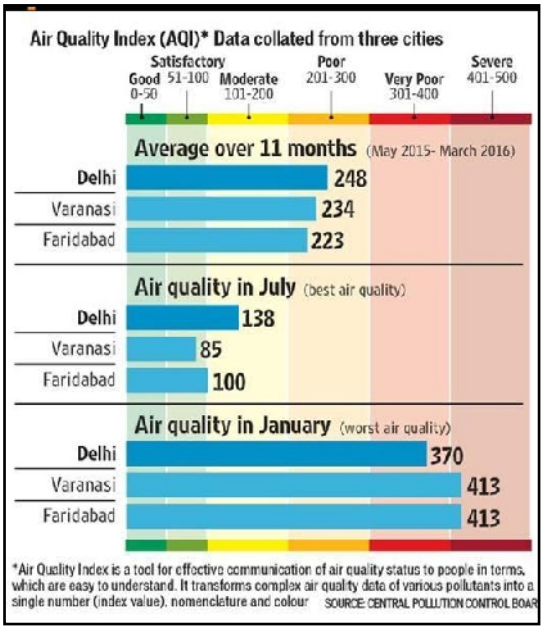
"Members of these groups are encouraged to postpone or reduce vigorous activity and minimize exposure to local sources of air pollution (i.e., heavy duty vehicle traffic, wood fires, and candles)," according to the PCA news release. "Even individuals who are otherwise healthy may experience health effects when pollution levels increase."

Welvaert said a front came through last night, bringing the smoke with it, which resulted in thick smoke and low visibility overnight. It's now pressed its way down into Iowa, he said, adding that satellite images clearly show the smoke from the Alberta fire coming down through Minnesota.

The skies will be hazy, with patchy visibility the next few days until "the rain comes through to wash out the sky," Welvaert said, which will likely happen Monday.

Even rains fail to improve Delhi air quality: Pollution monitor

Date: 9th May, 2016 Source: Hindustan Times



Even rains fail to ensure good air quality in Delhi during monsoon, as per the data collated by the Central Pollution Control Board (CPCB).

The comparative data also revealed that air in Varanasi and Faridabad was more polluted during winters but it became better in the two cities during monsoon.

Pollution in Varanasi and Faridabad was less than that in Delhi between July and August (monsoon), making Delhi more polluted on an average in 11 months. Rains wash out a lot of pollutants, especially those related to dust.

Where Delhi recorded an average air quality of 138 in July – the cleanest month – Faridabad recorded 100 and Varanasi 85. Though during winters, both cities were more polluted than Delhi.

According to CPCB data collated between May 2015 and March 2016, out of Delhi, Varanasi and Faridabad (the most polluted), Delhi had the highest average pollution.

Delhi stood at 248 out of 500, Varanasi at 234, and Faridabad was at 223. These quantities are Air Quality Index figures where 500 is the worst and 0 the best.

In 2014, the World Health Organisation had called Delhi the most polluted city in the world.

CPCB's data in January this year showed that north Indian cities such as Varanasi, Kanpur and Lucknow were highly polluted as were smaller cities such as Agra and Faridabad. Pollution in Varanasi and Faridabad was more than that in Delhi in December and January.

Delhi becomes the most polluted on an average over 11 months because of poor air quality in monsoon months.

Delhi did not see a very robust monsoon last year and the pollution levels in July, August and September remained high. The monsoon, however, was weak in Faridabad as well. Cities in Uttar Pradesh also did not see heavy rains. Their performance on the air quality index was better.

According to air quality expert, Gurfan Beig, the type of data collection could be the reason behind Delhi's poor show. "In Delhi, the standard of air quality monitoring is very high because it is automated and because it has a number of stations in different locations. Most of these other places, however, have manual stations – only 1 or 2 in number. It is possible that Delhi's figures are higher because of more accurate reporting," he said.

According to Centre for Science and Environment executive director, Anumita Roy Chowdhury, one reason for the high pollution in monsoons could be local pollution from combustion,such as emission from industries, vehicles and open burning which cannot be washed away.

“Dust pollution is easily washed away by rains but emissions from combustion are tougher to remove. If the pollution in nearby areas such as Faridabad is reduced, it means local sources of pollution are to blame for the bad air quality,” she said.

Boris Johnson 'held back' negative findings of air pollution report

Date: 17th May, 2016 Source: The Guardian

Report’s author says City Hall publicised positive conclusions but held back the finding that deprived schools were disproportionately affected by toxic air.



The author of a report on how London’s illegal air pollution disproportionately affects deprived schools has said City Hall under Boris Johnson held back the study’s negative findings, while publicising the positive ones.

The Guardian revealed an unpublished Greater London authority (GLA) report on Monday that showed how deprived schools in the capital were disproportionately affected by toxic air, leading the new mayor, Sadiq Khan, to accuse Johnson of burying the report.

A spokesman for Johnson on Tuesday defended his record on air pollution as mayor and said he had not hid its impact from Londoners. “To suggest Boris Johnson’s administration was somehow trying to hide the extent of London’s air quality issues is risible,” he said.

But Katie King, director at Oxford-based environmental consultancy Aether and the author of the 2013 report, said that the GLA had publicly disclosed the positive conclusions in the report – that the number of people exposed to illegal pollution would fall by 2020 – but had held back the negative findings.

“The crux of the report was about understanding the inequalities of air pollution, so they chose not to make public the findings regarding inequality,” she told the Guardian. “The information that they did take from the report was the positive, that exposure was predicted to fall in the future.”

The full report was never published but some of its findings, that the number of Londoners exposed to illegal air pollution was forecast to drop from 1 million in 2015 to around 300,000 in 2020, were highlighted publicly in a progress report on the mayor’s air quality strategy last July.

“Inequalities as a result of air pollution are predicted to reduce by 2020 as a result of new policies predominantly resulting from reductions in road transport emissions, most notably associated with the ULEZ [Ultra Low Emissions Zone, a clean air zone planned for 2020],” said the progress report. It also noted deprived communities were more likely to be exposed to poor air quality.

But it failed to mention the unpublished report’s revelation that in 2010, 433 of the city’s 1,777 primary schools were in areas where pollution breached the EU limits for NO2. Of those, 83% were considered deprived schools, with more than 40% of pupils on free school meals. Of the remaining schools located in areas below the pollution limit, less than a fifth were in deprived areas.

A spokeswoman for Khan said: “It is difficult to understand why the last mayoralty decided to cover it up and not fully release it in 2013 – they clearly didn’t want Londoners to know the dire state of pollution in the capital.”

Caroline Russell, a Green party assembly member, said: “Children are at risk of reduced lung capacity and are particularly vulnerable to developing asthma from excessive vehicular pollution. It is staggering that Boris Johnson sat on this report for two and a half years.”

Labour MP Mary Creagh tweeted that it was “completely and totally unacceptable” that the report had not been published.

Johnson, speaking on Tuesday morning during a visit to an aluminium processing plant near Hixon in Staffordshire, denied there had been any cover-up and said it was “absurd” to suggest so. He said he had made a speech in 2015 “highlighting this very fact and saying that we needed to do something to solve it.

“I made the very point about primary schools and poor air quality in areas of deprivation. So as cover-ups go it wasn’t a particularly brilliant one, considering I made a speech about it.”

His office said the mayor had driven down pollution during his eight years as mayor, but did not deny he had stopped the full report from being released. “... Mr Johnson put in place the most ambitious and comprehensive measures to address air pollution of any major world city,” a spokesman said.

He added: “Mr Johnson never hid the impact of air pollution from Londoners. He commissioned a study into the health impacts of NO2 (nitrogen dioxide), again a world first, and drove detailed air quality work around schools with a qualitative study into interventions and the reduction of exposure.”

He said that emissions of nitrogen oxides, which include NO2, had declined 25% between 2008 – when he took office – and 2013. Johnson’s office also pointed to a separate study commissioned by the Transport for London and GLA while he was mayor, which found that nearly 9,500 people die prematurely from air pollution in the capital each year.

The former deptuy mayor, Matthew Pencharz, took to Twitter to defend Johnson’s record, saying he had achieved a series of ‘world firsts’ on pollution.

Johnson’s spokesman also attacked Khan’s plans, announced last week, to more than double an Ultra Low Emissions Zone to tackle the city’s dirty air.

“... First up he can explain to Londoners how he intends as the self-proclaimed mayor for business to deliver an enlarged ULEZ in just three years without penalising motorists, schools, and small business owners who purchased diesel vehicles in good faith, and when new cleaner EURO6 diesel vans [a cleaner standard of engine] aren’t even on the market yet,” he said.

Forget Cars: Cows And Fertilizer Could Be A Big Pollution Problem

Date: 18th May, 2016 Source: Climate Progress



At the beginning of the 20th century, two German chemists — Fritz Haber and Carl Bosch — figured out a way to produce ammonia cheaply, and on an industrial scale. Their process, known as the Haber-Bosch process,

would go one to win Bosch a Nobel Prize, and completely change the world — it made producing synthetic fertilizers easy and affordable, which in turn helped boost global food production. Without the Haber-Bosch process, it's estimated that about 40 percent of the human population would not be alive today.

But the use of widely-available fertilizer has also come with some considerable downsides. Fertilizer runoff making its way into streams, rivers, lakes, and oceans has contributed to algal blooms and oxygen-free "dead zones" across the United States, from the Gulf of Mexico to the Great Lakes. In Iowa, the Des Moines Water Works utility filed a federal lawsuit against three farm counties, claiming that the filtration technology required to strip the drinking water of nitrates from excess fertilizer runoff costs the utility between $4,000 and $7,000 a day.

And it's not just the water that is being polluted by fertilizer use. A new study published in Geophysical Research Letters found that fertilizer use — as well as animal agriculture — is a significant contributor to air pollution worldwide.

Susanne Bauer, an atmospheric scientist at Columbia University's Center for Climate Systems Research and the NASA Goddard Institute for Space Studies, told ThinkProgress that she was interested in looking at agricultural air pollution because, unlike car pollution or pollution from combustion engines, it's a sector that has not been looked at closely, especially on a global scale. Yet with a growing global population, agricultural air pollution — in the form of ammonia from fertilizer and livestock waste — is expected to increase, as farmers race to keep up with the growing demand for food.

"In this study, we wanted to shine a light on a sector that is not talked about a lot," she said. "Nobody wants to criticize food production, but we need to think about how we produce food."

When ammonia combines with other gaseous pollutants, like nitrogen oxides and sulfates from vehicles or power plants, it forms tiny particles, no larger than 2.5 micrometers across. These particles can be dangerous to public health, because they are so small that they can penetrate deep into lungs, causing pulmonary and heart disease. According to a 2015 study, some 3.3 million people each year die from these small particles globally.

Previous studies have looked at agricultural pollution, as it relates to these particles, but none have done so on a global scale. The study found that, globally, agricultural pollution becomes a much larger issue when it occurs in places that are already heavily polluted — places like the United States, Europe, and China. In places like Africa, where air pollution is already lower, air pollution from agriculture is less of a problem.

Bauer and her colleagues also studied what might happen to air pollution in the future. She said that in most future models, agricultural pollution is the only kind of pollution that is expected to increase — as food production rises to keep up with population growth. Other kinds of pollution — like car exhaust or power plant emissions — are expected to decrease, as technology progresses and policies are put in place to tamp down on pollution.

In modeling future pollution, Bauer thought that agricultural pollution increasing would be a problem. But she was surprised to learn that wasn't necessarily the case.

"What is expected is that other pollutants go down in the future due to better technology, but agriculture goes up because population goes up," she said. "I expected that this is becoming a major problem, but the

study found the opposite. Yes, the amount of that particle is going up, but it's not at surface levels [near the ground], it's at higher levels [in the atmosphere]."

In the future, if technology and policies help decrease pollution from cars or power plants, gaseous ammonia from agricultural pollution won't have other pollutants to combine with close to the ground, there particles pose the greatest threat to human health. Instead, the gases will combine with other, naturally-occurring gases higher in the atmosphere, which is not a public health threat. Bauer said that this scenario does result in more atmospheric pollution, but noted that that kind of pollution actually has a slightly cooling affect on the planet — though not enough to really put a dent in global warming.

Ultimately, Bauer said that the study underscores the need for farmers to be especially precise with the amount of fertilizer they apply to their fields. She noted that the places with the worst agricultural air pollution -- countries like the United States or China -- are relatively wealthy, and could probably withstand a drop in the amount of fertilizer used in food production.

"One thing that is very obvious is simply stopping the overuse of fertilizers," she said. "If simply the right amount of fertilizers were to be used, that would be a big step that would improve air quality tomorrow."

That doesn't mean that all countries should stop using fertilizer immediately, however. Bauer noted that in places like Africa, where existing air pollution is relatively low, fertilizer could be used to help bolster food production without contributing too much to air pollution.

"This is not against fertilizers, it's more against using it in very polluted areas, and in excess," she said.

In the United States, the Department of Agriculture is already taking steps to help farmers become more precise in their application of fertilizer. As one of the ten Building Blocks for Climate Smart Agriculture & Forestry -- the USDA's grand plan to help address agriculture's contribution to climate change -- the department has already pledged $14.8 million to help curb fertilizer overuse in the Midwest. A more precise method of applying fertilizer could also help farmers reduce their overall costs, as they would need to purchase less fertilizer -- and less of what they purchased would go to waste.

But stopping fertilizer overuse would not fix air pollution in and of itself, Bauer cautioned.

"We don't want to pick out one sector and say, if you clean up that, everything is better," she said. "The truth is that we have to clean up all of them."

US Embassy Workshop In 4 Cities On Combating Air Pollution

Date: 18th May, 2016 Source: NDTV



New Delhi: The US policymakers, world renowned scientists and industry experts are participating in a series of workshops, which began in New Delhi on Tuesday, on combating air pollution.

Delhi Health Minister Satyender Jain and the US Embassy Charge d'Affaires Michael P Pelletier inaugurated the series, being organised by Research Triangle Institute (RTI) International in collaboration with the Indian Institute of Technology (IIT) Delhi.

Besides Delhi, the workshops are being held in Chandigarh, Jaipur, and Lucknow, where a special closing ceremony will be held on May 26.

"The objective of these workshops is to provide a forum to initiate and strengthen collaboration between US and Indian air quality experts, consider best practices to combat air pollution in North India and build consensus and strategy for follow-on action," an official statement said.

"Workshops will include presentations on the health effects of air pollution, impact on industry and their mitigation efforts, and air quality management and policy," it added.

While inaugurating the workshop, Mr Pelletier said, "In our own experience in the United States, cities that formerly had a reputation of being polluted, dirty, and unattractive, have transformed themselves into clean urban centers with growing economies and healthy populations".

"Just think of smog-laden Los Angeles in the 1960s and 70s and compare it to the much clearer skies you can experience there today to know what a difference concerted, well-planned, and well-executed long-term action can make.

"Our experience has shown that that improving air quality and economic growth go hand-in-hand. And this is an area where the US and India can do so much together," he added.

My View: What I learned about air pollution growing up in coal country

Date: 19th May, 2016 Source: Deseret News

I grew up in Emery County, Utah. If you don't know where that is, don't worry; you're not alone. Emery County is located in east-central central Utah with a population of just over 10,000. Emery County isn't exactly what you'd call a "happenin' place"; the only thing Emery County really has going for it is coal. Workers in Emery County dig the coal, haul the coal and burn the coal to make electricity for seven western states.

The evidences of coal were everywhere as I grew up. I'd see all the coal miners headed to local mines as I delivered the morning paper; I'd pass diesels hauling truckloads of coal to power plants as I headed to school, and anytime I'd leave the county, I would drive by two separate power plants only 10 miles apart. I was vividly aware of the entire coal process, from excavation to burning.

My family made frequent trips to the Salt Lake Valley to visit family or for other events. During these trips I began to take notice of a strange phenomenon in Salt Lake: Sometimes the air would be crystal clear, and you could see plainly each mountain peak. Other times there seemed to be a dirty smudge blanketing everything and you couldn't see farther than a few city blocks. My incessant questions led to a vocabulary expansion the EPA would be proud of. My questions led to words such as haze, smog, emissions and inversion. I probably became the most aware of air pollution when I learned the meaning of a red-air day. During these inversion days, going back to Emery County was literally a breath of fresh air. Do you know how many red-air days I remember in Emery County? One. It was due totwo forest fires in the mountains to the west of us.

Aside from forest fires there are no hazy days, smoggy days or inversions in Emery County. These all became part of my life when I moved to Salt Lake to attend the University of Utah. You can imagine my surprise as I heard of lawsuits claiming the power plants in Utah are making national parks hazy. How do power plants which fail to make their own county hazy have an ill effect on parks over 100 miles away? I

try not to laugh out loud when I hear residents of Salt Lake blame power plants for the haze in the Salt Lake Valley. The steam leaving the smoke stacks from the power plants in Emery County consist of virtually 100 percent water vapor, which does not contribute to smog. The scrubbers at the power plant do a lot to keep the air cleaner. What do the emissions from the average car on I-15 look like? Inversion days in Salt Lake make for clear and beautiful days in Emery County. One visitor came out of the smog and said, "Wow, you live in the banana-belt down here."

Despite the illogical cries and complaints of a self-polluted city, I know that coal will eventually lose this battle. The question is no longer "if," but "when." While I do not pretend that coal is the perfect answer for our energy demands, facts tell us that solar and wind are not either. Wind energy runs at 90 percent capacity for a whopping 17 hours per year, and its average falls somewhere around 8 percent. Solar energy employs more people than coal and gas combined, but produces less than 1 percent of the energy in our country. Just in case you're not a business major, that's the definition of inefficient. When coal is replaced, it needs to be replaced by something better. Something that is more efficient. Of course, with a national debt larger than most want to admit, efficiency isn't exactly our strong suit.

The attacks on the Hunter and Huntington power plants will continue, waged widely by those who don't realize how efficiently they actually run and how many states they help power. Emery County will probably end up a ghost town, and Wasatch Front residents will see electric increase dramatically. I earned a rich heritage and learned a lot of things during my 20 years in Emery County, but moving to Salt Lake taught me all about air pollution.

WHO: Air Pollution Over Limits For 80% Of People In Cities With Quality Monitoring

Date: 19th May, 2016 Source: Clean Technica



Over 80% of those living in urbanized regions with air-quality monitoring breathe air featuring pollution levels that exceed World Health Organization safety limits, according to a new report from the organization.

The findings of the new report are based on the evaluation of data gathered in 3,000 different cities, and 103 different countries.

The new report also notes that urban air pollution levels increased roughly 8% between the years of 2008 and 2013 — this despite local air quality improvements in some regions.

"Urban air pollution continues to rise at an alarming rate, wreaking havoc on human health," stated Maria Neira, director of WHO's department of public health, environmental and social determinants of health.

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Think Progress provides more:

The agency said ambient air pollution — composed of high concentrations of small and fine particulate matter that includes pollutants such as sulfate, nitrates, and black carbon — causes more than 3 million premature deaths worldwide every year. Most of this harmful air is found in developing countries in Southeast Asia and what WHO calls the Eastern Mediterranean — a region that includes the Middle East as well as some North African countries — followed by low-income cities in the Western Pacific, an area that includes 28 countries and some 1.7 billion people. Air pollution was better off in developed countries' cities like New York and London.

India has 16 of the world's 30 most polluted cities, but its capital, New Delhi, is no longer the most polluted city in the world, according to the report. That ranking now belongs to Onitsha, a fast-growing port and transit city in southeastern Nigeria, the Guardian reports. In the United States, the most polluted city is Visalia, situated in California's agricultural San Joaquin Valley.

Motor vehicles account for roughly 25% to 75% of urban air pollution, according to the UN. Taking this assertion into consideration, many populous cities around the world have in recent times begun banning automobiles in certain areas — or at certain times of the week or day — as a means of reducing air pollution levels in the cities in question.

Air pollution 'kills 600,000′ in Africa every year

Date: 19th May, 2016 Source: Development Cable

Every year, 600,00 people die prematurely from indoor air pollution in Africa, a report by the United Nations Environment Programme (UNEP) has revealed.

According to UNEP, the continent's reliance on the use of biomass for cooking, lighting and heating means that 90 per cent of the region's population is exposed to health threat.

UNEP also said land degradation, air pollution, and the provision of sanitation and safe drinking water were among the main problems on the continent.

Also, many of the region's fisheries, both inland and marine, face over-exploitation from illegal, under-reported and unregulated fishing.

It, however, said that the continent had an opportunity to use its large young population to drive its growth.

"Low-carbon, climate-resilient choices can develop the continent's infrastructure, accelerate industrialization, increase energy and food production, and promote sustainable natural resource governance," it said.

On water and sanitation, the report said the proportion of the population served with "clean water is increasing and grew from 64 per cent in 2005 to 68 per cent in 2012."

UNEP said that absolute numbers of people without safe drinking water remain high.

"More than half of the population in sub-Saharan Africa still does not have any access to improved sanitation, compared to 90 per cent coverage in North Africa, with a vast difference between urban and rural areas," the report said.

It listed African megacities such as Cairo, Kinshasa and Lagos, and emerging mega cities such as Dar es Salaam, Johannesburg and Luanda, as facing challenges from poor management of sanitation services.

The report said those challenges arose from inadequate and deteriorating infrastructure resulting from under-investment.

According to it, land-based activities causing pollution of freshwater bodies ultimately impact coastal and marine resources.

On land and forest, it noted that Africa had the second largest continent in the world, but most prized asset for food production, nutritional health and economic development.

"Worryingly, about 500 000 square meters of land in Africa is being degraded due to soil erosion, pollution and deforestation," it said.

"This land degradation can damage agricultural productivity, nutrition and human health.

"A growing population and a rise in the demand for firewood will mean that forest cover in Africa is likely to continue shrinking, declining to less than 600 million hectares by 2050.

"Over cultivation, inefficient irrigation practices, overgrazing, the over-exploitation of resources, uncontrolled mining activities and climate change will further degrade land in Africa".

The report said these challenges lead to reduced agricultural productivity, reduced food security, which could increase migration and spread disease, destroy infrastructure such as roads and bridges, and high rates of poverty.

China's latest idea for cleaning up air pollution could be horrible for climate change

Date: 20th May, 2016 Source: VOX



China's biggest cities are choking on smog and air pollution caused by nearby coal plants, and residents are fed up. One way to fix this is to switch over to cleaner energy sources (solar, wind, nuclear, or even natural gas), which has the added benefit of cutting carbon-dioxide output from the world's largest emitter.

But not always! In fact, one of China's perennial ideas for cleaning up air pollution could, paradoxically, make climate change even worse.

Reuters reports that China has just approved three new plants in its western provinces that would turn coal into synthetic natural gas. The idea is that this gas would then be shipped to population centers in the east, where it would burn much more cleanly in power plants and detoxify the air in cities like Beijing.

Except there's a huge catch: The coal-to-gas (CTG) plants themselves are highly energy-intensive and can create far more CO2 overall than coal alone. It's basically swapping less smog for more climate change. China currently has three CTG plants operating, four under construction, three newly approved, and plans

for another 17 in preparation. If even a fraction are built — still a big "if" — that could have a sizeable impact on global warming.

China's coal-to-gas idea, explained

The idea of transforming coal into gas has been around for decades. If you take coal and run it through a gasification process — carefully applying heat and limiting the oxygen so that the hydrocarbons break apart chemically rather than burn — you can create a type of "syngas" that produces fewer pollutants when burned for power.

One drawback is that it's rather expensive to do so. During the oil crisis of the 1970s, the Department of Energy heavily subsidized various CTG technologies in the United States. But only one large plant ever got built in North Dakota before the concept was largely abandoned.

Now China is taking up the torch. The country desperately wants to use less coal and more natural gas in its cities to cut local air pollution. The central government has set a target of increasing gas consumption from 199 billion cubic meters (bcm) today to 360 bcm by 2020. (The country is also rapidly ramping up nuclear, wind, and solar, but demand is so massive that those sources alone can't suffice.)

Yet China only produced about 127 bcm of natural gas domestically in 2015, gas imports are expensive, and its domestic gas deposits are difficult to tap (more on that below). Meanwhile, the country has vast coal reserves and a lot of coal miners who could be out of work if coal consumption dips too far. So coal-to-gas seems like a nifty way of solving these various problems.

The proposed CTG plants would be located in the coal regions of inner Mongolia, Shanxi, and Xinjiang, far away from major population centers. The gas would then be piped to cities — where it would replace coal and significantly cut local air pollutants like sulfur dioxide and soot.

But coal-to-gas can lead to much higher CO2 emissions

The danger here is that CTG plants are extremely energy-intensive, and they can be even worse for global warming than coal alone. They're also much worse than using natural gas that's drilled out of the ground.

In a 2013 analysis for Nature Climate Change, Chi-Jen Yang and Robert B. Jackson of Duke University estimated that making synthetic natural gas (SNG) from coal in China and using it for electricity would lead to 36 percent to 82 percent more greenhouse-gas emissions per unit of energy than simply burning coal. Creating liquid transportation fuels from coal, meanwhile, could be twice as CO2-intensive as using gasoline.

The CTG production process also requires far more water than traditional coal mining, as the chart below shows. That's a problem given that many of these plants are being planned in water-scarce regions:

It's possible that CTG plants could eventually try to capture and sequester the carbon dioxide they produce, but that technology is still in its infancy. For the time being, CTG is likely to produce lots and lots of CO2.

Yang and Jackson looked at nine CTG plants that were then under consideration by China. If all came online, they would produce 21 billion tons of carbon dioxide over 40 years just by themselves. (To put that in perspective, the entire nation of China produced 8.5 billion tons of carbon dioxide in 2015.) "Under such a scenario," the authors wrote, "China will inevitably struggle to reduce its future GHG emissions."

How many CTG plants will China actually build?

Now, the big asterisk here is that China might not end up building many more CTG plants beyond the three already operating. The country has dithered over these plants for years, and the economics are brutal. "The market is not on the side of CTG producers, and the projects remain costly," Liu Guangbin, a gas analyst, told Reuters.

It's also worth noting that CTG isn't the only option China has to increase gas supplies. The country also has massive reserves of natural gas locked in shale rock across the country, though it's had trouble accessing them. The country originally planned to produce 60-100 bcm of shale gas by 2020. More recently, it has cut that target to just 30 bcm. China's energy companies are still struggling to make use of the same fracking techniques that have worked in the United States.

A report last year from Zhongmin Wang of the Paulson Institute examined some of the challenges here. Unlike in the US, oil and gas companies can't just buy up mineral rights from private individuals, so the incentives to drill don't always line up well. Scarce water and the rather unique geology of China's shale have also posed a challenge for drilling projects.

The benefits could be considerable, though. As the graph above from Yang and Jackson shows, fracking for shale gas in China would produce far fewer carbon dioxide emissions than either coal mining or those new CTG plants.

Yet if fracking develops too slowly (or not at all), and clean sources like nuclear or renewables aren't sufficient to displace coal, then China may turn to CTG. And once those plants are built, they're almost certain to operate for decades. This will be a story to keep an eye on in the years to come.

Air Quality Collaborative gathers steam in Pittsburgh region

Date: 20th May, 2016 Source: Trib Live



Intent on protecting students from excessive exposure to exhaust fumes, the Pennsylvania Legislature passed a new air-quality law in 2009: Diesel-powered school buses may not idle for more than five minutes in a 60-minute period.

But by late 2014, a cluster of Western Pennsylvania nonprofits maintained that as many as one-third of diesel buses serving Pittsburgh schools were breaking the rule, and practically no schools had posted required idling signage.

The loosely organized coalition launched an anti-idling campaign, pressuring school officials, lawmakers and transportation vendors to take the law seriously.

Now, the nonprofit cluster says, compliance is up and signs at nearly every Pittsburgh Public Schools campus remind drivers to limit idling.

It's a small victory that exemplifies the unified power two dozen nonprofits want to harness by forming a new regional group, the Air Quality Collaborative.

“We all of a sudden have been multiplied and have more support at the table,” said Michelle Naccarati-Chapkis, a member of the collaborative and executive director of Women for a Healthy Environment, an East Liberty-based nonprofit with one part-time and two full-time employees.

The Air Quality Collaborative, spawned by The Heinz Endowments, has grown strong enough to morph into its own formal body. The Heinz Endowments, which pitched in $50,000 toward the collaborative's formation, began advertising this month for a director to run it.

“It will continue to allow the nonprofit sector to engage on these issues in a very sharp and organized way,” said Andrew McElwaine, the Downtown-based foundation's vice president of sustainability and the environment. “It allows for collaboration across a wide range of nonprofits, research, advocacy, outreach and it essentially allows the organizations to be greater than the sum of the parts.”

The collaborative enables the cluster of nonprofits to formalize partnerships that began five years ago and have a more powerful vehicle to carry out advocacy work. “I think it can make a real difference in moving the clean air agenda higher up on our priority list as a region,” said Myron Arnowitt, Pennsylvania director for Clean Water Action, a collaborative participant.

As an informal body, the nonprofit cluster convened four or five times a year and cooperated on events, press releases and community outreach. They shared resources and assigned roles based on a particular nonprofit's area of expertise.

“We would pool all of our resources together,” Naccarati-Chapkis said.

They developed the Open Window Award, a shaming moniker announced on the first day of spring to call out industrial polluters the group believes are not doing enough to lessen negative impacts on local air quality.

Members include environmental advocates such as PennFuture and the Group Against Smog and Pollution, as well as those focused more broadly on public health and community improvement.

“Right now, it's a lot of individual local activists as far as I can tell,” said Adam Rossi, vice president of Adam Solar Resources, a solar panel installation company in Bridgeville, who lauded the formation of the collaborative. “Having that regional hub, something with money and power behind it to actually be a voice, they can do an ad campaign, they can buy 20 billboards.”

The collaborative will operate initially under the auspices of Community Foundation of the Alleghenies, a Johnstown-based community foundation serving Bedford, Cambria, Somerset and Indiana counties. Members will decide whether to file for independent 501(c)(3) tax status, McElwaine said.

The plan is for The Heinz Endowments to fund the full-time salaries of the collaborative's director and communications manager for two years. The group of environmentally minded nonprofits began meeting quietly about five years ago, shortly after The Heinz Endowments created The Breathe Project, which commissions science-based research about the region's air quality and sources of persistent pollution.

High levels of soot and smog put people at risk for lung cancer, asthma attacks and other serious ailments, with the American Lung Association ranking greater Pittsburgh as among the unhealthiest in the country.

Others point to significant progress in reducing pollution across Western Pennsylvania, including county-imposed penalties that spurred tens of millions of dollars in improvements in places such as U.S. Steel's Clairton Coke Works in Clairton.

"We have seen pretty big reductions in the air pollution over the past 10 or so years," said Kevin Sunday, spokesman for Pennsylvania Chamber of Business and Industry. "We just want to be honest about the progress we've made and the cost of doing some of the more extreme policy proposals, like keeping all fossil fuel in the ground or abandoning our nuclear fleet."

Sunday added that he has no qualms about a regional group of nonprofits rallying around the air-quality cause: "The more we have dialogue about our energy and our environmental needs, the better."

Lack of funds derails study on air pollution and its effect on health

Date: 21st May, 2016 Source: India Today



After 18 years, a multi-level study to establish the link between air pollution and its effect on the patient's health was planned in December but nothing has happened so far.

While the entire country is talking about the increasing air pollution and its harmful effect on people's health, our medical experts have not yet been able to establish any link between the two as there hasn't been any study on the subject for nearly two decades.

After 18 years, a multi-level study to establish the link between air pollution and its effect on the patient's health was planned in December but nothing has happened so far.

The study to be conducted by AIIMS, Lady Hardinge Hospital and Patel Chest Institute was supposed to kick off in December 2015 but has still not started as the central funding body - Indian Council of Medical Research (ICMR) - is facing fund crunch.

"The idea was to start the study in December so that we could have an actual data as the cases of respiratory illnesses are on a high in the winters. This is an important study as the entire country is talking about the rising air pollution and its effect on the health system," an AIIMS senior doctor requesting anonymity said.

Previously, a similar study was conducted by AIIIMS' former medicine department chief Dr JN Pandey from 1997-98 on the air quality. Dr Pandey's study on outdoor air pollution and emergency room visits in Delhi hospitals had showed that admissions increased on the poor air quality days. This study was referred to by the Supreme Court in its historic judgment directing public transport in Delhi to be converted to CNG.

Only 300 out of 500 projects funded

The new study will focus on the shift from upper to more serious lower respiratory tract infections; a "sudden spike" in heart attacks; atherosclerosis, or thickening of heart muscles; and increased recovery time needed by patients with long-term diseases like bronchial asthma.

But this is not an off case. Many medical research projects have been put on hold by the research institute. The ICMR receives large number of new medical projects from all over the country every year for funding. Officials say ICMR receives more than 500 new medical research projects every year, out of which the institute is able to fund more than 300 projects.

"From September 2015, we have stopped taking the excessive medical research projects. The scarcity of funds is one of the major reasons. We can't keep the projects pending forever. All the open-ended projects had to be stopped," a senior ICMR official told Mail Today.

Medical research hampered

For 2016-2017, ICMR had proposed a budget of Rs 1,400 crore, of which they have received Rs 850 crore as their annual budget. "The fund shortage is hampering the overall medical research in the country," said a senior Ram Manohar Lohia (RML) hospital doctor.

The ICMR is working on a strategy which will focus on how the research component is lacking among the doctors. "It is important to understand the worth of having new research projects. Doctors are focusing more on clinical care rather than research. More investments should be made in this field," said a senior ICMR official.

UN official lauds China's efforts in curbing air pollution

Date: 22nd May, 2016 Source: Shanghai Daily

A UN Environment Programme (UNEP) official on Saturday lauded measures put in place by Chinese authorities in controlling air pollution.

UNEP Coordinator for Environment and Health Fanny Demassieux said the whole world is looking at the way Beijing is tackling the problem in order to borrow ideas on how to solve their air pollution in their countries.

"China has developed measures aimed at reducing the problem," Demassieux told Xinhua ahead of the second session of the UN Environment Assembly (UNEA) slated for next week here in Nairobi.

China, which has been battling air pollution for years, has issued new policy measures that could have big implications for its coal power sector.

The measures are expected to cut coal burning, limit car emissions and set yearly quotas for local governments and individual polluters. The country has also introduced bigger fines for those found to be in violation of air pollution standards.

Demassieux expects that the upcoming UNEA meeting that begins on Monday will rally policy makers to make concrete decisions towards eradicating air pollution.

She said that the solution to air pollution lies in the integration of the problem in all sectors so that all can work as a team.

"The delegates, mainly policymakers, will have to agree to allocate money towards the eradicating communicable diseases that kill and maim majority of poor people," she said.

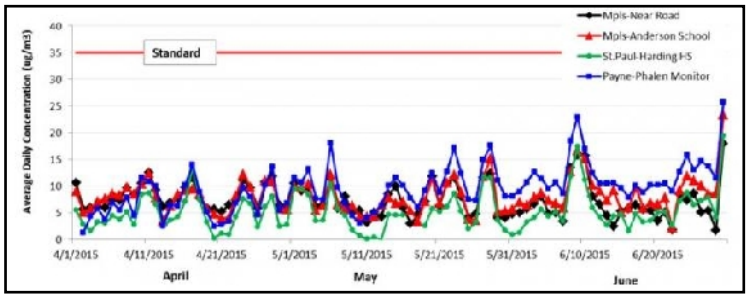
"The citizens must also put up pressure to enable their policymakers allocate funds and also develop sound policy that is aimed at improving their lives," she added.

Demassieux expects the delegates to come up with measures against fossil fuel, and step up efforts towards popularizing the development and adoption of renewal energy.

Payne-Phalen below standard for air pollution

Date: 22nd May, 2016 Source: Lillie News

At a May 17 Payne-Phalen Environmental Committee meeting, the Minnesota Pollution Control Agency shared the results of three months of air monitoring at Bruce Vento Elementary School, 409 Case Ave. E.



The results showed that measurements of pollutants in the air in the Payne-Phalen neighborhood were below the MPCA standard — the agency explained that means there are relatively fewer fine particles and toxins in the air — but that the measurements were slightly higher than other areas in the Twin Cities that were monitored.

Of the 70 air toxic chemicals for which the MPCA tested, the levels of 44 chemicals were low enough that they were not detected by the monitor.

Some chemicals the MPCA tests for include formaldehyde, benzene, and other -zene chemicals that come out of the tailpipes of cars. Formaldehyde is one of the most common chemicals detected in the air, because other chemicals break down into it.

"In general in the Twin Cities, we have relatively good air quality. We meet all the national and state standards for air pollution and air quality," said Kari Palmer, an MPCA air data analysis unit supervisor.

She said air pollution typically becomes a concern for the Twin Cities during fire events, such as the smoke experienced a few weekends ago from Canadian wildfires in northern Alberta.

The community air monitoring project was funded by the Minnesota Legislature in 2013. Its aim was to carry out a two-year study to measure air quality in low income areas and communities of color to determine if these communities may be disproportionately impacted by pollution — seven neighborhoods were tested for three months about a year ago in both Minneapolis and St. Paul.

The monitoring was also done to test the accuracy of permanent monitors. There is one permanent air monitor on the East Side, on the roof of Harding High School, roughly two and a half miles from the monitor at Bruce Vento.

The temporary monitor at the elementary school was found to test higher than the monitor on the roof of Harding — it found there were more pollutants in the air.

Palmer said one possible explanation for the higher readings is that since the temporary monitor is at ground level, it may have picked up pollutants that settle near the ground.

Some residents questioned whether all monitors should be placed at ground level in the first place, as that's where people live. Palmer said it's difficult to find testing spots because monitors need to be out in the open, away from buildings and trees, to get an accurate reading.

MPCA regulates large industries and businesses, cleans up spill sites and develops educational campaigns for different environmental issues — Palmer said that one of the challenges in further reducing air pollution comes from not being able to regulate individuals.

She said recreational fires are becoming an issue in metro areas across the nation and fires were a complaint raised by many residents at the May 17 meeting.

Palmer said at this point there are no plans to return for retesting. She said the agency is currently looking at new monitoring technologies, which will collect more precise data.

US Embassy conducts workshop on combating air pollution in India

Date: 23rd May, 2016 Source: The American Bazaar



The workshop series ends with a special closing ceremony in Lucknow on May 26.

The US Embassy in India conducted a workshop in Jaipur on combating air pollution in North India. Dr. Virender Singh, Director, Asthma Bhavan, Jaipur inaugurated the workshop, which is part of a series of workshops being held in New Delhi, Chandigarh, Jaipur, and Lucknow from May 17 to 26.

The workshops are organized by Research Triangle Institute (RTI) International, in collaboration with the Indian Institute of Technology (IIT), Delhi.

Dr. Singh tweeted "An honor inaugurating #AirQuality workshop Jaipur w/ Dr. Virender Singh, Director, Asthma Bhawan"

The workshops are aimed at providing a platform for the US and Indian air quality experts to discuss and formulate best practices to control air pollution in North India.

An official statement of the embassy read: "The objective of these workshops is to provide a forum to initiate and strengthen collaboration between US and Indian air quality experts, consider best practices to combat air pollution in North India and build consensus and strategy for follow-on action."

Workshops include presentations on health effects of air pollution, impact on industry and their mitigation efforts, and air quality management and policy.

While inaugurating the workshop in New Delhi, US Embassy Charge d'Affaires, Michael P Pelletier said, "In our own experience in the United States, cities that formerly had a reputation of being polluted, dirty, and unattractive, have transformed themselves into clean urban centers with growing economies and healthy populations".

The workshops are organized to support President Obama and Prime Minister Modi's commitment to develop cooperative efforts to study the effects of air pollution on human health and well-being.

About a dozen US policy-makers, world-renowned scientists, and industry-sector experts are participating. The workshops will include presentations on the health effects of air pollution, impact on industry and their mitigation efforts, and air quality management and policy.

The workshop series ends with a special closing ceremony in Lucknow on May 26.

Coal burning aggravating air pollution: Greenpeace

Date: 23rd May, 2016 Source: DNA INDIA



Burning of coal is major source of air pollution, and thermal power plants including, those in NCR, are the main culprits for increase in deadly pollutants all over the country during past five years, a new report on Monday claimed.

Greenpeace India in its report 'Out of Sight - How coal burning advances India's Air Pollution Crisis' released on Monday, claimed thermal power generation is causing a "steady" deterioration in the overall air quality in North India.

"The report reveals coal as the largest overlooked source of air pollution and identifies air pollution emission hotspots in India visibly linked to thermal power plants in the area. Satellite based analysis from 2009 to 2015 reveals the thermal power plant clusters in Singrauli, Korba Raigarh, Angul, Chandrapur, Mundra and NCR were the source of SO2 (sulphur dioxide) and NO2 (nitrogen dioxide) emission growth in India over the past five years, showing nationwide increase of 13 per cent and 31 per cent respectively for PM2.5 and SO2," the NGO said in a statement.

It said using similar data, earlier studies have shown an increase of 20 per cent in the regional trends for NO2 levels over the last decade. Secondary particulate matter formed by SO2 and NO2 is one of the major contributors to PM2.5 levels.

The NGO said that multiple research studies have emphasised 30 per cent to 34 per cent of total PM2.5 concentration in India is contributed by the secondary particulates, most of which come from burning of fossil fuels. Large industrial clusters, hotspots of SO2 and NO2 emissions, are found to be highest coal guzzlers, it said.

"To address the air pollution crisis, we need to accept that coal burning is responsible for increased emissions of SO2 and NO2 contributing to overall particulate matter concentration and identify the correlation between such increases and major coal consuming hot-spots in the country. An estimated 75-90 per cent of sulphates and 50 per cent nitrates are formed from SO2 and NOx emissions primarily originating from the thermal power plants. The satellite images clearly show that the emissions are highest in the regions where a lot of coal is being burnt," said Sunil Dahiya, a Greenpeace India Campaigner.

Particulate matter, or PM, is the term for particles found in the air, including dust, dirt, soot, smoke, and liquid droplets. Particles less than 2.5 micrometres in diameter (PM2.5) are referred to as "fine" particles and are believed to pose the greatest health risks. Because of their small size (approximately 1/30th the average width of a human hair), they can lodge deeply into the lungs.

Greenpeace India said the current installed capacity of thermal power generation is causing a "steady deterioration" in the overall air quality in North India.

A recent report by IIT Kanpur on Delhi's air pollution indicated that it would need a comprehensive and systematic plan in place for an area of at least 300 kilometres around Delhi to make a meaningful impact on the air quality. The report said that urgent, coordinated inter-agency efforts is needed to resolve the crisis not just for Delhi but to address the pollution in most north Indian cities.

"Greenpeace is calling for an ambitious and systematic national clean air action plan with focused targets, clear timelines and demonstrable accountability towards public health. Now that we have a clear understanding of the primary and secondary sources causing pollution, it provides us an opportunity to test India's emergency response plan on air pollution," added Dahiya.

Air pollution could increase risk of stillbirth, study suggests

Date: 24th May, 2016 Source: The Guardian



Exposure to vehicular and industrial emissions heightens risk during pregnancy, researchers say.

Exposure to air pollution may increase the risk of stillbirth, new research suggests.

Stillbirths, classed as such if a baby is born dead after 24 weeks of pregnancy, occur in one in every 200 births. Around 11 babies are stillborn every day in the UK, with aproximately 3,600 cases a year.

Researchers have called for tighter curbs on car exhausts and industrial waste emissions to reduce the risk of air pollutants after their research concluded that exposure to ambient air pollution heightens the risk of stillbirth.

Following a review of 13 studies on the subject, published in the journal Occupational & Environmental Medicine, the researchers found the risk was particularly heightened during the third trimester of pregnancy.

“Our results provide suggestive evidence that ambient air pollution is a risk factor for stillbirth,” they wrote.

“Pregnant women should be aware of the potential adverse effects of ambient air pollution, although the prevention against exposure to air pollutants generally requires more action by the government than by the individual.”

They added: “Policies such as control of vehicular emissions, fuel quality improvement and control of industrial waste emissions should be developed and implemented to reduce the risk of air pollutants.”

The air pollutants linked to a heightened risk included: small particulate matter of less than 2.5 microns in diameter (PM2.5), PM10, nitrogen dioxide, sulphur dioxide, carbon monoxide and ozone.

But they stressed that further research is needed to strengthen the evidence.

In a linked editorial, Dr Marie Pedersen, of the Centre for Epidemiology and Screening at the University of Copenhagen, Denmark, wrote: "Stillbirth is one of the most neglected tragedies in global health today, and the existing evidence deserves additional investigation.

"If the evidence of an association between ambient air pollution and stillbirth is confirmed in future studies, it would be of major public health importance.

"Although the reported summary effect estimates were relatively small, the ubiquitous nature of ambient air pollution exposure suggests that exposure to ambient air pollution may have a large population-attributable risk for stillbirth.

"Further studies with better measures of air pollution, potential confounders and effect modifiers, are highly recommended to confirm or refute that exposure to ambient air pollution triggers stillbirth."

Rising air pollution — a threat to the beauty conscious

Date: 24th May, 2016 Source: The Express Tribune



Women are ultra-conscious of their appearance and beauty, striving diligently to look gorgeous and ravishing. For the sake of their appearance, they go to any extent, but rising air pollution is playing havoc with their skin, making their complexion dull and dry and leading to pigmentation on their faces.

A recent study, published in the Journal of Investigative Dermatology, revealed that facial dark spots are increasingly linked to traffic-related air pollution. Most pronounced changes, according to the study, were observed on the cheeks of Asian women over the age of 50.

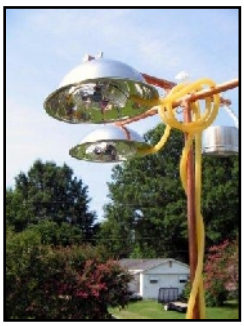
Pollution leaves a layer of particles and toxins on the skin which causes serious side effects, says Dr Shad Muhammad Wazir, head of the dermatology department at Hayatabad Medical Complex (HMC). According to him, unchecked air pollution is causing skin pigmentation, hyper-pigmentation, allergies, infection and skin irritation amongst other skin disorders. Smoke, dust and toxic gases keep on collecting within the pores of the skin, leaving them clogged and producing dreaded acne.

Air pollution also darkens the skin. An unhealthy obsession with white skin compels many women to apply different whitening products on their skin. The whitening products contain steroids and other chemicals which ultimately cause unnecessary hair growth and wrinkles on faces. Wazir points out that dozens of female patients aged between 16 and 30 years visit the hospital daily for skincare problems. Beautician Shahana Kaleem admits that a growing number of women clients visit the salon for mini facials and full skin cleansing these days.

One woman Umm-e-Farwa says she regularly buys blackhead removal strips to eliminate blackheads on her nose. She does that because she is a working woman and does not have time to go to the salon. "That's why I am buying these strips," she explains. But she confesses that blackheads reappear after some time and she has to go through the process all over again. Skin experts advise beauty conscious women to avoid going outdoors in the rush hour. They should use a good moisturiser, wear sunscreen of good quality and consume fresh vegetables and fruits instead of applying masks on their faces.

Study shows how air pollution fosters heart disease

Date: 24th May, 2016 Source: Science Daily



10-year project revealed air pollutants accelerate plaque build-up in arteries to the heart

Air pollution monitors were deployed in more than 1,500 locations within the six different metro areas. In addition to air pollution data from state and local air agencies, these MESA Air monitors collected and measured variable levels of PM2.5, oxides of nitrogen, and black carbon, among other pollutants over two-week periods between 2005-2009.

Long-term exposure to air pollution has been linked to an increased risk of heart disease, but the biological process has not been understood. A major, decade-long study of thousands of Americans found that people living in areas with more outdoor pollution -- even at lower levels common in the United States -- accumulate deposits in the arteries that supply the heart faster than do people living in less polluted areas.

The study is published May 24 online in The Lancet.

Previous epidemiological studies have shown associations between particle pollution, referred to as particulate matter, and heart disease. It has been unclear, however, how exposure to particulate matter leads to diseases of the cardiovascular system. Earlier studies had been shorter and had depended for their analysis on existing datasets collected for other purposes.

Now, direct evidence from the Multi-Ethnic Study of Atherosclerosis and Air Pollution (MESA Air), a 10-year epidemiological study of more than 6,000 people from six U.S. states, shows that air pollution -- even at levels below regulatory standards -- accelerates the progression of atherosclerosis. The condition, also called hardening of the arteries, can cause heart attacks. Researchers repeatedly measured calcium deposits in the heart's arteries by using CT scans. They also assessed each person's exposure to pollution based on home address.

"The study provides important new information on how pollution affects the main biological process that leads to heart disease," said Dr. Joel Kaufman, who directs MESA Air and is the lead author of the published paper. He is a University of Washington professor of environmental and occupational health sciences, and also a UW professor of epidemiology, and of medicine.

"The evidence supports worldwide efforts to reduce exposures to ambient air pollutants," Kaufman said.

He added, "This was the most in-depth study of air pollution exposures ever applied to a large study group specifically designed to examine influences on cardiovascular health."

The researchers calculated each participant's exposure to ambient fine particulate matter that is less than 2.5 microns in diameter and too small to be seen by the naked eye. In addition to PM2.5, they also measured exposure to nitrogen oxide and nitrogen dioxide, and black carbon or soot.

The research team collected thousands of air pollution measurements in the study participants' communities and at their homes. The research team developed and applied computational models that included local information on land use, roadway and traffic volumes, weather conditions, and local

sources of air pollution. These models could generate accurate pollution concentrations at each person's home. Meanwhile, between the years 2000 and 2012, participants visited study clinics several times to undergo CT scanning to determine the amount of calcium deposits in their heart arteries.

Results were strongest for fine particulate matter and the traffic-related pollutant gases called oxides of nitrogen. The study found that for every 5 µg/m3 higher concentration of PM2.5, or 35 parts per billion higher concentration of oxides of nitrogen -- about the difference between more and less polluted areas of a U.S. metropolitan area -- individuals had a 4 Agatston units/year faster rate of progression of coronary artery calcium scores. This is about a 20 percent acceleration in the rate of these calcium deposits.

"The effects were seen even in the United States where efforts to reduce exposure have been notably successful compared with many other parts of the world," Kaufman said. Exposures were low when compared to U.S. ambient air quality standards, which permit an annual average PM2.5 concentration of 12 µg/m3. The participants in this MESA-Air study experienced concentrations between 9.2 and 22.6 µg/m3.

In an accompanying editorial in The Lancet, Dr. Bert Brunekreef, a professor at Utrecht University in The Netherlands, and Dr. Barbara Hoffmann, a professor of the University of Düsseldorf in Germany, described the study as "exemplary." Noting that the results are sobering, they called for decisive action in controlling pollution levels worldwide.

Canada's oil sands are a major source of air pollution, airplane study shows

Date: 25th May, 2016 Source: The Verge

Canada's oil sands are an important source of fossil fuels, but they also emit high levels of air pollutants, according to a study published today in Nature. The emissions equal what's produced by the entire city of Toronto, researchers from Environment Canada say. And that raises concerns over the potential health effects these air pollutants may have.

The data in today's report were gathered by an aircraft that flew over Alberta's oil sands in August and September 2013, following clouds of air pollution for over 70 miles. In the months that followed, researchers from the Canadian government and researchers from Yale University analyzed the findings. They found that the oil sands produce human-caused secondary organic aerosols — a major contributor to air pollution — at a rate of about 45 to 84 tons per day. They also found that these aerosol particles can travel long distances. That makes Canada's oil sands operations one of the biggest producers of so-called secondary organic aerosols in North America.

Secondary organic aerosols are an important contributor to fine-particle pollution, which has been linked to lung and heart problems, according to the US Environmental Protection Agency. But because this is the first study on the oil sands' impact on Canada's air, the researchers say that it’s too early to tell what kind of health effect these aerosols might have on people. "We know that particulate matter is a health issue," says John Liggio, an aerosol emissions expert at Environment Canada and a co-author of the study. "But we can't say specifically that this is an issue for Alberta or whatever city the plume ends up traveling over."

The researchers also aren't sure how the emissions may affect climate or the ecosystem. "There's an obvious connection between aerosol particles and climate, that we know for sure, in general," says co-

author Shao-Meng Li, an air quality researcher also at Environment Canada. But "whether it appliess specifically to the oil sands during a regional climate change, we don't know."

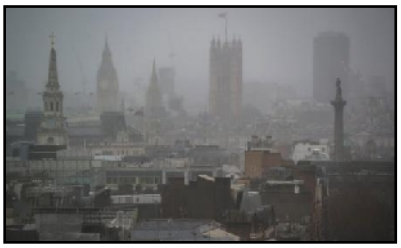
The researchers only took measurements during the months of August and September, but it's likely that the rate at which the oil sands produce aerosols is lower during the winter. "You could reasonably argue that rates would be different because temperature's different, sunshine's different and so yeah, we do expect some differences," Li says. That said, the oil sands operate all year, so the emissions certainly continue during colder months.

Even though the study didn't look at the health and environmental effects of these air pollutants, the findings will probably serve as a foundation for future research. "To discuss the environmental effects of the oil sand operations, one has to understand what the relevant processes are in the first place," says Joost de Gouw, a physicist at the US National Oceanic and Atmospheric Administration, who didn't work on the study. And "studies that address the health impacts do need the kind of information provided by this study to calculate what populations are exposed to."

The study may serve as an important tool for scientists who are trying to evaluate the environmental impact of other sources of heavy oil. "We think that this is a potential problem anywhere heavy oil is being extracted," Liggio says. But "I don't think it's been considered up to now." As for the oil sands themselves, the Canadian government should consider these aerosols, and their movements, when trying to assess the impact of the oil sands, he says.

Sadiq Khan joins air pollution court case against UK government

Date: 26th May, 2016 Source: The Guardian



Mayor of London will submit statement and evidence in high court case brought by ClientEarth on the air pollution crisis in the capital

The mayor of London, Sadiq Khan, has joined a high court challenge against the government over its air pollution plans, overturning the position of his predecessor, Boris Johnson. Khan filed legal documents on Thursday and can now submit a witness statement and evidence to the court on the air pollution crisis in the capital.

Environmental lawyers ClientEarth are suing the government for the second time in a year, having won a case at the supreme court in 2015 which ordered ministers to fulfil their legal duty to cut pollution in “the shortest time possible”. The new case argues the government is still failing to do this.

The UK missed a 2010 deadline to meet EU air quality rules but the new plan put forward by the government after losing at the supreme court would not cut pollution to legal levels until 2025 in some cities, including London.

“The government’s current air quality plan with respect to London is based on the very limited ambition of the previous mayor to tackle air pollution and isn’t enough to protect Londoners health,” said Khan. “I know from personal experience that the city’s air is damaging people’s health as I suffer from adult-onset asthma myself.”

The legal documents filed said: “The mayor is concerned that compliance is achieved in as short a period as is possible in order to protect the health of those living and working in London, particularly those in disadvantaged communities which are likely to be affected disproportionately by poor air quality.”

Earlier in May, the Guardian revealed an air quality report that remained unpublished while Boris Johnson was mayor which showed 433 schools in the capital are in areas that exceed legal limits for nitrogen dioxide pollution and that four-fifths of those are in deprived areas.

Air pollution was called a “public health emergency” by the environment committee of MPs in April, and causes 40,000-50,000 early deaths every year across the country. A report from two Royal Colleges of medicine in February estimated the cost of the damage at £20bn a year.

Khan’s first major policy announcement after winning the mayoral election for Labour were new plans to tackle the capital’s air pollution. These include more than doubling the size of the planned Ultra Low Emission Zone (ULEZ) - which the oldest and dirtiest cars must pay £12.50 to enter - and retrofitting 1,000 more buses with clean technology.

Alan Andrews, at ClientEarth, said he was delighted Khan was joining the case against the government. “It’s clear to everyone the government hasn’t got a leg to stand on,” he said. “Instead of wasting more time and money dragging this out in the courts, they need to come to the table with a serious plan showing how they are going to tackle deadly diesel pollution.”

Andrews said: “The mayor has a big role to play in delivering a bigger and better ULEZ for London, but we also need national measures that will benefit those living across the UK who are being made sick and dying early because of air pollution. This is a national public health crisis that demands a national solution.”

Khan said: “It’s clear we need to speed up our efforts so I’m calling on the government to match my new level of ambition for London and to work with me to improve our city’s dirty air and to make sure we get within legal limits much sooner - before the current target of 2025.”

A spokesman for the Department of Environment, Food and Rural Affairs said: “Our plans clearly set out how we will improve the UK’s air quality through a new programme of Clean Air Zones and continued investment in clean technologies will create cleaner, healthier air for all. We cannot comment on ongoing legal proceedings.”

Increasing rainfall ‘will reduce city air pollution’

Date: 27th May, 2016 Source: Shanghai Daily



The skyline of the Lujiazui financial zone fades amid heavy smog yesterday. — Wang Rongjiang

INCREASING rainfall is likely to alleviate the air pollution that enveloped the city yesterday, said forecasters.

Drizzle and foggy skies yesterday cut visibility to 1 to 2 kilometers in most of the city.

A combination of weak winds and high humidity created the conditions for the air quality index to reach 202 by 2am, data compiled by the Shanghai Environmental Monitoring Center showed.

The concentration of the main pollutant, PM2.5 particles, reached about 150 micrograms per cubic meter at the same time, six times what is considered safe by the World Health Organization.

The rain and fog also prompted local airports to issue a yellow alert yesterday that delayed flights, reducing air traffic by 20 percent.

The alert system features four colors — blue, yellow, orange and red — to indicate the severity of conditions. Yellow is the second-lowest tier and red is the highest.

The smog and fog are likely to dissipate as the rain intensifies overnight. However, the fog may return after the rain eases.

Next week is expected to be mostly rainy as a result of the combined effect of a subtropical high-pressure system, southwesterly warm moisture and a cold front, the Shanghai Meteorological Bureau said.

According to the weather bureau, three major rainfalls are likely to occur in the coming days: between today and Sunday, Tuesday and Wednesday next week and next Friday.

The current rainy period is forecast to see rainfall of 50 to 70 millimeters in the city, and some parts may see 70 to 100 millimeters.

Thunder and lightning are a possibility.

Today the high will remain at 22 degrees Celsius, but it will rise to 24 degrees tomorrow and 26 on Sunday.

On Monday and Tuesday next week, the high is expected to be between 26 and 27 degrees. Lows will be 19 degrees to 20 degrees.

Shanghai will enter its flood season on Wednesday, with more rain, more high-temperature days and more severe convective weather expected.

Fairbanks borough air pollution levels worst in US

Date: 29th May, 2016 Source: Juneau Empire

FARIBANKS — Data show air pollution in the Fairbanks North Star Borough remains at the highest levels in the nation and has failed to show significant air quality improvement.

The borough's North Pole is recording the nation's highest counts of episodic particulate pollution. The data from the U.S. Environmental Protection Agency show the counts are nearly twice as much as the next highest community in the nation, California's San Joaquin Valley, The Fairbanks Daily News-Miner reported.

"This level of pollution is rarely experienced in the United States," said Claudia Vaupel, EPA air planning team leader.

The Fairbanks North Star Borough's design value for short-term particulate pollution, a tool used by the EPA to measure progress, was much lower in previous years when the monitor of record was based in the city of Fairbanks. A monitor was added in North Pole a few years ago and it became the official monitoring site last year, as required under federal guidelines.

Krystal Francesco lived about two miles from the North Pole monitor for three years and left in 2013 partly due to the smoke pollution, she said.

"We could smell chemicals outside the house and also coming into the room where me and my infant daughter at the time slept," Francesco said.

The borough's nonattainment area has the highest design value for short-term particulate pollution in the U.S. of 124 micrograms per cubic meter, an improvement from the 139 micrograms recorded last year, but still far from the goal of below 35.5 micrograms.

"We are still extremely high," said Ron Lovell, borough air quality manager.

The San Joaquin Valley, which is showing the second-highest particulate pollution spikes, had a design value of 71 micrograms per cubic meter last year, while Los Angeles's design value was 38 and Salt Lake City's was 43.

Alaska officials are working to outline new regulations for controlling pollution in the borough, as federal regulators plan to upgrade both Fairbanks and North Pole from moderate to serious air quality non-attainment areas this summer.

Convert to natural gas, UP pollution control board tells industries

Date: 30th May, 2016 Source: Hindustan Times



The notices were issued to nearly 281 industrial units in Ghaziabad and another 36 units in Hapur

In order to reduce air pollution levels, the Uttar Pradesh pollution control board (UPPCB) has issued directions to industries in Ghaziabad and Hapur districts to present within 120 days a workplan to convert from solid fuels to compressed natural gas (CNG) or piped natural gas (PNG).

According to officials from the regional pollution control department at Ghaziabad, the notices were issued to nearly 281 industrial units in Ghaziabad and another 36 units in Hapur on the directions of the Central Pollution Control Board (CPCB).

"The industries will now have to reply and present their workplan to convert to natural gas. They have to reply by August end. The conversion will be more eco-friendly. Presently, we have nearly 400 polluting industries where industrialists use equipment like filters, cyclone separators, bag filters and electrostatic precipitator to reduce the effect of emissions," said Paras Nath, regional manager of UPPCB at Ghaziabad.

According to officials, nearly 172 industries in Ghaziabad that have shifted to CNG presently use nearly 72,000 SCMD (standard cubic metre per day) of the fuel. Another nearly 179 commercial establishments also use nearly 179 SCMD of CNG.

"CNG/PNG arrived in NCR in 2012. Industries should have converted to natural gas during that time. Now, the government should take strict measures to ensure that industrial units comply and stop usage of solid fuels like coal, wood etc. There are other illegal units that also use tyres, plastic, saw dust etc that emit high pollutants," said SK Maheshwari, an industrialist from Site 4 industrial area at Sahibabad.

"Industrialists will not oppose the move to convert (to cleaner fuels), but we demand augmented gas supplies and an enhanced network that provides connectivity to all industrial areas," said Arun Sharma from the Ghaziabad industries federation.

Meanwhile, officials have decided to initiate a study for Ghaziabad district to determine the amount of air pollution coming from different sources.

"The study would tell us that how much air pollution is caused in the district by vehicles, industries, construction sites, dumping activities etc. Presently, we don't have such a study that can tell us the sources adversely affecting the air quality in the district. We have also written to our headquarters that such a study should be conducted in our district," the regional manager said.

WHO: 80% of Urban Residents Breathe Unsafe Air

Date: 30th May, 2016 Source: Learning English



From VOA Learning English, this is the Health & Lifestyle report.

A new study finds that more than 80 percent of people living in cities are breathing unsafe air.

The World Health Organization study on urban air quality says those most affected live in the world's poorest cities. The study finds urban air pollution has nearly doubled in 3,000 cities over the past two years. The cities are in 103 countries.

The study also shows that almost all cities with populations over 100,000, and in developing countries, have air pollution levels that do not meet WHO guidelines.

The WHO warns that as air quality worsens the risk increases for many diseases. These include stroke, heart disease, lung cancer, and breathing diseases such as asthma. Poor air quality is also responsible for an estimated seven million premature deaths every year.

Flavia Bustreo is WHO Assistant-Director General of Family, Women and Children's Health. In the report, she says that dirty air in cities most affects the youngest, oldest, and poorest people.

However, her colleague, Maria Neira, says there are effective measures to deal with the problem. Neira leads the WHO's Public Health and Environmental Policy.

"You will see that in those cities where measures have been put in place, you can see a decrease on the levels of air pollution and, therefore, on the health risks caused by air pollution."

Neira agrees in the report that "urban air pollution continues to rise at an alarming rate" and severely affects human health. But she says the study shows improvements too. In her words, "awareness is rising and more cities are monitoring their air quality."

This includes increased monitoring of particulate matter in the air.

"Particulate matter," also known as particle pollution, is a complex mixture of extremely small particles and liquid droplets. Particulate matter is made up of a number of parts, including acids, organic chemicals, metals, and soil or dust. The WHO study finds a reduction in air pollutants could lessen deaths from particulate matter by 15 percent.

Carlos Dora is Coordinator of WHO's Department of Public Health and Environmental Policy. He says there are low-cost ways to improve air quality for even the poorest cities. These methods include using renewable power sources, such as solar and wind, and sustainable public transportation.

"If you have clean transportation means, like cycling, walking or rapid transit systems -- where you have a lot of people being carried with a few vehicles -- then you have less air pollution. Or, if you have cities like New York, which have cleaned the fuel to heat and cool the buildings in a major way … then you have important improvements in air pollution."

The report says the areas with the poorest air quality are in the Eastern Mediterranean and South East Asia.

I'm Anna Matteo.

Lisa Schlein reported this story from WHO headquarters in Geneva for VOA News. Anna Matteo adapted it for Learning English. Caty Weaver was the editor.

Cities to EU: If you don't act on air pollution, we will

Date: 30th May, 2016 Source: DW



Ministers and mayors have signed a pact to increase cities' efforts to tackle air pollution within the European Union. It comes as national European governments are poised to water down air pollution limits

Representatives of city governments across Europe signed a pact in Amsterdam on Monday (30.05.2016) pledging to take action on air pollution, as national governments are poised to water down European Union quality rules.

Ministers in charge of urban affairs and city governments issued the "Pact of Amsterdam," a direct partnership between city governments that seeks to bypass slow movement by national governments and the EU. In addition to air pollution, the pact will tackle housing, integration of migrants and urban poverty.

The initiative is part of a push for more "bottom-up" solutions in the European Union, where city governments are empowered to take more direct action. "There is a reason we have chosen the word 'pact,'" said Ronald Plasterk, the Dutch interior minister, announcing the signature. "It's not just Europe that decides that this is what's going to happen, it's not member states collectively - it's all these stakeholders together."

Cities pressure national governments

The declaration comes just four days before national governments are set to water down proposed EU caps on air pollution at a meeting in Brussels. Authorities from European cities most affected by air pollution have been putting pressure on national governments to change course.

But proposed stricter EU pollution limits are set to be blocked by the United Kingdom, France, Italy, Poland and a handful of other EU countries in a vote on Friday.

The European Commission, the EU's executive branch, proposed the tighter air pollution limits last year, and the European Parliament have approved these. But national governments have the final say.

On the same day of the pact's signature, mayors of the French and British capitals published a joint letter to national governments asking them to stick with the more ambitious proposal.

"Estimations by the European Commission suggest that weaker national emissions ceilings would lead to about 16,000 extra deaths in the EU every year," says the letter, signed by Paris mayor Anne Hidalgo and the new London mayor Sadiq Khan. "This is not acceptable and we require our governments to follow the bold lead taken by our cities in tackling this issue."

Expensive fines

However, national governments have said some of the existing targets, called national emissions ceilings, are already impossible to meet for some cities, and are resulting in the countries having to pay hefty fines for noncompliance.

They want flexibility that would allow countries to exceed limits during dry summers or cold winters - as long as they meet an average over three years. They also want lower limits than those proposed by the commission, and for some pollutants - such as methane - to be completely exempted.

Can cities fill the void?

Environmental campaign group EEB says the watered-down limits would be a step backward for the EU. Louise Duprez, a campaigner with EEB, says that while she welcomes the Amsterdam Pact initiative, she does not think cities can tackle air pollution on their own.

"Air pollution doesn't respect borders," Duprez says. "European action is essential to stop citizens dying prematurely and contracting serious diseases."

"The fact that mayors representing over 20 million citizens have understood this is great news - we hope that national government are listening," Duprez added.

Eurocities, an association of governments from 39 European countries, says that in the absence of action by national governments, there is a lot cities can do to fill the void.

"Adopting the Pact of Amsterdam is just a start," says Johanna Rolland, president of Eurocities and mayor of the French city of Nantes. "What matters now is how we all put our urban agenda into practice." That includes commitment from the European Commission, she added.

The Pact of Amsterdam is part of the "EU Urban Agenda," a project spearheaded by the Netherlands, which currently holds the rotating presidency of the EU. The Dutch, who live in the most urbanized country in the EU, are implementing their own "Dutch Urban Agenda" at the national level.

JUNE 2016

NASA satellite finds 39 unreported sources of air pollution

Date: 1st June, 2016 Source: ENGADGET



Scientists at NASA's Environment and Climate Change Canada and researchers at University of Maryland, College Park and Dalhousie University discovered 39 unreported "major" sources of toxic air pollution. Using the space agency's satellite imaging, the group located the man-made sources where toxic sulfur dioxide is being emitted. Sulfur dioxide (SO2) is a contributor to acid rain and is regulated on the ground by the EPA. However, to properly police the emissions, the government agency has to know the location of the pollutants.

These revelations were made possible by new computer processing tech that can take raw data from the Dutch-Finnish Ozone Monitoring Instrument on NASA's Aura spacecraft and translate it into sulfur dioxide concentration estimates. The advancements also allow scientists to detect smaller sources, like "oil-related activities" and more modestly-sized power plants.

Using satellite imagery of sulfur dioxide sources, the scientists were able to pinpoint "hotspots," locating unreported emission sites after analyzing data collected between 2005 and 2014. The study found that the sources were coal-burning power plants, smelters and oil and gas operations mostly in the Middle East, but also located in Mexico and Russia. NASA says that reported emission levels in some of these areas was two to three times lower than the levels scientists found after studying satellite data from the 9-year span.

In total, the unknown sources and the discrepancy in the reported numbers could account for 12 percent of the total human-made sulfur dioxide emissions. That's quite the swing, and it can potentially have a major impact on the air quality in the regions where the sites are located. The study also found 75 natural sources of SO2, some of which are in unmonitored remote locations. This study was the first to provide annual measurements for those non-active volcanoes that are slowly leaking toxic gas.

Michigan has plan to reduce Detroit air pollution

Date: 1st June, 2016 Source: The Detroit News

Michigan's plan to reduce air pollution in a particularly vulnerable area of Detroit is now in the hands of the U.S. Environmental Protection Agency.

State officials have worked since 2010 to put together steps that will bring down levels of harmful sulfur dioxide in southwest Detroit. The plan targets four industrial operations over emissions of the gas, which has been linked to a host of respiratory illnesses.

Under the state's plan:

- DTE Energy Co.'s River Rouge Power Plant would permanently close one of its coal-fired boilers by the end of the year.
- DTE's Trenton Channel Power Plant would shut down four of its five coal-fired boilers this year.

- Carmeuse Lime kilns would vent sulfur dioxide gases from a new 120-foot smokestack by October 2018 in an effort to better disperse the gases and limit their impact.
- U.S. Steel would be required to reduce its sulfur dioxide emissions by the end of the year as dictated by a new state regulation currently in the pipeline. That regulation is expected to be approved in the coming weeks.

In 2010, after the EPA enacted tightened emissions restrictions, an air quality monitor in southwest Detroit registered a sulfur dioxide concentration of more than 90 parts per billion, over the 75 ppb action level. The overage required corrective action and since that time, Michigan's Department of Environmental Quality has worked with the region's largest industrial operations to find a solution.

"We need to have enforceable restrictions on facilities," said Lynn Fiedler, chief of DEQ's air quality division. "That can either be done through a rule, a consent order or through permit. Any of these three methods are equally as good as long as we get (emissions) down to the number we need to."

Some environmental groups, while embracing the reductions in harmful gases, oppose the DEQ's approach to addressing industrial polluters. Officials with the Michigan Environmental Council believe industrial operations should all be held to a single over-arching standard.

In addition, the group believes that, instead of accommodating coal-fired plants, state officials should be expediting their elimination.

"We keep spending more and more money on these plants that just are marginally performing units," said James Clift, MEC's policy director. "If you look at the pollution and the public health impacts, and calculated that against the cost of replacing those plants, it would be a simple answer that we should not continue operating them."

Air pollution choking both capital cities of J&K

Date: 2nd June, 2016 Source: Daily Excelsior

JAMMU, June 2: Due to failure of the concerned agencies to take corrective measures, the air pollution is continuously chocking both the capital cities of Jammu and Srinagar with Respirable Suspended Particulate Matter (RSPM) and Suspended Particulate Matter (SPM) remaining beyond permissible limits thereby putting the lives of human beings to grave health hazards. If the Government continued to remain non-serious towards this critical issue, these capital cities may in the coming years fall in the category of most polluted cities of the country.

The air pollution is measured by four parameters-RSPM (Respirable Suspended Particulate Matter), SPM (Suspended Particulate Matter), NO2 (Nitrogen Dioxide) and Sulphur Dioxide (SO2). All these are measured in Microgram Per Cubic Meter.

As per the monthly average, the permissible limit of RSPM is 100 mg while as that of SPM is 200 mg and SO2/NO2 is 80 mg. Similarly, as per annual average, the permissible limit of RSPM is 60 mg and SPM is 160 mg while as that of SO2 and NO2 is 50 and 40 mg respectively.

The RSPM are smaller particles as compared to SPM and get easily inhaled as such they are more dangerous to the human beings. As per the scientists of the State Pollution Control Board, RSPM can

cause damage to the lungs as exposure to these can irritate lungs and cause lung constriction, shortness of breath and cough. Moreover, it aggravates asthma and other respiratory problems.

Against the annual average of 60 mg, the Narwal Station of State Pollution Control Board recorded RSPM at 123 mg during the year 2015-16, which was more than double the permissible limit thereby indicating the level of air pollution.

What to talk of annual average, the RSPM recorded by this station remained beyond the monthly permissible limits of 100 mg. From April 2015 to March 2016, the maximum level of RSPM was recorded at 145 mg while as minimum was 105 mg, which means RSPM never remained within the permissible limits.

Similarly, against annual average of 160 mg, the SPM was recorded at 218 mg by Narwal Station during 2015-2016. From April 2015 to March 2016, the maximum level of SPM was recorded at 250 mg while as minimum level was 189 mg.

Likewise, the annual average of RSPM was recorded at 122 mg against permissible limit of 60 mg by MA Stadium Station while as Bari Brahamana Station recorded annual average of RSPM at 125 mg. The annual average of SPM recorded at MA Stadium and Bari Brahamana Station was 217 mg and 222 mg respectively, which are much beyond the permissible limit of 160 mg.

As far as month wise recording is concerned, RSPM and SPM recorded by MA Stadium and Bari Brahamana Stations remained beyond the permissible limits.

As per the data of Srinagar Station of the State Pollution Control Board, the yearly average of RSPM was 106.32 mg as against permissible limit of 60 mg while as SPM was recorded at 189.42 mg against permissible limit of 160 mg. The Khanmoh Station recorded annual average of RSPM at 127 mg against permissible limit of 60 mg and SPM at 306.84 mg against the permissible limit of 160 mg. The Khrew Station recorded RSPM at 93.10 mg against acceptable limits of 60 mg and SPM at 186.03 mg against the permissible limit of 160 mg.

Likewise, Lasjan Station recorded annual average of RSPM at 196.11 mg against tolerable limits of 60 mg and SPM at 468.39 mg against the permissible limits of 160 mg.

This information was furnished by none else than the Minister for Forests Ch Lal Singh to the BJP MLAs from Jammu East and Jammu West, Rajesh Gupta and Sat Sharma in the Legislative Assembly. These MLAs expressed serious concern over the growing air as well as water pollution and wanted the Government to take corrective measures immediately so that situation is checked from further deterioration.

According to the Forest Minister, major causes of air pollution are vehicles, road construction and infrastructure development activities, mining, burning of garbage and industrial establishments like stone crushers, brick kilns and cement plants etc.

Though, as per the Minister, the capital cities of Jammu and Srinagar do not fall under the category of most polluted cities of the country, the RSPM and SPM are continuously exceeding the desired limits. He also admitted that adulteration of diesel and petrol with kerosene oil increases vehicular pollution, which is the major contributor to the increasing RSPM and SPM levels in the capital cities.

What to talk of air pollution, water pollution is also going unchecked and uncontrolled as all the concerned agencies responsible to check the same are sleeping over the numerous recommendations made by different agencies including State Pollution Control Board from time to time.

The major causes of water pollution are discharge of untreated sewage from domestic and commercial sources and discharge of industrial effluents into water bodies. "The major source of pollution in River Tawi and Ranbir canal are the discharge of untreated sewage and dumping of solid waste", the Minister said, adding "Municipal Corporation Jammu has been directed to take necessary steps for treatment of sewage and proper management of solid waste in accordance with Environment Laws".

He also admitted that encroachment of water bodies is also a cause of water pollution and the concerned departments are under the obligation to remove the same.

As far as pollution by the industrial units is concerned, the House was informed that State Pollution Control Board is monitoring the activities of industries and action under law is being initiated against the defaulters. He, however, said that unless all the concerned departments act the air and water pollution cannot be checked.

EU dilutes proposal to halve air pollution deaths after UK lobbying

Date: 3rd June, 2016 Source: The Guardian



EU states have agreed to water down a proposed law aimed at halving the number of deaths from air pollution within 15 years, after intense lobbying from the UK that cross-party MEPs have condemned as "appalling".

Some 14,000 people will die prematurely every year across Europe from 2030 as a result, if the weakened proposal is implemented, according to figures cited by the environment commissioner, Karmenu Vella.

The revised proposal is likely to be rejected by the European parliament next week, setting the scene for a public row on 20 June, when Europe's environment ministers meet to thrash out a compromise.

But EU diplomats said that the UK had been a key player in crafting a blocking minority to kill a more ambitious proposal to bring in measures that would result in a 52% improvement in pollution-related health impacts for citizens around Europe. This translates as a reduction in deaths from conditions such as stroke, heart disease and asthma.

One diplomat said: "They [the UK] gathered some of the environmental attaches in Brussels who they thought would be most willing to follow their line and weaken the directive. They talked to big countries, such as France and Italy, and I think they also discussed with the strongest ones in eastern Europe, like Poland."

Seb Dance, the Labour parliamentary group's environmental lead, said the UK was "a leading proponent of watering down the proposed target and [also] seems to be playing a leading role in the coalition of the unwilling".

If agreed, the lower public health target proposed today – 48.5% – will be used as the basis for setting binding targets over the next 15 years for pollutants such as ammonia, sulphur dioxide (SO2), particulate matter (PM2.5) and nitrogen oxides (NOx).

The UK stance was in part motivated by a desire to protect the dairy sector, despite research indicating that ammonia-based fertilisers – rather than Saharan dust – were responsible for Britain's worst pollution event in a decade.

A government spokesperson said: "Tackling air pollution is a priority for this government and we are working with EU partners to agree ambitious and fair emission limits for key air pollutants from 2030."

Conservative MEP Julie Girling said: "The current proposal is simply not good enough and I think it is appalling. I would like to see the UK government leading the rest of Europe towards an ambitious programme. It is disappointing that does not seem to be the case."

The difference between a 48.5% improvement in public health preferred by the UK and the 52% favoured by parliament "doesn't sound a lot but that is actually a lot of dying people", she said.

In a reference to the forthcoming referendum in the UK on EU membership, Girling added: "I understand that some people would say sovereign governments should be making these decisions. But they need to understand that if it were in the hands of our government, we would not be getting anything close to the ambition we think is necessary."

The government's own figures show that air pollution is responsible for between 40,000 and 50,000 premature deaths a year. An ongoing breach of the EU's clean air directive will not be ended before 2025, according to the government's own plans.

A letter to Liz Truss by the London and Paris mayors, Sadiq Khan and Anne Hidalgo, earlier this week, called for higher binding targets for 2025 as well as 2030, the closing of loopholes and curbs to methane emissions that cause ground level ozone.

Limits on methane, a potent greenhouse gas, had already been removed from an EU proposal seen by the Guardian, after pressure from the UK and other states, including France, Italy and Poland.

Farmers groups, though, argue that methane is currently covered under climate change legislation in the UK and that further emissions reductions need to take their financial situation into account

Diane Mitchell, the National Farmers Union's environment adviser, said: "Agriculture does have a contribution to make and we are willing to play our part but it is important that if there are targets to be met, they are technically feasible and also affordable to the sector."

Some 85% of ammonia emissions come from just 20% of the UK's farms, mostly the largest ones, according to Eurostat data.

Calculations by the European Environmental Bureau (EEB) suggest that ammonia will be responsible for 4,000 of the 11,000 extra British deaths it expects between now and 2030 as a result of the UK's weakening of the national emissions ceiling directive.

Louise Duprez, the EEB's senior air quality officer, said: "Air pollution does not respect borders. European action is essential to stop citizens dying prematurely and contracting serious diseases."

AIR POLLUTION: Area regulators seek tougher limits on truck emissions

Date: 3rd June, 2016 Source: The Press Enterprise

Southern California air pollution regulators on Friday, June 3, joined 10 other state and local agencies in demanding that the federal government impose tough national rules to slash emissions from big rig trucks.

"In order to meet national clean air goals, we need the federal government to adopt more stringent standards for the number one source of smog-forming emissions in our region – heavy-duty trucks," said Wayne Nastri, acting executive officer for the South Coast Air Quality Management District, in a prepared statement.

The petition to the U.S. Environmental Protection Agency seeks a national "near-zero" or "ultra-low" emissions standard for heavy-duty truck engines that would be 90 percent cleaner than the current federal standard.

An EPA spokeswoman in Washington, D.C., declined to comment beyond saying that the agency would review the petition and respond to it appropriately.

Southern California has the worst smog problem in the nation as defined by the number of days each year that the region fails to meet federal health standards for lung-searing ozone gas.

Ozone forms when nitrogen oxides from trucks and other sources react with other pollutants. It causes nausea, headaches, and burning eyes, and triggers asthma attacks, among other health problems. It also has been linked in studies to early deaths.

Last year, ozone levels in Southern California exceeded a federal health standard during 80 days, according to state data. So far this year, we've already had 15 unhealthful days, including four consecutive smoggy days this week. And the most problematic summer months are still ahead.

California plans to adopt an ultra-low nitrogen oxide standard for truck engines sold in California, but the state rules won't stop higher polluting trucks purchased elsewhere from rolling into the state, say air district officials.

Chris Shimoda, policy director for the California Trucking Association, said he expects technological challenges to creating near-zero emission truck engines. But he agrees that California and the rest of the nation should have the same emissions rules.

"Otherwise, you won't achieve the air quality goals," he said.

Nastri and other air district officials plan on traveling to Washington, D.C., this month lobby for a tough national standard for truck emissions.

"We have built a coalition of local and state environmental agencies that share a desire for a nationwide air quality solution," Nastri said in the statement.

"Cleaner truck technology exists."

Metro Heart Hospital turned Green to encourage mass adoption of air-friendly measures

Date: 5th June, 2016 Source: ET Health World

Go Green" - with this message flashed on its building Metro Hospital and Heart Institute, Noida was seen lighted in green colour on the eve of "World Environment Day" on June 4. It aimed at drawing people's attention towards the environment and encouraging them to adopt air-friendly measures in view of rising air-pollution levels and increasing morbidity and mortality.

The air pollution levels in the country are at all-time high and are far from acceptable. About half a million premature deaths have been estimated to be occurring every year in India.

"It is worrisome that air pollution is leading to so many premature deaths in India. It is time that each one of us starts making a concerted effort to help bring change and decrease the air pollution levels for the sake of our coming generations," says Padma Vibushan Dr. Purshotham Lal, Chairman and Director-Interventional Cardiology, Metro Group of Hospitals.

World Health Organisation (WHO) has ranked air pollution as the largest single environmental health risk affecting millions all over the world. Air pollution especially the smaller particles less than 2.5 microns in size are responsible for not only affecting the lungs, they also cause an increase in fatigue, lung cancer, headaches and may even cause an increase in pre-term deliveries and low birth weight infants. Recent studies have now shown that air pollution also causes an increase in cardiovascular diseases.

"Air pollution particles cause inflammation and can affect the heart in the same way as it affect the lungs. Just as cigarette smoke can cause an increase in fatty build up in the arteries, air pollution particles can also increase the progression of heart disease and put you at a risk of having a heart attack. Over time it can damage your heart leading to long term problems" says Dr.Lal. "People who are already heart patients and the elderly are particularly at a higher risk of being affected," he adds.

Surprisingly, 2012 WHO report suggests people dying of air pollution-linked-cardiovascular diseases are more than that of all the other air pollution-linked-diseases combined.

Dr. Lal believes, "As a healthcare provider, it is our moral responsibility that we constantly educate and encourage people to take right steps. Small-small measures like cycling to near-by shops instead of using vehicles, car-pooling, switching-off engines at traffic lights, planting trees, using recyclable products, and conserving electricity can go a long way in bringing about a change and making people healthy." The hospital has planned to conduct series of educational workshops in this direction.

NASA Found 39 Unreported Man-Made Sources of Toxic Air Pollution

Date: 6th June, 2016 Source: Nature World News



NASA's satellites also function as an observatory for climate change and weather behavior on Earth. These satellites were proven to be helpful in the recent findings by NASA scientists in partnership with the Environment and Climate Change Canada, who discovered that there are 39 unreported sources of toxic air pollution on Earth.

The findings of the recent study were published in the journal of in

Nature Geosciences. The 39 unreported sources were found guilty of emitting toxic sulfur dioxide. Sulfur dioxide (SO2) is one of the six air pollutants regulated by the U.S. Environmental Protection Agency. Agencies concerned with monitoring these air pollutants need to locate the sources first in order to measure and moderate them. The recent study managed to identify the "hotspots" where unreported toxic air pollutants are coming from.

Experts are now hoping that they can alleviate the toxic air pollutants emitted by the newly identified sources.

"When you look at a satellite picture of sulfur dioxide, you end up with it appearing as hotspots - bull's-eyes, in effect -- which makes the estimates of emissions easier," said Chris McLinden, an atmospheric scientist with Environment and Climate Change, in a press release by NASA.

To help scientists identify the sources, a new satellite-based process was developed to allow the scientist to pinpoint the exact location of the man-made toxic emissions, which is vital in regulating them. The identified sources are mainly power plants and gas and oil operations from Mexico, Middle East and Russia. Scientists working with the data, recognized the importance of the satellites in their study.

"Quantifying the sulfur dioxide bull's-eyes is a two-step process that would not have been possible without two innovations in working with the satellite data," said co-author and Nickolay Krotkov, atmospheric in a report by TechTimes.

In total, the newly identifies man-made sources of toxic air pollutants accounts for 12 percent of the total man-made sulfur dioxide emissions according to a report by Engadget. And now that the sources were identified, experts are hopeful that they can drastically alleviate and regulate the emissions of the said sources after they have been named.

Urgent action needed to stop terrifying rise in air pollution, warns OECD

Date: 9th June, 2016 Source: The Guardian



Air pollution is becoming a “terrifying” problem around the globe, one of the world’s leading economic organisations has warned, and will get much worse in the coming decades if urgent steps are not taken to control the pollution.

The Organisation for Economic Cooperation and Development (OECD) said on Thursday that pollution of our air from industry, agriculture and transport was set to cause as many as 9 million premature deaths a year around the world in the next four decades, and the economic costs are likely to rise to about $2.6 tn (£1.8tn) a year over the same period.

“The number of lives cut short by air pollution is already terrible and the potential rise in the next few decades is terrifying,” said Simon Upton, environment director for the organisation. “There will also be a heavy economic cost to not taking action. We must prevent these projections from becoming reality.”

India and China are likely to suffer the most, but the problem is increasing in many developing countries, where economic growth is lifting people out of poverty but where regulations on emissions have lagged behind. In developed countries, the problem is seen as likely to stabilise, though still with a high number of illnesses.

If current trends continue, one person will die prematurely every four or five seconds from air pollution by 2060.

The cost of 1% of global economic output every year by 2060 would equate to about $330 per head of population, arising from sick days, healthcare costs and lost productivity. Bronchitis and asthma are on the rise, fuelled by our dirty air, and the most vulnerable people are children – whose lungs can be permanently stunted by early exposure to pollution – and the elderly.

The warning is the latest in a series of revelations about the dire state of the world's air, which is being polluted from sources including cars, the over-use of agricultural fertilisers, and heavy industry such as coal-fired power plants.

Earlier this year, the UK's Royal College of Physicians warned that air pollution was claiming more than 40,000 lives a year in the UK alone. The World Health Organisation said last month that air pollution had risen by 8% in five years, chiefly in fast-growing cities around the world, which it said was "alarming".

Last year, the cost of the problem was reckoned at about $21bn by the OECD, but this is set to double in coming years, and continue to rise after that. At least 3 million premature deaths were owing to air pollution in 2010, the report found, with particulate matter and harmful gases arising as the main culprits.

Crop yields are also likely to suffer from increased pollution, the OECD found, exacerbating potential food shortages as population growth puts more pressure on food sources.

In the UK and Europe, the rapid increase in the number of diesel vehicles on the road – encouraged by lower tax rates, because diesel cars produce smaller amounts of greenhouse gases than their petrol-driven counterparts – has been one of the main factors, even as pollution from industry has come under greater control. Farming is also an important source, with recent research finding it had become the single biggest cause of air pollution. That is because gases arising from fertiliser use can combine with pollution from traffic to form bigger particles that lodge in people's lungs.

Politicians around the world have been slow to respond to the problem, particularly in cities. In London, the previous mayor Boris Johnson covered up a report into the blight of pollution on schools, particularly in deprived areas, the Guardian revealed. The new mayor, Sadiq Khan, has promised a series of measures on the issues, though campaigners are concerned that they will not be enacted soon enough.

Brexit would worsen UK's air pollution crisis, say experts

Date: 10th June, 2016 Source: The Guardian



The UK's air pollution crisis would get worse if the country votes to leave the European Union, according to a new poll of environment professionals.

The UK already has levels of air pollution above legal EU limits in many cities, resulting in 40,000 early deaths a year, while ministers are currently lobbying in Brussels against lower air pollution limits.

The Institute of Environmental Management and Assessment (IEMA) polled its membership, which includes experts working for government agencies such as the Environment Agency, local authorities and

large businesses, and found over half consider EU air pollution rules essential in complementing national rules, with another third saying the rules were useful.

The poll, of almost 1,200 professionals, found that 48% thought standards for UK air quality would get worse if the UK left the EU, with just 4% expecting they would improve and 42% saying they would stay the same.

The opinion of the experts contradicted comments from leading Vote Leave campaigner Boris Johnson, who said the EU made it harder for the UK to tackle air pollution.

He told an ITV referendum debate on Thursday: "Let me give you a classic example of how the EU lets us down and millions of people who are victims of air pollution. When you look at what happened with the VW scandal, that was a complete masterclass of collusion between Brussels bureaucrats, the well-paid lobbyists and the motor manufacturing industry.

"What was really going on was millions of people bought diesel vehicles on false pretences and our ability to improve our air quality was drastically reduced."

The Guardian revealed in May that when he was mayor of London, Johnson covered up a report into the blight of pollution on schools, particularly in deprived areas. UK ministers lost a supreme court battle in 2015 which forced them to improve their plans to end illegal levels of air pollution. But the new plans are now being challenged as insufficient in a new legal action.

The former chief executive of the Environment Agency, Baroness Barbara Young, backed the views of the IEMA experts. "We know what national governments would do about air quality if left to their own devices: duck the issue just as the current UK government is doing at the moment, by arguing for less stringent limits."

"The air knows no borders, and that is why it is important we act together," she said. "It is no surprise that experts like members of the IEMA fear the UK leaving the EU. They know what is at stake. For the sake of our health and the health of our children, we must stay and fight for greater ambition to clean up our air."

Martin Baxter, IEMA's chief policy advisor, said: "Environment and sustainability professionals are overwhelmingly of the view that the UK has benefited from EU environment and climate policy, and that this has also been positive for UK business."

"The vast majority feel that the EU policy approach is needed to complement and support national level policies in addressing air pollution," he said. "Operating within the EU provides a policy landscape that is more stable and therefore potentially more effective over the medium to longer term. From an environmental perspective, the decision on whether the UK leaves or remains in the EU is crucial."

Air pollution was called a "public health emergency" by a cross-party committee of MPs in April. A report from two Royal Colleges of medicine in February estimated the cost of the damage at £20bn a year.

On Thursday, the Organisation for Economic Cooperation and Development (OECD) warned that air pollution is becoming a "terrifying" problem around the globe and will get much worse in the coming decades if urgent steps are not taken.

Why Smart Cooking Will Help Reduce Air Pollution And Save Lives

Date: 11th June, 2016 Source: Forbes



Yina Sun, an American student, vividly recalls her trip to Awendo, a town in Kenya. "Every house I visited, there was a mother cooking over a three-stone fire stove with smoke blowing in her face, spreading everywhere. Standing in that same room and feeling suffocated with smoke really impacted me. Knowing that millions of women across Kenya are living this way, inhaling smoke every single day, was devastating."

Accustomed to cooking with gas in the U.S., Yina didn't grasp how tremendous the problem of cooking with charcoal and firewood was until her visit to Awendo.

Around 84% of households in Kenya still use small cookstoves, similar to portable grills that Americans often take on a road trip, to prepare their daily meals. Black soot from these stoves cover houses, forcing their users—predominantly women—to constantly clean. Around 15,000 deaths in the country are directly linked to household air pollution (HAP), while 36 million Kenyans are estimated to be affected by HAP.

The problem is global, as cooking with charcoal poses a serious health and environmental threat to around 3 billion people around the world, who cook and heat their houses with open fires and stoves, burning coal, wood or crop waste. A Nature Journal of Science article claims that more people die around the world from ongoing smoke inhalation than from HIV/AIDS, malaria and tuberculosis combined. The World Health Organization (WHO) also estimates that over four million people die prematurely from HAP-related illnesses from cooking with solid fuels.

A local social enterprise is working to change this by promoting the use of charcoal briquettes made from bagasse, an agricultural waste residue that is a smokeless and long-lasting alternative to charcoal and firewood.

Founded by a Kenyan social entrepreneur, Tom Osborn, Green Char was developed through online research and a partnership with researchers at the Massachusetts Institute of Technology. The organization estimated that around 10kg (22lbs) of wood and 20kg (44lbs) of CO-2 related emissions are offset through every 2kg (4lbs) bag of briquettes sold. The briquettes are smokeless while burning, reducing health risks and CO2-related emissions. Given the fact that GreenChar's briquettes are up to 35% less expensive than charcoal, a family can save up to $200 each year on cooking fuel, which is enough to pay for a semester of school for a child. By using these charcoal briquettes instead of regular charcoal or firewood, households in Kenya could actively curb deforestation.

Close to 1.6 million tons of bagasse is produced each year in Kenya, though the numbers could be as high as 2.6 million. Factories cover considerable costs to transport bagasse to dumpsites but the residues still pose significant environmental problems. Creating charcoal briquettes from bagasse offer a way to address these waste disposal issues.

Taking note of this, GreenChar intentionally created a briquette that is used in the same way as regular charcoal, in order to considerably reduce the learning curve for families, especially for women, who are often responsible for cooking and heating their households. Therefore, the organization does not train households on how to use the briquettes. Instead, it holds community programs focused on educating women about the dangers of using wood-based charcoal and firewood in general.

Since launching sales in February 2015, GreenChar has already sold 10 tons of charcoal briquettes, in bags of 2kg, containing around 30 briquettes at $0.70 per bag. Each family can use one bag for up to two or three days.

The organization has also created a micro-franchise model through which it lends to women, enabling them to become business owners as they gradually become sole owners of the kiosks. Furthermore, it provides them with training on financial literacy as well as business development support. “One of our micro-franchisees previously sold wood charcoal, but by selling our briquettes, she has doubled her income.” Yina says, “We planned this model over a long time, so to see it actually happen is a great accomplishment.” For Yina, working with these women, engaging and empowering them has been one of GreenChar’s biggest accomplishments so far.

Soon after her initial visit to Awendo, Tom invited Yina to help build GreenChar into a business. Driven by the organization’s potential to impact the lives of people in Awendo, Yina took charge as the COO, developing a new strategy and overseeing its implementation.

The company is currently working to produce and distribute charcoal briquettes throughout Western Kenya, eventually expanding its market to all of Kenya and East Africa. Given the relatively recent release of its product, the company still faces the challenge of becoming financially sustainable. However, it hopes to focus on making the household segment profitable in the coming years.

Yina believes that social change happens when people are dissatisfied with issues they are experiencing in their community and decide to take action. While it may be one or two people sparking the action, “it takes a village” to create lasting social change. GreenChar has found a large community of people who want to improve the cookstoves industry and advance the health of millions of people.

Global economy may see huge annual cost over air pollution

Date: 12th June, 2016 Source: Press TV



Air pollution will cost the world economy over 2.5 trillion dollars per year by 2060

A research by the Organization for Economic Cooperation and Development (OECD) warns about massive costs of air pollution on the world economy.

According to the recently published study by the OECD, air pollution may cost the global economy some 2.6 trillion dollars each year by 2060.

It says air pollution could cause between six and nine million premature deaths per year by 2060. This is while in 2010, outdoor air pollution caused more than three million premature deaths.

The report noted that air pollution imposes significant costs on annual healthcare, workforce and crop yields among others.

OECD Environmental Director Simon Upton has said, "The number of lives cut short by air pollution is already terrible and the potential rise in the next few decades is terrifying … If this is not motivation enough to act, this report shows there will also be a heavy economic cost to not taking action."

The study predicts that countries like India, China, Korea and Uzbekistan will likely suffer the worst due to power plant emissions, traffic exhaust, and heavily congested cities.

Air pollution can arise from many sources, but the worst contributors include motor vehicles, climate control for large buildings, waste management, agriculture, coal and diesel power generation, and many forms of manufacturing.

Back in February, 175 nations signed a historic agreement in Paris, France, on greenhouse gas emissions and climate change.

China and the US, which together account for 38 percent of global emissions, pledged to formally adopt the deal by the end of the year.

The Paris deal sets the objective of curbing global warming to "well below" two degrees Celsius (3.6 degrees Fahrenheit) above pre-industrial levels, by moving to clean energy.

Supreme Court rejects case challenging key White House air pollution regulation

Date: 13th June, 2016 Source: Washington Post

The Supreme Court on Monday left intact a key Obama administration environmental regulation, refusing to take up an appeal from 20 states to block rules that limit the emissions of mercury and other harmful pollutants that are byproducts of burning coal.

The high court's decision leaves in place a lower-court ruling that found that the regulations, put in place several years ago by the Environmental Protection Agency, could remain in effect while the agency revised the way it had calculated the potential industry compliance costs. The EPA finalized its updated cost analysis in April.

In a statement Monday, the EPA praised the court's decision not to review the case, saying the mercury standards are an important part of a broader effort to ensure clean air for Americans.

"These practical and achievable standards cut harmful pollution from power plants, saving thousands of lives each year and preventing heart and asthma attacks. Power plants are the largest source of mercury in the United States," the agency said. "Mercury is a neurotoxin that can damage children's developing nervous systems, reducing their ability to think and learn. All told, for every dollar spent to make these cuts, the public is receiving up to $9 in health benefits."

In March, a month after hobbling the Clean Power Plan — the Obama administration's signature regulation on climate change — Chief Justice John G. Roberts Jr. rejected a separate request to stay the Mercury and Air Toxic Standards rule. More than 20 states had joined a lawsuit opposing the MATS rule, arguing that the controversial pollution controls mandated by the regulation are too expensive relative to the health benefits. The White House and environmental groups argued that the rule was not only economically sound, but also an important public health measure.

Coal-burning power plants are the nation's largest single source of man-made mercury. Decades of mercury pollution from coal-burning also has contributed to elevated levels of the toxin in fish.

In April, the EPA issued an updated analysis of the estimated costs and benefits of the regulations, arguing that the cost for the industry to comply would amount to a fraction of annual revenue and probably would not lead to steep increases in customer bills. As the fight over the MATS rule has worked its way through the courts in recent years, many utilities have already complied with the new requirements.

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50 years ago: Air pollution was suspected cause of running stockings

Date: 13th June, 2016 Source: Daily Record



Compiled by Max Marbut, Staff Writer

Jacksonville's female residents were asked to not throw away stockings that developed a run for no apparent reason because Dennis Falgout wanted the holey hosiery.

The request was purely for scientific reasons.

At a meeting of the Duval Air Improvement Authority, acting Director Falgout reported results of research stemming from an incident April 19-20, when women working at the county courthouse discovered their stockings running.

Falgout collected four damaged stockings, which were sent for analysis by what were described as "professional microscopists."

Their evaluation of the hosiery indicated a "strong inference" the damage was caused by sulfur dioxide in the atmosphere.

However, the report noted the finding was inconclusive, since only four samples were submitted for testing.

More samples were needed, the report said, to pinpoint the precise cause of the runs.

Falgout emphasized he was only interested in stockings that ran for no apparent reason and he didn't want stockings that had been snagged.

In other business, the authority heard staff reports on complaints involving The Glidden Co., Trumbull Asphalt Co. and Lloyd A. Fry Roofing Co.

It was reported The Glidden Co. planned to install an electrostatic precipitator in its boiler stack to reduce chemical emissions.

"The management of The Glidden Co. is to be commended for the conscientious and responsible manner in which they have sought to eliminate a condition which has been a nuisance to their neighbors," said George Auchter, authority chairman.

Reports on the Trumbull and Fry firms said the companies' officials had "replied negatively to our requests to install sampling ports in their stacks and to provide us with other information regarding their chemical processes, although we assured them the information would be kept confidential."

• An insurance specialist and television news reporters were subpoenaed to appear before the Duval County grand jury as it continued its probe of alleged misconduct in local government.

Summoned to appear were Norm Davis of the WJXT TV-4 news staff and Charles Cook, a former reporter at the station.

Also ordered to appear by Assistant State Attorney William Hallowes was H.W. Donovan, a local insurance expert who was working for the city as a consultant.

One of the charges Circuit Judge Marion Gooding suggested the grand jury should prove or disprove with its investigations was whether the city was wasting public funds by not purchasing insurance coverage through a competitive bid process, which would violate the city's procurement regulations.

Asked how long the investigation would last, Hallowes said it would be "protracted — several months at least."

A U.S. Supreme Court decision restricting police interrogation of suspects and stating a confession could not be used at trial unless a defendant had been told of his right to remain silent was not well-received by city and county law enforcement officials.

"If you are going to play a game where one side has no rules and the other side has very restricted rules, who is going to win?" asked Assistant Chief of Police R.C. Blanton of the Jacksonville Police Department.

"The restrictions placed upon the police officer by the Supreme Court tend to hinder instead of benefit the cause of justice," he added.

Inspector H.V. Branch of the Jacksonville Detective Division said most of the court's rulings were not in favor of law-abiding citizens and interfered with an officer's ability to perform his proper duty.

"That is why it is so difficult to recruit new policemen," he said.

The position of law enforcement officials was summed up in a statement by Assistant Chief of Police Robert Hobbs.

"We are interested in the protection of society. The only way we can protect society, however, is to solve cases. Many times, there are crimes committed where there are no witnesses or physical evidence. Interrogation is a vital part of such cases and any restrictions placed upon the interrogation of suspects does not only hinder the law enforcement officer, but it also hurts society," he said.

• A proposal to grant Duval County residents free borrowing privileges at the Jacksonville Public Library was approved by the library's board of trustees.

The county would pay the library $90,000 for those privileges.

The action followed a letter from the County Commission that confirmed the commission placed the sum into its proposed budget for 1966-67. Jacksonville's City Council and the Duval County Budget Commission also would have to approve the plan.

Library Director Harry Brinton emphasized the proposal, if approved by all involved agencies, would grant to county residents only free borrowing privileges.

Air Pollution Could Increase Mental Illness Risk In Children

Date: 14th June, 2016 Source: Tech Time

Air pollution could increase children's risk of developing mental illness, a new study found. Alarmingly, the link persists even in low air pollution levels.

In the new study, researchers found a link between small surges in air pollution rates and the substantial increase in the numbers of psychiatric problems treated.

While it is the first study to establish such association, it adds to the growing research where evidence shows air pollution has significant impacts on the cognitive and mental well-being. These growing evidence also show that children are highly susceptible to poor air quality.

In the new study, the research team from Umeå University in Sweden analyzed the air pollution exposure data of over 500,000 young participants under the age of 18.

The researchers then compared the data with the records of the medications prescribed for the treatment of mental illnesses. These medicines range from simple sedatives all the way to antipsychotics.

"The results can mean that a lower concentration of air pollution, first and foremost from traffic, may reduce psychiatric disorders in children and adolescents," said researcher Anna Oudin who led the research team.

Personally, Oudin added that she would be worried if she lived in an area where air pollution rates are high.

In the United Kingdom, air pollution rates are above the allowed limits in several cities. Annually, there are an estimated 40,000 cases of early deaths linked to air pollution. The causes of death include conditions such as strokes, lung disease and heart attacks.

The World Health Organization and the European Union set a 40mcg/m3 (micrograms per cubic meter) for nitrogen dioxide (NO2). However, in many cities like London, the NO2 rates are often beyond the prescribed limit.

In the study, the team found a mere 10mcg/m3 increase surge in the levels of NO2 was associated with a 9 percent increase in children's mental illness rates.

Moreover, the same amount of increase in tiny particulate matter PM2.5 and PM10 was linked to a 4 percent increase in the mental conditions.

It gets even more alarming. Sweden has relatively low air pollution levels. But even in this country, the study still found the same association even below the 15mcg/m3 levels.

This suggests that more polluted cities carry much higher risks. They also face more challenges as they need to make substantial changes to improve their air quality.

While the study cannot tell what would happen to the mental illness rates in cities with even higher air pollution levels, Oudin made an assumption that it could also rise. In all the air pollution research Oudin had been part of, there seems to be a linear effect in the association.

However, the study does have its limitations and one of which is that it doesn't answer how air pollution increases mental illness in children. Oudin offered a probable mechanism - air pollution causes

inflammation when it gets inside the body and the brain. Past research also linked inflammation to a series of psychiatric illness.

"The severe impact of child and adolescent mental health problems on society, together with the plausible and preventable association of exposure to air pollution, deserves special attention," wrote the researchers.

Household Air Pollution May Up Risk Of Heart Attack: Study

Date: 14th June, 2016 Source: NDTV



WASHINGTON: Long-term exposure to household air pollution from lighting, cooking or heating with fuels, such as kerosene or diesel, may increase the risk of heart attacks and death, researchers including one of Indian-origin have warned.

Burning cleaner fuels, such as natural gas, was associated with a lower risk of cardiovascular deaths, researchers found. According to the World Health Organisation, one-half of the world's population lives in poverty and burns fuels for lighting, cooking and heating purposes.

"We know that smoking tobacco products and outside air pollution are linked to heart disease death," said Sumeet Mitter, lead researcher from Northwestern University in the US.

"Our study, using exposure history and time, is the first to find a significant and independent increased risk for all-cause, total cardiovascular disease and heart attack deaths due to increasing lifetime exposures to household air pollution from kerosene or diesel burning," said Mitter.

Researchers measured exposure from indoor pollution generated from burning kerosene, wood, diesel, cow dung and natural gas in an observational study of a community in northeastern Iran from 2004 to 2008.

Of the 50,045 study participants (average age 52 at enrolment) 58 per cent were female. Most study participants were of Turkmen ancestry (74 per cent) and lived in rural areas (80 per cent).

Participants completed lifestyle questionnaires that tabulated exposure to household fuels for cooking and heating throughout their lives. Blood pressure and other body measurements were regularly documented.

They found that participants who burned kerosene or diesel had a 6 per cent higher risk of dying from all causes during a 10-year period, 11 per cent increased risk of cardiovascular death, and 14 per cent increase in ischemic (clot-caused) heart disease.

Conversely, those who used natural gas had a 6 per cent lower risk of cardiovascular death compared to other fuels.

"Since heart disease is the leading cause of death worldwide, it is important for physicians to assess for a number of modifiable risk factors for heart disease, including household air pollution, so that they can intervene and help patients and communities worldwide transition to cleaner burning fuels and reduce the risk for cardiovascular death," said Mitter.

The findings were published in the journal journal Circulation.

Diesel cars in London increase despite air pollution warnings

Date: 15th June, 2016 Source: The Guardian



Figures show the numbers of licenced diesels rose by 29% from 2012-15, despite warnings over their contribution to illegal levels of air pollution

Diesel vehicles have taken a record share of the market on London roads in recent years, despite warnings blaming them for contributing to the capital's illegal levels of air pollution.

Sadiq Khan, the new mayor of London, has been lobbying for a diesel scrappage scheme, a policy that was backed by his predecessor, Boris Johnson, as a way of tackling the illegal high nitrogen dioxide (NO2) levels caused by diesels.

Experts have been speaking out since 2012 about the link between diesel vehicles and the toxic gas, which is above EU limits in dozens of British cities.

But the warnings have not been heeded by motorists, with the number of diesels licenced in London rising from 601,456 in 2012 to 774,513 in 2015, an increase of nearly 29%. Petrol vehicles fell over the same period, from 1,901,127 to 1,797,099, leaving diesel with a record high percentage of the market, at 29.4%.

"Government can no longer turn a blind eye to the serious consequences of diesel emissions," said Leonie Cooper, Labour's London assembly environment spokesperson, who obtained the figures from the Department for Transport.

"This worrying rise in diesel engines shows that they are running out of opportunities to bat away calls for a scrappage scheme."

While the government has rejected calls for a diesel scrappage scheme, the transport secretary, Patrick McLoughlin said last week that the chancellor would need to consider increasing tax on diesel fuel to address air pollution.

However, new diesel cars sold since September 2015 have had to meet stringent new standards which cut nitrogen oxide emissions – which include NO2 – by 67% on the previous standard.

Cooper also criticised the "lax" mayoral record of Johnson on pollution, who was recently accused of burying a report revealing the severity of the city's dirty air problem and how it disproportionately affected children at poorer schools.

Khan's first major policy announcement was to say he would double the size of a planned clean air zone in London, and bring it in a year earlier than planned.

This week Khan added that he would like to get new powers to set 'road tax' rates, vehicle excise duty, which has been blamed by campaigners for incentivising the switch to diesel.

“VED [vehicle excise duty] collected from London registered vehicles could be devolved, allowing the mayor to set the rates and determine how the income raised is spent. If VED was devolved, it would be possible to restructure the way it is levied so as to tackle air quality by incentivising cleaner vehicles and investing VED revenue into air quality measures,” said a submission by the mayor to a court case being brought against the government over its clean air plans. Khan joined the high court challenge by NGO ClientEarth last month.

A spokeswoman for the mayor said: “Cleaning up London’s toxic air will be impossible without urgent government action. National policies caused the dieselisation of the vehicle fleet so it is only right government now sort out the consequences.

“Implementing a national diesel scrappage scheme is something that should have been addressed years ago and would quickly reduce the number of polluting vehicles driving throughout the capital every day.”

A public consultation will take place this summer on his new measures to tackle air pollution in London.

NZ air pollution updated in real time, online

Date: 16th June, 2016 Source: Radionz



New Zealanders can now monitor air pollution in 150 locations throughout the country with just a click of a mouse.

The website [https://www.lawa.org.nz/explore-data/auckland-region/air-quality/

Land, Air and Water Aotearoa] has launched a real-time monitoring system for 150 locations throughout the country.

The website is a partnership between the country's 16 regional and unitary councils, the Ministry for the Environment, the Cawthron Institute and Massey University.

Environment Canterbury senior air quality scientist Teresa Aberkane said pollution levels are measured by the amount of particulate matter, known as PM10, in the atmosphere.

"It could be a combustion particle, so something when wood has been burned or coal or diesel [or] petrol combustion in a vehicle, it can also be a natural particle like dust or sea salt marine aerosol. Any kind of particle that's in the air, that's small enough to be inhaled."

Canterbury Medical Officer of Health Dr Alistair Humphrey said the website meant anyone could see how their environment was changing - for better or for worse.

"Poor air quality is a silent killer which accounts for more than 2300 premature deaths in New Zealand every year. About one half of these deaths are from man-made pollution."

The chair of Local Government New Zealand's regional sector Stephen Woodhead said good air quality was fundamental to New Zealanders' health.

"Over the winter months, air quality can be an issue for many towns and cities in the colder areas of New Zealand."

Mr Woodhead said the launch had come just in time.

"Primarily this is a winter problem and primarily 80 to 90 percent of the source of the pollutants comes from home heating, so it's crucial that communities use good clean dry fuel and maintain their woodburners."

Mr Woodhead hoped the website would help communities make management changes around the use of woodburners.

PM10 levels in Rotorua are a particular focus for the Bay of Plenty regional council.

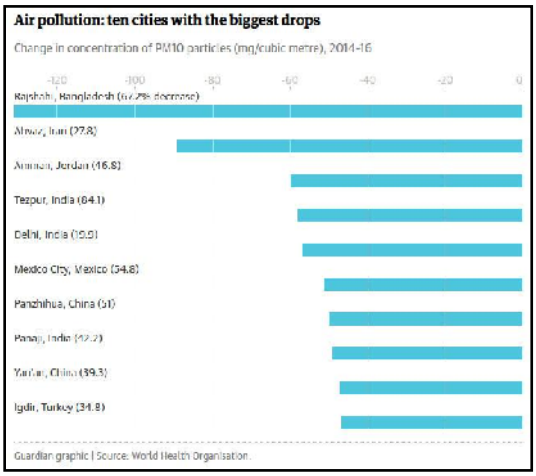
The council's environmental scientist Shane Iremonger said air quality within the city in winter regularly exceeded the level set by the Ministry for the Environment.

Mr Iremonger said the pollution levels were being largely caused by the use of older wood and log burners used for home heating.

"We hope publishing this monitoring data on LAWA will help grow awareness and understanding of air quality issues and the work we do to keep our air clean and free of pollution."

Rajshahi city took on air pollution and won

Date: 18th June, 2016 Source: Dhaka Tribune



Once, Rajshahi's sweltering summers were made worse by a familiar problem on the Asian subcontinent: windows would have to be shut, not because of the wind or monsoon, but because of the smog.

Dust blown up from dry riverbeds, fields and roads, and choking smog from ranks of brick kilns on the edge of town helped to secure the place a spot in the top tier of the world's most polluted cities.

Then suddenly Rajshahi, in Bangladesh, hit a turning point so dramatic that it earned a spot in the record books: last year, according to UN data, the town did more than any other worldwide to rid itself of air particles so harmful to human health.

"We didn't know about this," admits Ashraful Haque, the city's chief engineer, who like some of his fellow residents is rather bemused by the achievement.

Rajshahi does not have a large industrial area, and it is too poor to have streets clogged with cars. Instead, Haque believes it was the campaign to clean up thebrick kilns, as well as efforts to make the city greener, that have turned the tide.

Levels of larger PM10 particles went from 195 micrograms per cubic metre in 2014, to just 63.9 in 2016, a reduction of about two-thirds, and the largest in the world in absolute terms. Smaller PM2.5 particles have been nearly halved to 37 micrograms per cubic metre from 70.

Haque, who was born and educated in the city, remembers as a child having to close windows and doors to shut out a thin film of dirt that would settle across every surface in the house when a wind swept in from outside.

Nowadays it's a different city, thanks to the campaign that began with a tree-planting drive more than 15 years ago, and now encompasses everything from transport to rubbish collection. Dust still hangs heavy in the air on occasions, but the transformation has been welcomed by local residents in a country where urban authorities more often generate frustration and resentment.

"Things have got better for my classmates with asthma," said Fatema Tuzzohra, a 13-year-old enjoying a riverside park after school. "I love the city, it is really clean and green."

The city began tackling transport issues in 2004, importing a fleet of battery-powered rickshaws from China, and banning large lorries from the city centre in daytime. The three-wheelers are the main form of public transport, and their batteries keep the air free of the petrol and diesel fumes that hang over other cities.

Upgrades to the brick kilns, such as changing chimneys and fuel, have reduced the amount of pollution they spew out around the city, Haque says. And he has personally designed and overseen a project to make the city centre greener while reducing the amount of dust kicked up by people and vehicles.

"We have a 'zero soil' programme in the city, with lots of planting and green intervention. When it works, there should be no part of the road that will be dirt. It will be all grass, flower or pavement," says Haque.

He became convinced that the city needed more pavements after trips to study urban planning abroad. At the time the asphalt surfacing of the city roads mostly ended in a dusty verge, sometimes with open drains, dangerous and unappealing for walking along, he said.

"In 2010, after a visit to London, I started creating pavements. I couldn't believe it, everyone has to walk at least 2km a day [in London], but here people finish lunch and look for a rickshaw. Even in the good neighbourhoods, there are no pavements."

Apart from encouraging a healthier lifestyle, they are vital for controlling dust in the air, he says. "If you have them, no soil will fly during the summer seasons." So far they have built about 9 miles (15km) of pavements, but soon hope to expand to 30, he said.

The road transformation will go beyond pedestrians this month, when city workers start building the city's – and the country's – very first cycle lane.

Take-up is likely to be slow in a city already sweltering in the summer heat, and where the only people on bicycles are those too poor to afford other transport, Haque admits. But inspired by trips abroad, he hopes to sow the first seeds of change.

"I went to the river Thames and saw people riding bikes, I got the idea from Japan and China as well. We don't have enough land for a separate lane in many places, but where we can we will separate with a border, making a pavement and a cycle lane beside it."

People are proud of their town, and have started looking after it more closely after the transformation, says restaurateur SM Shihab Uddin, who spent nearly a decade working in Cyprus before returning to open his own chain of eating spots for the growing middle class.

"It has changed so much," he said. "I came back in 2009, and I was worried that I would find it hard to live here after so much time abroad. But it was already transformed."

The small city of Tezpur in east India has traditionally had little to brag about. The holy Brahmaputra river roars at its edges and the mighty Himalayan mountains adorn its skyline, but couched between these geographical marvels, Tezpur itself is little more than a layover stop for travellers in the state of Assam.

But while many of India's industrial towns have reached peak pollution levels, Tezpur's air is getting cleaner. Since the last WHO air-quality report in 2014, Tezpur's PM10 pollution, caused by dust particles, has reduced more than any other Indian city to close to 15% of the level it was.

Tezpur's PM10 levels now stand at 11mg per cubic metre. According to WHO guidelines, the permissible limit for PM10s is 20mg per cubic metre.

Tezpur's air-quality improvement stands out in India, where focus on industrial development and rapid urbanisation in recent years has driven pollution levels up in most other cities. According to the WHO report, six of the 10 most polluted cities in the world are in India, putting millions of people at serious risk of cardiac and respiratory infections.

M Nath, senior environmental engineer at the Pollution Control Board, says Tezpur's clean air is noticeable to travellers from other cities. "When we have visitors from other cities like Delhi or Guwahati, they immediately feel the difference in the air quality here," Nath says. "But we're a small city, we don't have any major industries that cause a lot of pollution and people are conscious [about the environment]. It may not be so easy in other places."

What runners and cyclists need to know about our air pollution

Date: 19th June, 2016 Source: The Seattle Times



A local runner explores what the recent air-pollution study, led by a UW professor, could mean to people who like to exercise in the urban outdoors.

You've seen us — crowds of runners, cyclists and walkers, bouncing and shifting in place amid idling cars at stoplights. After all, the area's running trails, bicycle-friendly roads and high walkability scores have helped Greater Seattle ascend to sixth place in the 2016 "Fittest City" ranking by the American College of Sports Medicine.

On any given day, my friends and I are among the people you see using the trails for recreation or transportation.

We've discovered firsthand the downside to our city's popularity and livability: traffic. Seattle now ranks fourth worst among U.S. cities in traffic congestion, according to TomTom Traffic Index. More vehicles, more waiting.

And with traffic comes pollution, which, according to a recently released University of Washington study, triggers biological processes that lead to heart disease. Should Seattle-area residents training for century bike rides and marathons be concerned?

Confidentially: I am! Because among my urban running peers, only a small subset — including me — actually has to mind health metrics like cholesterol and coronary calcium scores. But all of us believe, down to our zero-drop insoles, that exercise helps prevent heart disease. Now, evidence shows that outdoor exercise may contribute to it.

The MESA Air study, led by Dr. Joel Kaufman, a UW professor and environmental-health specialist, showed how long-term air-pollution exposure increases coronary calcium deposits. These deposits block the flow of blood, causing heart attacks and strokes.

Researchers used computed tomography (CT) scans and other tests to measure their subjects' exposure to soot, nitrogen dioxide and oxide, and microscopic particles called PM2.5. Unfortunately, athletes who train outside are at greater risk from these pollutants because they inhale 10 to 20 percent more air than sedentary people.

Dr. Dan Tripps, chief operating officer and director of exercise and science at Potentrx in Seattle, says it is because athletes shift from nasal breathing, which filters some bad air, to breathing through their mouths. While doing so, they are increasing not only their breathing rate, but the volume of air ingested, and the particles that come with it.

What are the study's implications for outdoor athletes? Kaufman, a bicycle commuter, believes the benefits of exercise outweigh the risks. He cites major improvements in U.S. air-pollution reduction as one reason outdoor exercise is generally safe, although he adds, "Thus far, we haven't seen any safe level of pollution."

While fitness apps encourage athletes to fixate on training metrics and dashboards, Tripps encourages people to focus on their "heart metrics" — blood pressure numbers, cholesterol levels, and (for at-risk individuals) coronary calcium scores. Those concerned about air pollution's impact on their heart can create a personal dashboard, he says, and use those numbers to monitor their health and performance.

Dust, vehicle smoke responsible for bad air

Date: 19th June, 2016 Source: The Times of India

Pune: Pollution levels in Delhi, Uttar Pradesh, West Bengal and Bihar may be among the worst, but Maharashtra is also among the states where the air quality is horrendous and responsible for people's deaths.

Closer home in Pune, experts said dust, vehicular emissions and industrial emissions are mostly responsible for the poor air quality. Pune also features among Maharashtra's worst-polluted cities in a recent World Health Organization (WHO) report.

The report on the air quality of urban areas compares various cities in the world. It said Pune has 92 micrograms per cubic metre of PM10, which is almost 1.5 times higher than the national ambient air quality standard of 60 micrograms per cubic metre. Although Pune's air quality fares better, the dust on the roads and that produced by construction cannot be ignored.

"The dust particles or particulate matter 10 is high in the city and above the prescribed level," Pune Municipal Corporation's environment officer Mangesh Dighe said. According to Indian Institute of Tropical Meteorology (IITM) data, the air pollution has increased by 35.7% since 2010.

"Pune is in the top five cities when we talk of lung diseases in the country. Although awareness has increased on air pollution and its ill-effects, a lot more needs to be done," chest physician Nitin Abhyankar said.

Shivajinagar, Hadapsar, Katraj, Lohegaon and Bhosari are polluted. Analysts say this may be due to heavy concentration of vehicles and industries in these areas.

A study by the IITM in collaboration with National Centre for Atmospheric Research (NCAR), Colorado, said that Maharashtra records 10% of the country's deaths due to pollution.

The state's most polluted cities, as per the WHO report, include Akola, Nagpur, Chandrapur, Jalgaon, Kolhapur Nashik, Amravati, Navi Mumbai, Mumbai and Pune. While PM10 is formed mostly of dust, PM2.5 particulate matter comes mostly from vehicular emissions.

Experts have noticed that although the air quality of Pune is better than Delhi and Mumbai, it is mostly 'moderate', it did have 'poor' air quality on certain days. "Pune city sees a lot of variation in the air quality. Colder temperatures lead to a rise in the air pollution as particulate matter hangs or remains suspended in the air. Hence, in the winter months, air pollution levels are recorded higher than the other months. Also, in the other months, during festivals like Diwali and New Year, the levels rise again and go into the moderate or poor category," a researcher with the System of Air Quality Forecasting and Research (SAFAR) project said.

In May and June, pollution levels are relatively lower than the other months. In Pune, the average concentration of PM2.5 in May this year was recorded as 38.02 and in Mumbai as 48.49 micrograms per cubic metre.

A senior scientist explained that permissible level of PM2.5 is 60 micrograms per cubic meter (ug/m3). Levels above that limit is a cause for concern, even if it lies in 'moderate' or 'poor' quality levels. High PM2.5 concentrations cause respiratory diseases like asthma and bronchitis. These particles can also penetrate deep into the lungs and blood stream.

Experts and doctors have expressed concern about the rising fine particulate matter. Sundeep Salvi, director of the Pune-based Chest Research Foundation, reiterates that regular exposure to such pollutants causes ischemic heart diseases.

The IITM report said there were around 2.5 lakh premature mortalities in 2011 due to exposure to PM2.5 and O3.

Clogged with traffic, bridges choke Ahmedabad's daily breath

Date: 19th June, 2016 Source: The Times of India



Ahmedabad: In an unprecedented move to quantify and address the growing menace of air pollution, three organizations -- System of Air Quality and Weather Forecasting And Research (SAFAR) of ministry of earth sciences, IIPH-Gandhinagar, Space Applications Centre (SAC) -- have prepared the largest emission inventory of Ahmedabad.

An exhaustive 81,217 emission sources - from road stretches, industry and housing clusters, small and micro enterprises and even kitchen in

households -- were studied. Some startling preliminary discoveries found that Subhash bridge saw the highest traffic of 1.7 lakh vehicles passing from 6 am to 11.59 pm on any weekday, pushing up huge amounts of vehicle emissions into air, followed by Nehru bridge with 1.22 lakh vehicles, Ellisbridge 1.20 lakh and express highway with 1.1 lakh vehicles.

"This vehicle data is critical, emissions released by 1 litre of diesel is equivalent to burning 10 litres of petrol. The vehicle count has revealed that light commercial, and heavy commercial diesel vehicles, with rising private diesel vehicles pose a serious concern for Ahmedabad," says SAFAR project director Dr Gufran Beig.

The survey found that among the 1.8 lakh vehicles that were counted every day on arterial stretches, four-wheeler petrol vehicles constituted 48% and diesel vehicles 30%, rest were CNG vehicles.

Ninety per cent of most polluting light commercial vehicles and 86% heavy commercial vehicles are run on diesel. The high court has directed the state government to ensure that all vehicles plying on Gujarat roads should be converted to CNG to curb air pollution.

CEE founder-director Karitekya Sarabhai, who was present during the presentation, said, "Right to clean air is a citizen's right. Unless there is support from public and collaborations between various concerned agencies, we cannot counter this threat."

Angry residents challenge inconclusive air pollution study in N Portland

Date: 20th June, 2016 Source: Oregonlive



A $375,000 study has not yet found the source of odors in North Portland, and it found air pollution no higher than levels detected at another monitoring station nearby, state regulators reported on Monday.

Residents were not satisfied with the state's analysis or its responsiveness to their concerns.

"If I had a little kid I'd be afraid to let them out or to play outside," said Pam Allee, 70, at a community meeting in North Portland. "You guys gotta do a little bit more."

About 100 people attended the meeting with Oregon Department of Environmental Quality officials and lawmakers.

The monitoring that yielded the results was prompted by numerous odor complaints near Swan Island. House Speaker Tina Kotek, D-Portland, secured funding from the Oregon Legislature in 2014 to identify the source of the reported odors and to determine whether they carry with them toxic metals.

The air monitors found numerous compounds at levels above state safety benchmarks. But environmental quality officials said almost none was higher than at a Portland air monitor on North Roselawn Street, a few miles away from Swan Island.

Some at Monday's meeting cast doubt on the results. University of Portland assistant professor Ted Eckmann called the findings deeply flawed.

The environmental quality department compared one year of monitoring in North Portland to half a year in Roselawn, Eckmann said. Seasonal variations lead to different levels of compounds, rendering the comparison wrong.

"Nothing you see up here is statistically valid," Eckmann said, pointing to a graph of the results projected behind the panel of experts and policymakers.

At the same time, the monitoring data appeared to add fuel to some legislators' push to enact legislation that cuts diesel pollution in Oregon's air.

Sen. Michael Dembrow, D-Portland, is on a state work group dedicated to drafting legislation that would address diesel. He talked at the meeting about the dangers diesel poses to human health, as well as proposals under consideration by his work group.

Three bills tackling diesel were filed in 2015 – two by Dembrow and one by Rep. Mitch Greenlick, D-Portland – but none passed.

About 460 people in Oregon die prematurely because of diesel pollution, according to the Oregon Environmental Council.

The search for the source of the odors is ongoing, said Marcia Danab, a Department of Environmental Quality spokeswoman.

-- Fedor Zarkhin

Air Pollution And 4 Other Things That Threaten Mental Health Of Kids

Date: 20th June, 2016 Source: The Alternative Daily



When we think of air pollution and the health issues it may trigger, many of us think of coughing, wheezing, and other breathing difficulties. While these are certainly very real and dangerous effects, air pollution may be harming us, and our children, in more ways than we may have imagined.

Along with the potentially devastating physical effects of air pollution, a new study performed at Umeå University in Sweden and published in BMJ Open has linked air pollution to psychiatric disorders in children.

For their study, researchers analyzed approximately half a million children and teens under the age of 18 across four major counties in Sweden. The data was collected between 2007 and 2010. Researchers noted various medications for mental health disorders that were prescribed to these children. These included antipsychotic drugs, sleeping aids, and sedatives.

The researchers then compared this data to the levels of nitrogen dioxide (a gas emitted by vehicles) in the areas where the children and teens lived. Results of the analysis found a correlation between higher air pollution and the risk of children being prescribed meds for one or more psychiatric disorders.

From their research, the study authors concluded:

“There may be a link between exposure to air pollution and dispensed medications for certain psychiatric disorders in children and adolescents even at the relatively low levels of air pollution in the study regions. The findings should be corroborated by others.”

Lead researcher Anna Oudin added:

“The results can mean that a decreased concentration of air pollution, first and foremost traffic-related air pollution, may reduce psychiatric disorders in children and adolescents.”

While more research needs to be done on this, it does seem that vehicle emissions may pose some serious dangers to developing minds.

This is scary enough in itself, but air pollution isn’t the only thing threatening kids’ mental health these days. The following are four other culprits:

Screen time

Many teenagers, and even many young children, spend WAY too much time staring at screens nowadays. All of those hours can lead to insufficient sleep, and a whole lot of sitting around, which is dangerous for both the body and the mind.

Much of this screen time centers around social media. Too much time spent on social media sites has been linked to mental health issues including anxiety and depression, as well as lowered social skills.

Bullying

Related to the issue of screen time is the issue of bullying. This isn’t just done in school hallways and bathrooms anymore: as we all know, it often takes place online. When kids are bullied, their self-esteem may take a huge hit, and the bullying may pave the way for insomnia, anxiety, depression, and more.

Sedentary behavior

Did you know that some health experts have equated the dangers of sitting for too long with the dangers of smoking? Between classroom time and screen time, many kids are sitting around for hours on end, which may lead to depression.

Junk food

Let’s face it: many beloved children’s foods are chock-full of sugar. Added sugars may lead to depression, anxiety, mood swings, and cravings for more sugar. While many parents use it to reward their children, this system requires some revamping, because why reward kids with something that can harm their physical and mental health?

Along with sugar, other packaged foods, including those that contain processed carbohydrates and trans fats, may lead to anger and other mental health disturbances.

So, what can we do to help our kids thrive, and reduce their risk of developing mental health issues? Taking an active role in our children’s lives is a huge part of this. Engage them in active quality time, away from screens. This nourishes both their bodies and their minds, as well as your relationship with them. Cook healthy meals with your kids whenever possible, to give them both an appreciation for real food, and the skills to prepare it.

As far as air pollution, choosing a green commute whenever possible is a start, but doesn't solve the problem. Until more and more communities come together to really start reducing carbon emissions, polluted air poses hazards to all of us. This is something we as a planet really need to take seriously, and address on a large scale.

-Tanya Rakhmilevich

Solano smog prompts air pollution alert

Date: 21st June, 2016 Source: Daily Republic

FAIRFIELD — Smog that's expected Tuesday led air quality officials Monday to call to a pollution alert across a large swath of Solano County.

The Bay Area Air Quality Management District projects air quality Tuesday in the district's Eastern Zone that's unhealthy for people who are sensitive to air pollution – such as people with asthma or some other condition that affects their ability to breath freely.

Southern Solano County, to include Fairfield, Suisun City, Travis Air Force Base, Benicia and Vallejo, are in the district's Eastern Zone. Air quality should remain moderate throughout the district 's remaining four zones, according to the district, but residents there will still be under a Spare the Air alert.

Residents in the Yolo-Solano Air Quality Management District should see moderate air quality Tuesday, based on forecasts in that district.

The Yolo-Solano district includes northern Solano County along with Vacaville, Rio Vista and Dixon.

Summertime Spare the Air alerts are issued when ozone pollution is forecast to reach unhealthy levels. Ozone, or smog, can cause throat irritation, congestion, chest pain, trigger asthma, inflame the lining of the lungs and worsen bronchitis and emphysema, according to the air district. Long-term exposure to ozone can reduce lung function, the district said.

Solano County residents weathered three consecutive days of air pollution alerts early this month. Last summer's first Spare the Air alert occurred in late July.

The National Weather Service predicts a high Tuesday of 94 at Travis Air Force Base, with winds from the west-southwest of 7 to 9 mph during the day.

High temperatures and pollution from the exhaust of cars and other vehicles combine to produce smog, which lingers when winds are not strong enough to clear the air.

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Trader Joe's Will Spend $2 Million to Fix Alleged Air Pollution Violations

Date: 21st June, 2016 Source: Fortune

Trader Joe's agreed to spend $2 million to reduce refrigerator coolant leaks at 453 stores, to settle federal claims it failed to promptly repair leaks that deplete the ozone layer and contribute to global warming.



Trader Joe's also agreed to enter a consent decree and pay a $500,000 civil fine to resolve claims it violated the Clean Air Act, the U.S. Department of Justice and Environmental Protection Agency said on Tuesday.

Regulators said the accord is expected to cut greenhouse gas emissions equal to the amount generated by more than 6,500 cars each year.

They also said Costco COST -0.94% and Safeway SWY 0.00% previously settled cases over refrigerants, but that Trader Joe's accord is the EPA's first requiring repairs of hydrofluorocarbon leaks to reduce greenhouse gas emissions.

Trader Joe's did not admit liability in agreeing to settle.

A spokeswoman, Alison Mochizuki, did not immediately respond to requests for comment.

Trader Joe's is privately held, and based in Monrovia, California.

Regulators accused Trader Joe's of failing to promptly fix leaks of R-22, which is used as a refrigerator coolant but also depletes the ozone and has 1,800 times more global warming potential than carbon dioxide. They also said the company failed to keep adequate servicing records.

Under the consent decree, Trader Joe's agreed over the next three years to reduce its leak rate to less than half the average in the grocery store sector, and to use non-ozone depleting refrigerants at all new and heavily remodeled stores. It also agreed to improve its leak monitoring and recordkeeping.

The terms "set a high bar for the grocery industry for detecting and fixing coolant leaks," Cynthia Giles, assistant administrator for the EPA Office of Enforcement and Compliance Assurance, said in a statement.

Trader Joe's has 461 stores in 43 states and Washington, D.C., and in 2014 had $9.38 billion of revenue, the government said.

Safeway was bought last year by investors including private equity firm Cerberus Capital Management LP.

Young minds tune in to air pollution

Date: 21st June, 2016 Source: Third Force News



Youth, science and environmental bodies come together to harness the power of young minds to tackle air pollution

Young Scots have been putting their thinking caps on about creative ways to tackle the growing problem of air pollution.

A partnership between youth information service Young Scot, Glasgow City of Science and the Scottish Environment Protection Agency as part of Glasgow Science Festival saw teenagers between the ages of 14 and 20 start developing ideas to pitch to a Dragon's Den style panel of experts later this year.

The young people took part in activities, science experiments and learning around the harmful impacts of air pollution, which is an increasing health and environmental issue in Scotland's urban areas, especially in large cities like Glasgow and Edinburgh.

The event, called Air Time, gave participants some fast-track learning on the issue of air pollution before giving them the opportunity to come up with new digital ideas to tackle the problem to present back to top industry at Venturefest Scotland, Scotland's annual innovation summit held at Glasgow Science Centre on 1 September 2016.

Dr Susie Mitchell, programme director of Glasgow City of Science, said: "Air Time was a great success – it really got the young people thinking about this important issue, the impact it has, and the part they can all play in addressing the problem.

"Opportunities that upskill, inspire and encourage entrepreneurial thinking in our young people can boost competitiveness and growth in a smart, sustainable and inclusive way. I can't wait to see how the young people translate their new knowledge from today's inspirational event into creative business ideas at VentureJam in August."

Louise Macdonald, Chief executive of Young Scot, added: "Making the country a cleaner and greener place is important to many young people and this was plain to see in level of passion displayed by the participants at Air Time. We were pleased to see so many fantastic ideas on show. If we want to tackle the big issues of our time it's vital we tap into the creativity and insight of young people."

Air Time with VentureJam was a taster event for VentureJam 2016, an innovative three-day hackathon-style activity for young people across Scotland to co-design and co-develop innovative new ideas to improve the air we breathe.

VentureJam is set to run in the first week of August and is a part of the programme for Venturefest Scotland.

Discussing the success of Air Time, Dr Colin Gillespie, principal air scientist at SEPA: "Involving young people and allowing them to lead on the message they feel should be delivered, or what the solutions could be, is a very effective way to raise awareness of the problem of poor air quality, which unfortunately seems to have been in the news all too often in recent months.

"Poor air quality contributes to thousands of premature deaths across the UK every year, as well as the impact it has on our environment."

How a city in Bangladesh famously won its war on air pollution

Date: 22nd June, 2016 Source: Inhabitate



Rajshahi, a city in Bangladesh, used to be known for was air pollution. Locals battled dust and smog, often leaving windows closed on stifling summer days to avoid gathering a layer of dirt inside. It was ranked as one of the "world's most polluted cities". Then they turned things around. In a surprise success story, Rajshahi cut more air pollution than any other place on Earth.

fforts to address pollution in Rajshahi began over 15 years ago with a drive to plant trees. About 12 years ago, the city addressed transportation pollution by purchasing rickshaws from China that are battery-powered, cutting down on fumes expelled by diesel- and petrol-powered vehicles. Large trucks were banned from entering the city center during the day. Brick kilns were outfitted with different chimneys and fuel to reduce pollution.

Inspired by visits to London, China and Japan, Rajshahi's chief engineer Ashrafel Haque started building new, better pavements in the town. These not only encourage people to walk, but also help keep dust levels down. So far the city has built around nine miles of pavement, with plans to build an additional 21 miles. Haque is also working to install Bangladesh's first bicycle lane which will further reduce the need to use cars and other polluting vehicles.

Concentrations of PM10 and PM2.5, measurements of coarse and fine particle pollution, show the difference in air pollution levels. Between 2014 and 2016, PM10 levels plunged from 195 micrograms per cubic meters to 63.9, nearly a two-third reduction. PM2.5 levels dropped from 70 micrograms per cubic meter to 37.

Residents now express pride in Rajshai, and residents with asthma report life is particularly better for them now. According to The Guardian, now that the city has been cleaned up, locals work harder to keep it clean.

Land Air Water Aotearoa website monitors New Zealand's air quality

Date: 23rd June, 2016 Source: Stiff



Marlborough District Council environmental science and monitoring manager Alan Johnson with a high volume machine measuring air quality.

Residents wanting a breath of fresh air can go online to check how their region's air quality measures up.

National website Land Air Water Aotearoa has added air quality data from about 150 monitoring sites around the country to its site, which also allows people to see water quality information.

Website users can see up-to-date air quality information every hour, as well as daily, monthly and annual reports.

Air pollution levels in Blenheim were exceeded on May 26, June 9 and June 16 this year.

The site shows the results for PM10 particles, which are produced by the combustion of wood and fossil fuels and various industrial and natural processes.

High levels of PM10 are associated with coughing and wheezing, asthma attacks and bronchitis, high blood pressure, heart attack, strokes and premature death.

PM10 levels in Nelson South have not been exceeded so far this year, and neither have levels in central Dunedin, but levels in Christchurch have been exceeded twice this month, according to the website.

Timaru has exceeded PM10 levels 10 times in June, and a total of 12 times this year.

Marlborough District Council environmental science and monitoring manager Alan Johnson said air quality in Blenheim was measured at the Blenheim Bowling Club on Weld St.

The results were fed onto the council website and also onto the LAWA website in real time.

The aim of collating the data was to educate people about air pollution and to measure whether national standards were being met, Johnson said.

Councils from around New Zealand were getting involved with the website.

Two different measuring methods were used in Blenheim, the BAM (Beta Attenuation Monitor) which measured air quality in real time, and a high volume machine.

Data collected every three days through the high volume machine would be sent to be analysed at a laboratory at the end of the year, Johnson said.

The reason Blenheim had more air pollution than some larger centres like Dunedin and Wellington was partly due to the geography and climate of the town, Johnson said.

Blenheim tended to have very cold winter nights with little wind, causing smoke to build up in the air.

The geography and climate of every town was different, Johnson said.

Average temperatures and wind speeds were also available on the website.

An Environet air quality report into the state of Blenheim's air in 2015 said the main source of pollution during the winter months was solid fuel burning for domestic heating.

The report revealed Marlborough exceeded air pollution levels four times last year.

The quality was breached once in May 2015 and three times in July.

London's Plan for a Proper Air Pollution Warning System

Date: 23rd June, 2016 Source: CityLab



London will introduce a robust air pollution warning system, says the city's new mayor, Sadiq Khan. In an announcement made earlier this week, Khan promised to forge new ways to warn the public about poor air quality, using such means as electronic displays and text alerts.

The plan comes at the right time. While London has made efforts to reduce emissions in recent years, public awareness of the city's air pollution problem remains low, sapping much of the potential for meaningful action.

A proper warning system could change this. The exact package of warnings is as yet to be determined, but possible measures include notifications of moderate, high or very high pollution at Tube stations and bus

stops, which already have suitable electronic displays. Similar displays on major roads, already used to warn of congestion, could also be installed, as could a free SMS warning system, which especially vulnerable groups such as asthmatics could be signed up to by their doctors. Finally, the mayor's office has vowed to communicate pollution alerts more fully on social media and through press releases to the traditional media.

This information upgrade is something London badly needs. The more proactive example of Paris shows just how much. When unusually high pollution hits the French capital, significant action is taken, such as during a pollution peak in 2014 when a driving ban was introduced until conditions improved. This not only reduced pollution levels, it also increased public awareness of the problem in a way that allowed the city to take more drastic anti-pollution action in the years that followed.

London actually suffered a similar air pollution spike during the same period as Paris's car ban, laboring as it was under not dissimilar climactic conditions. In Britain's capital, however, no action was taken. Indeed, then-Mayor Boris Johnson passed the buck on from motor vehicle emissions to a handy deus-ex-machina: a cloud of "Saharan dust" blown across the Mediterranean by freak winds. This dust was indeed a factor, but its effect compared to other pollutants was significantly exaggerated, pushing a public sense that the city's terrible air quality was an unavoidable act of nature rather than something that could be alleviated by city policy. And while Paris's pollution wake-up call led to a crackdown on diesel vehicles, their share of the London vehicle fleet actually grew between 2012 and 2015. Meanwhile, Londoners suffered, with emergency call-outs for residents with respiratory diseases rising by 14 percent during the "Saharan" emergency, surely just the iceberg's tip when considering the overall effects to residents' long-term health.

Steadily, London's terrible air quality has become more of a story. The ability of some London streets to exceed annual E.U. guidelines on safe pollution levels within a week of new year is now notorious. Various parts of London are also emerging as known blackspots for particulate pollution, and with that knowledge comes pressure for action. But as a Londoner with asthma, I still tend to find out about pollution crises the hard way—by suddenly noticing that I'm wheezing abnormally when running for a bus. The public has a right to proper information about health hazards like these. Without it, there's little chance of improvement.

Air pollution major worldwide risk factor for stroke

Date: 23rd June, 2016 Source: Healio

Nearly 30% of the global burden of stroke can be attributed to air pollution, researchers reported in The Lancet Neurology.

According to study data published by Valery L. Feigin, MD, MSc, PhD, FAAN, and colleagues, more than 90% of global stroke burden is related to modifiable risk factors, approximately 74% of which are behavioral risk factors including smoking, lack of physical activity and poor diet. The researchers estimated that if these behavioral risk factors could be controlled, approximately 75% of all strokes would be prevented.

"A striking finding of our study is the unexpectedly high proportion of stroke burden attributable to environmental air pollution, especially in developing countries," Feigin, from Auckland University of Technology, New Zealand, said in a press release. "Smoking, poor diet and low physical activity are some

of the major risk factors for stroke worldwide, suggesting that stroke is largely a disease caused by lifestyle risk factors."

The researchers used data from the Global Burden of Disease Study 2013 on stroke-related disability-adjusted life years (DALYs), risk factors and population-attributable fractions to calculate age- and sex-adjusted burden of stroke in 188 countries.

Feigin and colleagues evaluated DALYs attributable to 17 risk factors and six clusters of risk factors, and they calculated relative risks based on meta-regressions of existing cohort and intervention studies.

An administrative record system also was used to observe risks related to diet and alcohol consumption. Due to a lack of data, certain factors could not be included, such as atrial fibrillation, substance abuse, patterns related to smoking, BMI or underlying genetic risk factors.

According to the researchers, 90.5% (95% uncertainty interval [UI], 88.5-92.2) of stroke burden as expressed by DALYs could be attributed to the modifiable risk factors analyzed. Of this burden, 74.2% could be attributed to behavioral factors.

The second largest contributor to DALYs was metabolic factors, including high systolic BP, high BMI, high fasting plasma glucose, high total cholesterol and low glomerular filtration rate (burden, 72.4%; 95% UI, 70.2-73.5), according to the researchers.

The third largest contributor to DALYs was environmental factors including air pollution and lead exposure (burden, 33.4%; 95% UI, 32.4-34.3), and 29.2% (95% UI, 28.2-29.6) of the global burden of stroke could be attributed to air pollution, Feigin and colleagues wrote.

Stroke burden due to behavioral, environmental and metabolic risk clusters did not significantly differ by sex, but the population-attributable fraction of behavioral risk factors was greater for men in low- to middle-income countries.

In high-income countries, the five greatest risk factors for DALYs were high systolic BP, high BMI, diet low in fruits, diet low in vegetables, and smoking. In these countries, the researchers wrote, metabolic and behavioral risk factors were the two leading causes of stroke-related DALYs, accounting for 15.2 million (70.7%) and 15 million (69.5%) DALYs, respectively.

The five leading risk factors in middle- to low-income countries were high systolic BP, diet low in fruit, diet high in sodium, high BMI and smoking. Factors that contributed to DALYs included behavioral (75.4%), metabolic (72.8%) and environmental risks including pollution (38.6%), according to the researchers.

"Our findings are important for helping national governments and international agencies to develop and prioritize public health programs and policies," Feigin said in the press release. "Governments have the power and responsibility to influence these risk factors through legislation and taxation of tobacco, alcohol, salt, sugar or saturated fat content, while health service providers have the responsibility to check and treat risk factors such as high [BP]." – by Dave Quaile

Disclosure: Feigin reports that his institution holds the copyright to a stroke risk app, proceeds from which go to research and education on stroke prevention. Please see the full study for a list of the other researchers' relevant financial disclosures.

A Canadian Company's Quest To Turn Air Pollution Into Fuel

Date: 24th June, 2016 Source: Smithdonian



Humans release more than 30 billion metric tons of carbon dioxide into the atmosphere each year, thanks largely to the burning of fossil fuels. This number has been rising steadily for more than 100 years. As the climate situation becomes increasingly dire, scientists, environmentalists, businesspeople and politicians have been seeking solutions. Many of these solutions involve lowering carbon emissions—using greener fuels, driving less. But a growing number of solutions are less about lowering emissions and more about capturing them. One power plant in Iceland has figured out how to turn carbon into stone. A California company claims to have technology to sequester carbon in cement. Other emerging methods involve trapping carbon underground or in water.

Now, a Canadian startup has its own idea: pull carbon dioxide from the air and turn it into useful commodities, such as fuel. The company, Carbon Engineering, was co-founded by Harvard physicist David Keith and is partially funded by Bill Gates.

Carbon Engineering recently launched a test factory in Squamish, British Columbia, to demonstrate the viability of so-called "air capture" technology. In the factory, air is pushed by large fans into a liquid solution high in carbon dioxide. This is then processed into purified carbon dioxide. Then clean air is released, and the liquid is recycled for another round of carbon dioxide purification. Unlike other carbon capture technologies, which capture carbon dioxide as it emerges from factories, air capture can remove carbon dioxide that's already been emitted by cars, planes, agricultural equipment and other sources. Air capture, Carbon Engineering says, is like a more efficient version of what trees already do.

"If we can enable industrial-scale carbon dioxide capture from the air at a price that is at all viable or reasonable, than this technology provides yet another pathway to control those sources of emissions," says Geoff Holmes, the business development manager of Carbon Engineering.

The new plant removes about a ton of carbon dioxide from the air each day. While this is not much—hardly enough to offset the carbon footprint of three dozen Canadians—the company says it is ready to scale up many thousands of times. But ironically, the demonstration factory currently releases the carbon it captures right back into the atmosphere. That's because the other piece of the puzzle—figuring out what to do with all the captured carbon dioxide—has not been solved yet.

One of the most promising paths Carbon Engineering is pursing involves turning the carbon dioxide into fuel. This process involves splitting water into oxygen and hydrogen, and combining the hydrogen with the carbon dioxide to create hydrocarbon fuel. This technology exists, but has never been tried on a commercial scale.

"This is a concept that might one day be able to supply truly global-scale quantities of fuels that are compatible with our current infrastructure and are carbon neutral," Holmes says.

Holmes estimates Carbon Engineering might be ready to bring fuel made from air-captured carbon dioxide to market in "several" years, at about $1 to $2 dollars per liter.

Holmes knows air capture is no panacea for climate change. At best, it would only remove a fraction of humanity's carbon dioxide emissions from the air.

"We really think the world needs more tools, not less, to help reduce emissions," he says. "Air capture can add to our set of options. We want to be a part of driving emissions to zero as fast as possible."

Bicyclists strap on monitors to measure Twin Cities air quality

Date: 25th June, 2016 Source: Star Tribune



Bicyclists are used to getting left in the dust, but now a group of pedaling Minneapolis staffers is collecting it for science.

Air-quality sensors are hitting the streets in Minneapolis and St. Paul this summer as local regulators experiment with cutting-edge, low-cost wearable devices that could illuminate how pollution varies across cities and neighborhoods. They hope those readings reveal more ground-level detail than the large, regional air monitors that report broader trends across the metro area and the state.

"People want a block-by-block ranking of air quality," said Cassie McMahon, environmental research scientist with the Minnesota Pollution Control Agency (MPCA). "And that's logistically impossible to do with our traditional monitoring equipment."

Several Minneapolis employees on bicycles will strap devices to their arms and pedal to all corners of the city testing the readings against a high-end monitor. And in a separate project, the MPCA will distribute about two dozen similar devices to a group of people in St. Paul's south St. Anthony Park area, giving residents there license to experiment with collecting localized air quality data.

Wearable air pollution monitors got a test at the 2015 State Fair. The highest readings? The smoky stretch of Judson Avenue where charbroiled pork chops on a stick are served up. The monitors, which are made by a variety of companies, link with smartphones to report and map data in real time.

Dan Huff, Minneapolis' director of environmental health, said they could ultimately be strapped to citizens to measure their exposure while cooking at home, for example, or on the bus to work.

"A dream study would be having people with asthma wear these," Huff said, noting that Minneapolis has the highest asthma hospitalization rates in the state. If someone noticed symptoms flaring up, they could try to pinpoint the cause. "Was it because there was an increase in [particulate matter], or was it something completely different?"

Looking for variations

The wearable devices are not as accurate as the 53 large sensors that the MPCA uses to determine if regional air quality is meeting federal standards. Those monitors, typically atop buildings, cost more than $150,000 apiece to install, however, while wearable sensors cost several hundred dollars.

Air quality in the Minneapolis-St. Paul area is relatively good compared to other major U.S. metropolitan areas, according to data from the Environmental Protection Agency. The two major factors used to determine the air quality index are fine particulates in the air and ozone, which is created by a chemical

reaction and tends to float downwind of the central cities. The new wearable devices being tested this summer monitor only particulates.

The wearable sensors may pick up on localized variations where the larger rooftop sensors cannot. The volume of particulates, often created through combustion, is generally worse close to major roadways. Air quality can also be affected by wildfires raging upwind, winter weather that traps pollutants or very hot summer days that accelerate ozone production.

“You’re relying on [large monitoring stations] to give you kind of an average sense of what the air pollution levels are like,” said University of Minnesota Professor Dylan Millet, who specializes in atmospheric chemistry. “But in reality they’re going to vary tremendously depending on whether you’re standing on a street corner in downtown Minneapolis to if you’re out in Eden Prairie, for example.”

While the air in the Twin Cities is not akin to that in Beijing or Los Angeles, Millet said there is evidence of negative health effects from pollution in the metro area. Fine particulates can cause cardiovascular and respiratory diseases, infections and cancer.

Real-time decisions

Three Minneapolis employees, led by Health Department staffer Ahmed Hashi, took the wearable air monitors — secured with Velcro straps sewn together at a Somali mall in south Minneapolis — for a test spin through northeast Minneapolis one recent morning.

They intend to take measurements over 11 days on predetermined routes, measuring morning and afternoon rush hours on both busy and residential streets. The findings will be compared against large monitors temporarily stationed at their starting points. If it goes well, Hashi imagines more riders and sensors in the future.

“You can kind of have real-time decisionmaking and say, ‘Hey I’m going to avoid this area, there’s a lot of pollution,’ ” he said.

It’s not the first time someone has measured air pollution on a bike in Minneapolis. In 2012, a graduate student at the University of Minnesota pedaled around with a larger monitor on wheels. The research showed the extent to which air pollution is higher on busy arterial roads vs. calmer local routes or off-street bike lanes.

The city’s health department is also making strides pinpointing hot spots of other harmful compounds in the air. It recently conducted a two-year study using 120 canisters placed around the city, which found potentially harmful concentrations of four chemicals in various areas. A full report is expected later this year.

The MPCA experiment in south St. Anthony Park is more open-ended, geared toward learning more about how residents might use low-cost sensors while letting them test their own hypotheses.

“They can bring it inside and outside of their home,” McMahon said. “We’re not telling them what they can and can’t do with these instruments.”

NZ researchers link air pollution to strokes

Date: 26th June, 2016 Source: Stuff



A new study has found air pollution could be a direct cause in some of the thousands of stroke deaths in New Zealand each year.

A global research team, co-led by Auckland University of Technology (AUT) professor Valery Feigin, analysed data from other studies, reports and official statistics to create a mathematical model estimating stroke risk for 188 countries from 1990 to 2013.

It found about five per cent of strokes in New Zealand were caused by smog - with Timaru's air pollution levels rating the worst in Oceania.

Figures recently released by the World Health Organisation Christchurch was the worst of New Zealand's major cities, while Wellington and Auckland's air was found to be much cleaner.

Although the study found that there was a direct link to air pollution, about 90 per cent of strokes were preventable.

Carole Keane is one of 9000 people who suffered a stroke in 2015. It is the third biggest killer in New Zealand, claiming the lives of about 2500 people each year.

Keane, 53, woke up after an operation 18 months ago to discover the entire left side of her body was paralysed.

The Auckland woman is now unable to work, and becomes fatigued very easily. She walks and swims a lot as part of her rehabilitation.

Although Keane's stroke was a as a result of a genetic predisposition, other risk factors included smoking, poor diet, and low physical activity.

"It's nice to know there's a chance to prevent it," said Keane.

That was particularly important as she believed most people knew little about strokes.

Keane has attended many events held for stroke survivors and said she was shocked by how little they knew about what had happened to them.

"Hearing other people share their stories about how they had their stroke, only one out of the 10 knew what was going on. They didn't know what the signs were."

The study found the link between air pollution and strokes varied in different parts of the world.

In China, air pollution accounted for 40 per cent of strokes, but in Australia it was responsible for around one per cent.

"We're doing well, but not as well as our neighbours," Feigin said.

Since her stroke in January 2015, Keane has been working to get her old life back.

"I have my good days, there's lots of those. I also have my dark days, where I think 'why me, why this'."

She is still unable to return to work, where she drove heavy machinery. However she has been able to start driving her own vehicle again.

She's still not 100 per cent. But she believed her positive attitude had helped her recover much quicker than she thought possible.

The mum-of-two said her husband and two daughters had also made her determined to get better.

"I didn't want to leave my husband with two teenagers, and my daughters are too young to lose their mum."

WHAT ARE STROKE SYMPTOMS?

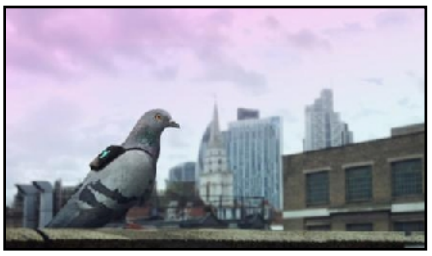
- Sudden weakness and/or numbness of face, arm and/or leg especially on one side of the body.
- Sudden blurred or loss of vision in one or both eyes.
- Sudden difficulty speaking or understanding what others are saying.
- Sudden loss of balance or an unexplained fall or difficulty controlling movements.

HOW CAN YOU REDUCE RISK OF HAVING A STROKE?

- Quit smoking
- Increasing physical activity
- Reducing your blood pressure
- Eating a low-fat, low-sugar diet
- Sunday Star Times

How to make air pollution measurement more accurate

Date: 27th June, 2016 Source: ReadWrite



IoT is putting itself forward as a means of tackling one of the world's biggest health problems: air pollution.

A problem that is not limited to developing countries but stills plagues some of the biggest cities in Europe. Just last year the UK High Court ruled that the government must take action to cut pollution after being in breach of EU limits for pollutants for several years with nitrogen pollution from diesel vehicles a significant contributing factor.

IoT is playing a key role in measuring and mapping pollution levels, with sensors and wearables used to record not only measurements but physiological responses to them. Many of these tools are made accessible to citizen scientists to create pollution maps within cities and are an important tool in documenting and leveraging health and environmental data to inform public policy.

So here are some of the innovative technologists working hard in this space:

Idea 1: Aircasting

AirCasting is an open-source, end-to-end solution for collecting, displaying, and sharing health and environmental data using a smartphone. The platform consists of wearable sensors that detect changes in

your environment and physiology, including a palm-sized air quality monitor called the AirBeam, the AirCasting Android app, the AirCasting website, and wearable LED accessories.

Interestingly, as addition to measuring environmental levels such as Aircasting's wearable accessories can also measure the wearer's response to the air pollution including their heart rate, heart rate variability and breathing rate.

Idea 2: Airly

Poland-based startup Airly is working on hardware that measures pollution (e.g. dust sensors, forest fires detectors, traffic management modules, water quality monitoring) so companies can deliver global solutions for Smart Cities. Their idea originated due to the founders' experiences the bad air of Krakow, considered the most polluted city in Europe due to coal emissions.

It's a made-to-order product that may be in its early days — but instead of using Wi-Fi or GSM, it uses LoRa technology to power its sensor technology. They're working with Cisco to include environmental health as a just one of the data readings made possible in smart city technologies being made available to city governments. This startup is definitely one to watch.

Idea 3: Plumelabs

In March this year, Paris based startup Plumelabs set free a small flock of racing pigeons through London wearing pollution-sensing backpacks for three days to monitor the city's air pollution levels, particularly nitrogen dioxide and ozone gases — produced mainly by diesel vehicles — and reporting the results on Twitter.

The campaign encourages Londoners to join the "Air Patrol" by becoming beta testers for a wearable version of Plume Labs' ultra-light air pollution sensing device. A crowdfunding campaign aims at recruiting 100 beta testers in London to map out live air pollutant levels across the city. These personal wearable sensors will eventually complement Plume Labs' flagship product, the Plume Air Report, an urban weather forecast for air pollution that tracks air pollution levels in 300 cities and 40 countries thanks to open data.

The free mobile app, available on iOS and Android, uses artificial intelligence and machine learning techniques to provide live pollution forecasts and advice on what to do to avoid over-exposure to environmental factors such as UV or air pollutants.

The data collection of pollution levels is only one tool in creating a reduction of pollution in the cities of Europe. The introduction of laws to reduce the reliance on old technologies is one way to create this incentive to boost new technologies that remove pollutants from the atmosphere. Electric cars are one example of this technology, yet their adoption needs to move beyond financial incentives.

Some researchers cautiously claim that driverless cars will reduce pollution, with others cite the popularity of the Tesla 3 as an example that electric cars can be a viable consumer option. With all this innovation, it will be interesting to see if and how pollution levels changes over the next decade.

How wearable technology could change the way we think about air pollution

Date: 28th June, 2016 Source: The Washington Post



A new report from the International Energy Agency is driving home, yet again, the immense importance of cutting down on pollution and protecting air quality worldwide.

The report, which focuses on the links between energy and pollution, points out that more than 6 million premature deaths each year — or about 18,000 deaths each day — are caused by air pollution around the world. And a majority of these pollutants are caused by energy use and production, including the burning of fossil fuels and biomass.

While activists lobby for more stringent pollution-cutting measures around the world, and policymakers grapple with how to write them, some scientists and designers have turned to the power of innovative technology to raise awareness and save lives with the help of wearable pollution sensors. These sensors, while mostly not yet proven or available on a mass scale, may be coming sooner than you think.

It's an idea that U.K.-based artist and designer Kasia Molga has applied in her newest project, called the "Human Sensor," set to premiere next month in Manchester, England. Molga has designed a high-tech clothing that changes color to reflect the amount of pollution in the surrounding air. The project is being produced by commissioning organization Invisible Dust, which works with artists and scientists to produce projects exploring the themes of climate change and pollution.

Molga developed the idea for the project several years ago after suffering a severe asthma attack for the first time in several decades. "I started thinking about the fact that because of the rising temperatures and also rising populations, especially in urban environments, things are happening, which we can't see, but they will of course affect our bodies very drastically," she said. "And so I kind of looked at myself as the sensor for these environmental changes — as in my body is probably the best kind of diagnostic tool for the health of the environment."

The project will involve a series of performances in which models will walk through various locations in Manchester wearing Molga's specially designed clothing. The outfits are designed to change colors and patterns as the models breathe in and out, and also change in response to the levels of black carbon — a major component of particulate air pollution, often produced by fossil fuel burning and other industrial activities — wherever they happen to be walking.

Organizers will collect pollution data from each location using portable sensors and then program the data into the electronics before the performers go on their walks. "Although it won't be exactly real time, it'll be pretty close," said Andrew Grieve, a senior air quality analyst at King's College London who has been working on the project.

Engineers have been designing and marketing small, wearable or otherwise portable pollution sensors for several years now. TZOA, for instance, is a wearable "enviro-tracker" that reportedly measures the particulate matter in the surrounding air and allows users to access the data through a smartphone app. Clarity, another sensor, focuses on fine particulate matter, specifically, and uses collective data from users to map pollution levels around the world.

The sensors are intended to inform the user about how pollution levels change as they travel. In fact, air pollution can differ drastically even from one neighborhood to the next, said Michael Jerrett, chair of the department of environmental health sciences at the University of California at Los Angeles.

“Depending on the type of pollution, you can see a lot of variability or change in the levels of pollution over very short distances,” he said. For example, a cyclist pedaling down a busy road might be exposed to five or even 10 times higher levels of ultrafine particles or carbon monoxide, thanks to traffic, than would a person in a neighborhood just a few streets over.

So there are practical choices that such sensors can help us make, such as where to go jogging or which parks to take children to play in.

Wearable sensors could in theory be useful on a larger scientific level, as well, although the technology may require some improvements before it reaches that point.

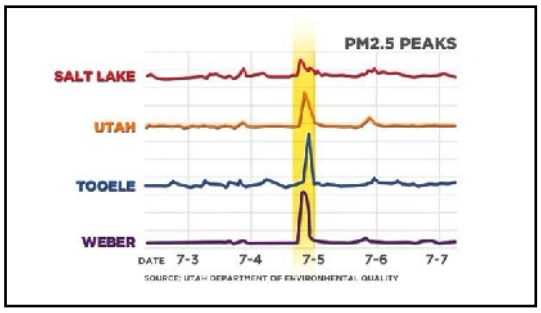
“I think that most people who work in environmental or spatial epidemiology would agree that the very best assessment you could get of someone’s exposure would be to have them carry a sensor on their person,” Jerrett said. “And to then know where they were and what they were doing, their activity level.”

Most studies of air pollution and premature mortality have tended to rely on models that take little information into account when it comes to the different neighborhoods people go into on a day-to-day basis or their activity levels at the time.

Researches may be able to recruit large numbers of people to wear these types of sensors and take part in population-level studies, said Mark Nieuwenhuijsen, a research professor at the Center for Research in Environmental Epidemiology in Spain. He has been involved with projects exploring the utility of personal sensors as part of the CITI-SENSE consortium, a collaboration involving several dozen European institutions aiming to develop community-based environmental monitoring projects.

Air pollution due to fireworks a serious issue in Utah

Date: 29th June, 2016 Source: KSL.com



SALT LAKE CITY — July 4th and July 24th: two holidays in Utah where fireworks are shot off. Whether it's a professional show or in backyards, Utahns are polluting the air.

Fireworks produce a lot of smoke and ash, spewing tiny particulates known as PM 2.5 into the air. Unhealthy, especially for kids and those with respiratory illnesses.

"There are rules of thumb: If you can see the smoke and smell the smoke, you're probably getting some impact from that,” said Bryce Bird, air quality director of the Utah Department of Environmental Quality.

Utah Department of Environmental Quality monitors the air 365 days a year. But on the evenings of July 4th and 24th, the air quality monitors show big changes.

“We see very high concentrations during those few hours in the evening when after the sun goes down, that's when the fireworks are most visible,” Bird said. “We see that very pronounced spike from maybe 9:30 p.m. to 11:00 p.m. on those holidays."

The good news is the pollution levels quickly return to normal as the winds disperse the smoke.

So what's worse, the big, exploding shells or the small stuff that the neighbor kids buy from the local fireworks stand?

Turns out, it's the small stuff.

“And then on the neighborhood level when we get tens, hundreds, perhaps even thousands of people enjoying these fireworks,” Bird said. “The particles produced from the combustion do concentrate in those areas. So we see some elevated levels that are above the levels that are considered safe under the health standards."

On average the 24-hour standard for PM 2.5 is about 35 micrograms per cubic meter. Last year in the Salt Lake Valley, the levels jumped to 157 micrograms when the fireworks were in use.

Staying indoors will limit your exposure to these particulates — a good idea if you have chronic breathing issues. But if you are outside watching the fireworks, know which way the wind is blowing.

“Don't park grandma in the lawn chair in the path of the smoke as well as the children. Just keep that in mind," Bird said.

JULY 2016

Take Steps Against Air Pollution: Experts Ask Delhi Government

Date: 1st July, 2016 Source: NDTV



NEW DELHI: Referring to a recent report which estimated that around 1.6 million premature deaths in India are caused by air pollution, experts today asked Delhi government to initiate immediate action on issuance of "simplified" health advisories and take concrete steps on the polluting Badarpur power plant in Delhi.

Help Delhi Breathe, a coalition of organisations and experts on air pollution said that there is a need for wider discussions on the subject of air pollution in India.

"Odd and even scheme in Delhi was a good first step, however it is not sustainable and cannot be the only step to address the problem," said Sunil Dahiya, Greenpeace campaigner, during a workshop focusing on health impacts of air pollution organised by the coalition.

"Delhi government needs to take urgent steps now to ensure that this winter, less people are impacted by bad-air days. Acting on the extremely polluting Badarpur thermal power plant as well as issuing health advisories is extremely important," he said.

According to International Energy Agency's (IEA) report, close to 1.6 million premature deaths in India are due to outdoor and indoor air pollution and the same report estimates that the average life expectancy in India is reduced by 23 months because of outdoor air pollution, a Help Delhi Breathe statement said.

"We welcome the debate and discussion around shutting down of Badarpur plant. However, until it results in concrete steps being taken on ground, it amounts to mere political bickering amongst which the only casualty is the common man," Mr Dahiya said, adding that "Delhi government, which was elected with a large mandate, is uniquely placed to rise above and take the necessary steps."

Help Delhi Breathe coalition called for immediate action on issuance of health advisories as well as action on the extremely polluting Badarpur power plant.

"The complex nature of the issue limits the understanding and interpretation of a bad-air day for common man. The level of PM 2.5 matter on any given day does not enable residents of a city to take protective measures and unless simplified health advisories are issued to residents, business and schools, parents and office goers will not know what precautions to take," said Bhargav Krishna, Public Health Foundation of India (PHFI).

"There is still considerable uncertainty regarding the magnitude and range of health impacts attributable to air pollution in India," said Nitish Dogra, Adviser, Convenor, Green Fulbrighters Forum.

"However, the only certainty is that these impacts will only increase substantially with time unless we act now. Assuming every Indian loses even one year of his or her life to air pollution, we are speaking of the loss of over one billion years of the human experience," he added.

"This is something we really need to think of, not just from a health or economic perspective but also on an existential level" Mr Dogra said.

Breathing Air Pollution in America's Largest City

Date: 1st July, 2016 Source: Council on Hemispheric Affairs



Mexico City is widely considered to be one of the most unique capital cities in the world. Since the years of the Mexica people's founding and Hernan Cortes's later conquest, the city began its dramatic increase in size and population. The city is nestled in the middle of the Valley of Mexico, surrounded by two volcanoes at an altitude of more than 2,000m above sea level. The city's general population of more than 8 million and metropolitan population of more than 21 million makes it one of the most populated megacities in the world.[1] However, an increasing population means more traffic and air pollution, which not only affects the city's population, but also damages its environment.

Pollution in the Late 80s and Early 90s

A tool used to measure the air quality in Mexico City, known as the metropolitan index of air quality (IMECA), measures six types of harmful particles suspended in the air, including sulfur dioxide (SO2), ozone (O3), carbon monoxide (CO), nitrogen oxide (NO), and particles smaller than 10 micrometers (PM10).[2] The IMECA scale ranges from 0-500 points. Any measure between zero and 100 IMECA points represents little or no health risks from air pollution, 101-200 IMECA points represents a threat towards the people of the city's metropolitan area, and anything above 200 points poses an extremely serious problem that can result in severe health problems, and citizens are advised to stay indoors at all times.

Concerns over air pollution were first raised in 1987 when it was reported that thousands of birds were dropping dead mid-air from the sky. In the winter of 1989, the situation worsened, when 400 IMECA points were registered. It was estimated that IMECA points began to increase by 41 percent between 1990 and 1991.

The pollution was so bad that the United Nations declared Mexico City the world's most polluted city in the early 1990s. Contingency plans were declared 12 times in 1993, when air quality levels reached more than 380 IMECA points, resulting in implementations of strict environmental measures. Since 1997, the city's left-leaning mayors launched various programs to reduce harmful emissions by modernizing the use of public transport systems and encouraging the use of bicycles.[4] As a result, Mexico City's air quality has somewhat improved in recent years. For the first time in 14 years, Mayor Miguel Ángel Mancera has implemented the environmental contingency and the Hoy no Circula program.

Factors

Factors contributing to Mexico City's smog problem are both manmade and natural. Because the city is positioned at a high altitude, the atmospheric oxygen levels cause incomplete fuel combustion in engines, leading to high emissions of the harmful particles listed above. Intense sunlight magnifies the impacts of these emissions—the smog prevents the sun from heating the atmosphere enough to penetrate the inversion layer, which climate scientists define as an atmospheric layer in which temperature increases with height that covers the city. [5] In other words, the smog usually gets trapped in the valley that surrounds Mexico City and has difficulty spreading into different areas. Furthermore, according to the

Tom Tom Traffic Index, Mexico City ranks as the most congested city in the world, with a congestion level of 59 percent, surpassing Bangkok, Istanbul, Rio de Janeiro, and Moscow.

The 2014-15 National Report of Urban Mobility in Mexico estimated that automobiles generate 18 percent of carbon dioxide emissions within Mexico City. There are a total of 5 million vehicles in the city, where vehicle presence has increased to an annual rate of 3.8 percent. The rate of harmful emissions per vehicle depends on its age. Generally, the older the vehicle, the more harmful chemicals it emits. About 29 percent of the population uses cars as their primary means of transportation, whereas 60.6 percent uses microbuses, taxis, and combis (minibuses), and eight percent relies on trolleybuses, metro, and metrobuses. Finally, 2.4 percent relies on bicycle and motorcycle transportation.

Symptoms and Effects on the Capital Population

The poor quality of air in the region threatens the lives of every resident in Mexico City. These harmful particles emitted into the air end up causing illness. The most vulnerable are children, the elderly, and those with breathing conditions like asthma. Common symptoms of pollution-related illness include headaches and irritation of the lungs, eyes, and throat. Air pollution can also worsen cardiovascular and respiratory-related diseases and thus can cause premature death. About 80 percent of premature deaths related to air pollution are linked to coronary artery disease and heart failure, 14 percent by acute respiratory infections, and six percent from cancer.[8] In 2010, it was estimated that a total of 14,000 deaths were related to pollution. The Organization for Economic Co-operation and Development (OECD) also predicted an increase to 21,000 deaths in 2030 and 42,000 deaths in 2060 if the problem is not addressed appropriately.[9] According to Horacio Riojas Rodriguez, head of the National Institute of Public Health (INSP), approximately 20,000 people die from air pollution every year in all of Mexico—9,600 of these deaths are reported in the Metropolitan area alone.

The soup kitchen putting London's air quality on the menu

Date: 1st July, 2016 Source: The Gaurdian



"I see the air is good today," says the security guard, as he sips his cup of bright green pea soup. "I can tell by the flavour."

Staff and visitors here at the central London headquarters of the Royal Institute of British Architects (Riba) have been treated to daily free soup from the Pea Soup House, a pop-up installation in the lobby that serves colour-coded soup which matches the government's Daily Air Quality Index (DAQI).

Flavours start with pea soup - green for good air quality, then move to yellow butternut squash or red pepper and chilli as the air gets worse, and an eye-watering purple beetroot and horseradish flavour when the pollution is high.

Since its launch last week, the kitchen has given away around 50 cups a day, and so far they've all been green. "I need to find a way to jazz it up a bit with this good air," jokes the chef, Angeletia Clarke.

Prize money from a Riba competition enabled seven young architects from Feilden Clegg Bradley Studios to design and build the installation, which aims to bring people together through food and raise awareness of air pollution through the unlikely medium of soup.

“People might come to Pea Soup House not knowing much at all about air quality, or just say ‘free soup, brilliant’ – but that for us is a way into a wider discussion,” says architect Chris Allen.

“The soup means people can connect that day to air quality and start to make those links themselves,” explains researcher Joe Jack Williams.

As well as serving as a soup kitchen, the structure is designed to communicate a whole year’s worth of air quality data in a way that people can easily see. It’s clad in brightly coloured horizontal wooden batons that each represent individual days of 2015 air quality readings from Oxford Street, one of the most polluted streets in London. Small plaques indicate the dates and there are information boards with data and research from air quality experts at King’s College London.

“We had all sorts of great data and research and we were trying to work out how we could represent that through architecture,” said Allen. “We had what we felt was a very strong idea – linking soup and the daily air quality index – but how would that be expressed in architecture? We talked about handing soup out on the street but we decided that actually it needed to be grounded in a place, and feel like it’s arrived in a community.”

Inspiration for the project came from “pea souper”, the term coined by John Sartain in 1820 to describe the deadly, thick yellow smogs of London.

“That was the starting point for us when we were thinking about how to engage people,” said Allen. “We can make that connection to air quality today and the history about pea soup fog. Britain was the first country in the world to look at air quality and that first step of [the Clean Air Act] in the 1950s is the start of air quality as we know it.”

A study by King’s College London last year found that nearly 9,500 people in the capital die early annually because of air pollution. Earlier this year it took parts of London just one week to breach annual limits, and a major global study by the World Health Organisation in May found the city breached its guideline limits for two harmful types of particulate pollution.

The UK government is facing renewed court action from campaigners over air pollution, some of which has resulted from the rise in the number of diesel cars on the road, and the repeated breaches of EU limits on pollutants.

London’s recently elected mayor, Sadiq Khan, has made improving the capital’s air quality a top priority. Within a week of his election last month, he unveiled plans to more than double the size of London’s clean air zone and retrofit 1,000 more buses with clean technology. He has also proposed bringing forward an extra charge on the most polluting vehicles to 2017.

Last month Khan announced he would join the high court challenge against the government over its failure to tackle the problem.

“I think air pollution is an invisible problem and people know it’s there but they don’t quite know the root cause, how it occurs or what they can do,” said Williams. “I think Pea Soup House is really about building that awareness so people can really start to ask for better air quality and say ‘I saw that the soup is purple today, what’s causing it, what can I do about it’?”

Pea Soup House is built using low-cost, carbon-neutral materials, wood from sustainable sources, low chemical paint and varnish, no solvent and with recycling and onward use in mind. The plan is to

eventually move it to different pollution hotspots and raise awareness in further communities, possibly engaging schoolchildren by repainting the batons according to their local pollution levels.

“Now we know it works and we know it’s really engaging people we can build it somewhere with a bit more visibility,” said Williams.

“At the moment this is the first step for us, we want to reach out to communities and experts and put what we learn back into planning as an architect and complete that cycle,” said Allen.

The soup comes from Clarke’s Kitchen, a small family-run catering company that uses organic, seasonal ingredients, some of which comes from local allotments or food that is destined for waste.

“I came up with all the different flavours I could do according to the colour code,” said Clarke, who is also an architecture student. “Everything is French-Creole inspired, with my own seasoning and recipes.”

Cathy finishes her cup and heads back to work. “The soup is delicious,” she says. “I’m quite uncomfortable to say that I’m looking forward to the air being slightly worse so I can try I a different soup, although I don’t think that is really what the project’s aiming for!”

Paris bans cars built before 1997 in battle against air pollution

Date: 2nd July, 2016 Source: Independent



Paris has launched its latest drive to reduce air pollution by introducing a ban against dirty vehicles built before 1997.

The rule, which is expected to affect around 10 per cent of cars in the city, is set to be enforced against any car registered before 1 January 1997 within the city’s streets from Monday to Friday, 8am to 8pm. Classic cars, built more than 30 years ago, will be exempt.

Restrictions will become tighter over the decade until 2020, when the only private vehicles allowed to drive in central Paris will be cars registered after 2011 and motorcycles registered after July 2015, according to French media reports.

Air pollution, largely caused by fuel emissions, kills 48,000 people each year in France and around 3.7 million worldwide, according to France’s public health agency.

A report from the French Senate last year estimated air pollution costs the country €100 billion (£84 billion) each year.

Drivers who ignore the ban will face fines of €35 (£32), with the fine set to rise significantly from the end of 2016.

Around half a million vehicle owners around Paris will be hit by the ban, according to a driver defence group 40 million d’Automobilistes, which is seeking financial compensation for the loss of value of the now-banned vehicles.

Owners reportedly protested the move by parking their vehicles near the National Assembly and Champs Elysees.

Earlier this year, Paris introduced a monthly ban on cars along the Champs-Elysees under new environmental plans.

Anne Hidalgo, the city's mayor, said: "Every foreign tourist who comes to Paris naturally wants to visit the Champs-Elysees. But we want to bring Parisians back to this emblematic place which belongs to them.

"When you walk on the avenue without the din of traffic, you rediscover perspective, the facades, the scenery."

Norway is planning to ban petrol and diesel-fuelled cars from 2025 and several cities in Europe are testing various anti-pollution measures.

Berlin was the first city to ban pollution-heavy older vehicles back in 2008.

Big smoke: ORC eyes air solutions

Date: 3rd July, 2016 Source: Otago Daily Times



Despite changes to solid-fuel burners, Central Otago town air pollution levels regularly continue to exceed national environmental standards, making the air bad to breathe. Central Otago reporter Lynda van Kempen takes a closer look at the novel methods the Otago Regional Council is exploring to address the problem.

FIifty shades of grey sums up winter mornings in Central Otago towns.

Think smog rather than smut, however.

Freezing temperatures combined with calm conditions means smoke from hundreds of wood burners hovers over the towns for the morning or longer, boosting the air pollution levels.

Technology and the design of wood burners have improved and the heating devices, favoured by many in the towns, now burn more cleanly, providing dry wood is used.

But the smoke still lingers, so options for man-made intervention to disperse it are being explored, to provide the winter winds that Mother Nature is reluctant to dish out.

Alexandra is the focus of the latest studies as it regularly "tops the chart" of air quality breaches.

Air quality is strongly affected by inversion layers, which trap the cold and smoky air near the ground.

Using masses of wind machines or a giant air blower to reduce the smog, "exporting" air pollution down the Roxburgh Gorge, has been considered, along with a community heating scheme using the Clutha River as a source of energy to provide central heating for all Alexandra residents.

These ideas and more are being considered by the Otago Regional Council as it develops an air quality strategy for Otago.

Levels of PM10 (particles smaller than 10 microns across) are used to measure air quality.

The particles are so small they can get into lungs, causing serious health problems.

According to the national standard for air quality, by 2020 towns should record more than 50mcg per cubic metre of PM10 particulates in the air on only one day a year.

The council's recent discussion document on air quality said it was hoped upgrades to solid-fuel burners in the past decade would have resulted in a 50% reduction of PM10 emissions but air pollution levels in Alexandra and other Otago towns still regularly exceeded the national standards.

A recent report for the council, prepared by Alexandra-based business Bodeker Scientific, outlines hypothetical ways of reducing those PM10 concentrations.

Although the report's focus is Alexandra, where air pollution levels are the highest within the region, the results are applicable to most Central Otago towns, the report says.

Several hypothetical intervention schemes designed to "modify" the atmosphere and inversion layer and disperse the air pollution were assessed, including using frost-fighting fans, emulating a naturally occurring "low-level jet" wind and drawing polluted air down the Roxburgh Gorge.

There were no examples of such schemes in operation anywhere else, the report said.

The council document said improvements in air quality would continue as newly available technology became embedded in communities.

All innovation and progress so far focused on reducing emissions but residential community heating schemes, although untested in New Zealand, might have a place in the future of air quality management, the report said.

"These schemes are technically feasible but they would require a very different kind of utility owner/operation than currently exists. It may be that a small demonstration project involving new development is the best way to prove its applicability in Otago."

Climate modification techniques to reduce air pollution did not seem feasible as the energy requirements were extraordinarily large.

"The resources needed for these schemes to be successful would be much better spent in improving housing and heating options for households in communities, " the document said.

Air pollution from agriculture: EU exceeds international limit in 2014

Date: 6th July, 2016 Source: European Environment Agency



Ammonia emissions in Europe have fallen since 1990, but by not as much as emissions of other air pollutants tracked under an internationally agreed United Nations convention. According to a new report from the European Environment Agency (EEA), ammonia emissions increased in 2014, meaning several EU Member States as well as the EU now exceed their respective

ammonia emission limits under the convention.

Around 94% of ammonia (NH3) emissions in Europe stem from agriculture, mainly from activities such as manure storage, slurry spreading and the use of fertilisers containing nitrogen. Ammonia contributes to eutrophication — an oversupply of nitrogen — and acidification of ecosystems. It also forms particulate matter in the atmosphere which harms human health.

The Gothenburg Protocol to the UNECE Convention on Long-range Transboundary Air Pollution (LRTAP) contains emission reduction commitments that have to be met from 2010 onwards for NH3 and three other air pollutants: nitrogen oxides (NOx), non-methane volatile organic compounds (NMVOCs), and sulphur oxides (SOx). In addition to emission reduction commitments specified for individual countries, the protocol also specifies reduction commitments for the EU-15.

The annual European Union emission inventory report 1990-2014 under the LRTAP Convention shows that NH3 emissions fell by 24% between 1990 and 2014, but increased in the EU‑ 28 between 2013 and 2014 by 0.9%. Ammonia emissions from the EU-15 in 2014 were 0.2% higher than the 2010 limit, the first time the EU-15 has exceeded its emission ceiling for this pollutant.

The rise in NH3 emissions in 2014 was mainly due to increases in France, Germany and Spain. Four countries (Finland, Germany, the Netherlands and Spain) also exceeded their individual NH3 ceilings in 2014. (see Figure ES.5). More generally, some countries have also recently improved their estimates of NH3 released from agricultural sources which in some instances has led to an increase in the emissions reported from past years. Better reporting by Member States, including the reporting of new emissions sources, is encouraged.

Emissions of the other main pollutants covered by LRTAP have dropped considerably since 1990, including the three air pollutants primarily responsible for the formation of ground-level ozone (O3). Carbon monoxide (CO), NMVOCs and NOx were reduced by 65%, 60% and 55%, respectively.

Air pollution makes bees bumble search for food

Date: 7th July, 2016 Source: Futurity

Air pollutants interact with and break down scent molecules emitted by plants, and this can confuse bees as they search for food, new research shows.

As a result, bees' foraging time increases and pollination efficiency decreases. This happens because the chemical interactions decrease both the scent molecules' life spans and the distances they travel.

While foraging for food, insects detect floral scent molecules in the air. Wind currents can carry these molecules up to thousands of feet from their original source to where bees have their hives.

"Many insects have nests that are up to 3,000 feet away from their food source, which means that scents need to travel long distances before insects can detect them," says Jose D. Fuentes, professor of meteorology and atmospheric science at Penn State. "Each insect has a detection threshold for certain kinds of scents and they find food by moving from areas of low concentrations of scents to areas of high concentrations."

Plant-emitted hydrocarbons break down through chemical interactions with certain air pollutants such as ozone. This breakdown process results in the creation of more air pollutants, including hydroxyl and nitrate radicals, which further increase the breakdown rate of plant odors.

90,000 simulations

The researchers sought to understand how these chemical interactions, which start with the presence of air pollutants, would impact bees' ability to find food. They first estimated the changes in concentrations of flower scents as a result of air turbulence and chemical interactions using a computer simulation, which allowed them to track the concentration and movement of multiple plumes of scents from different flower beds over time.

Then, the researchers ran 90,000 simulations representing various bees' foraging and movement patterns amid differing scent levels modified by air pollution and diluted by wind speeds.

The team reports in the current issue of Atmospheric Environment that, as air pollution increases, hydrocarbons' lifetime and travel distance decreases. For example, at 60 parts per billion ozone levels, which the US Environmental Protection Agency considers a "moderate" level, the researchers found that enough chemical changes took place to thoroughly confuse bees and hinder their ability to identify the plumes of floral scents they needed to locate food.

The scent molecule alpha-pinene, which survives nearly 40 hours in an ozone-free environment, survived fewer than 10 hours when ozone rose to 60 parts per billion and only 1 hour when ozone was at 120 parts per billion. Another molecule, beta-myrcene, which travels more than 3,000 feet in an ozone-free, windy environment, traveled an average of 1,500 feet when ozone was 60 parts per billion and, when ozone rose to 120 parts per billion, most traveled fewer than 1,000 feet.

The changes in air chemistry affected the number of bees able to detect food sources in a given timeframe. In an ozone-free environment, it took 10 minutes for 20 percent of foragers to find the scent molecule beta-caryophyllene. When ozone rose to only 20 parts per billion, it took 180 minutes for the same amount of bees to find the scent. The team found similar results for the six different scent molecules they analyzed.

"We found that when we confused the bees' environment by modifying the gases present in the atmosphere, they spent more time foraging and would bring back less food, which would affect their colonies," says Fuentes. "It's similar to being asked to get a cup of coffee at the nearest cafeteria while you are blindfolded. It will be hard to locate the coffee shop without using visual cues. The same could happen to insect pollinators while foraging for food in polluted air masses."

Generalists and specialists

Because the concentration of scents changes drastically in air polluted environments, this could impact important interactions between plants and insects.

"There are two types of pollinators, generalists and specialists," says Fuentes. "Generalists can detect a mixture of scents, while specialists can only detect one type of scent. This means that as certain scents decrease their travel distance and life span, specialists and generalists may both have trouble finding food."

Declines in the pollination of wild plants may lead to increases in the population of plants that do not rely on pollinators, and pollinator declines would lead to decreases in crop yields, Fuentes notes.

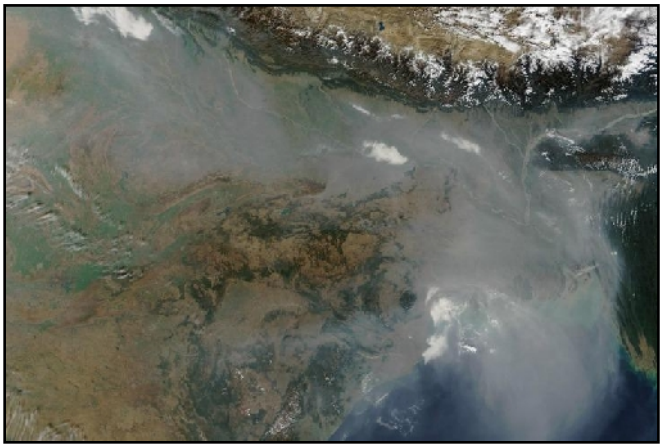
These findings highlight that air pollution is one of many factors influencing the decline of the bee population. According to the US Department of Agriculture, managed honeybee populations in the US have declined between 25 and 45 percent per year since 2010, including a 44 percent decline from 2015 to 2016.

"Honeybees and other pollinators are in trouble almost everywhere, and they pay us a lot of services through their pollination," says Fuentes. "The more we can understand about what factors are affecting their decline in numbers, the more equipped we will be to intervene if needed."

Additional researchers from Penn State, UCLA, and the University of Virginia contributed to the work, which the NSF and the Penn State Institutes of Energy and the Environment supported.

NASA Data Says The Air Over The Indian Sub-Continent May Be Past Point Of No Return!

Date: 8th July, 2016 Source: India Times



Anil Madhav Dave, appointed the new Environment Minister on July 6, 2016, said he will understand the challenges of his department and then decide the course of action on matters about the environment, forest and climate change.

India has 11 out of 20 of the most polluted cities in the world. Ministers and citizens need to work harder at combating air pollution, which is one of the leading causes of mature death in the country. Times of India reported that every year, 1.59 million people in India die because of air pollution and according to a WHO report from 2014, Delhi had the dirtiest atmosphere out of 1,600 countries around the world.

Measures to curb toxic levels of pollution are being taken including the two, two-week introductions of the odd-even scheme by the AAP government. The Supreme Court is also trying to ban diesel cars above 2000 cc in major metropolitan cities such as New Delhi and Mumbai.

However, recent data released by NASA shows that India is still struggling with toxic air. Bloomberg reported that the "research depicts how much sunlight is blocked by airborne particles, providing a proxy for levels of pollution. The data show parts of the Indo-Gangetic plain…suffer some of the planet's worst haze in October through January after monsoon rains end in September". This data also signals to ample concentration of PM 2.5 particles, which are tiny particles from dirt, soot and smoke. According to Pawan Gupta, a research scientist at Goddard Earth Sciences Technology and Research in Greenbelt Maryland, "During the post-monsoon season, the Indo-Gangetic plain is easily one of the most heavily polluted regions."

There is some contradiction about how much vehicle emissions contribute to the problem – while researchers at the University of Texas say they contribute to 20-40% of the PM2.5 particles in the capital, scientists at the Delhi Pollution Control Committee to 80%.

Other causes of these particles that create toxic air pollution are burning of dung, rubbish and leaves, the use of diesel generators and brick kilns, among a long list of other causes.

Air pollution needs to be tackled head on if India wants to continue on its fast and massive growth because environmental degradation costs the country $80 million every year according to a 2013 World Bank report. Dave said, "Development and environment go together. They are not against each other. We need to look at the issue in this manner." As per IEA reports, IEA reduces life expectancy by 23 months in India and will kill around 2,500 on average a year by 2040.

NASA is launching an airborne mission that will map the contours of the Earth's atmosphere to find out how much pollution exists on the planet and then assess how the environment has changed as a result. The Atmospheric Tomography (ATom) mission will also survey the atmosphere over oceans.

'There is no escape': Nairobi's air pollution sparks Africa health warning

Date: 10th July, 2016 Source: The Guardian



Pollution in the Kenyan capital is 'beyond imagination'. With Africa's predicted rise in population – and a constant stream of dirty secondhand cars from Europe and Japan – this urban health crisis could kill 1.5 million within a generation

A minibus belches black smoke; the lorry behind it in the traffic jam billows white fumes. Eyes smart in the smog as diesel gases from thousands of 10 and 15-year-old vehicles fill Nairobi's hazy evening air, adding to pollution levels that are "beyond imagination", according to one resident. This jam could last for one, three, even five hours – last year, one stretched for 30 miles.

We could easily be in Cairo, Lagos or another African megacity, but this is the eight-lane Mombasa Road in Kenya's capital – a permanently clogged artery in a metropolis where the number of vehicles doubles every six years.

Kenya is one of the few countries in Africa to have banned cars using the most sulphurous fuels, but what research there is suggests this is still one of the most polluted cities in the world – made worse by smoke from roadside rubbish fires, diesel generators and indoor cooking stoves.

No one knows for sure, however, because like nearly all African cities, Nairobi does not regularly monitor its urban air quality.

"In 28 years of living in Nairobi, I have seen the number of people quadruple and car ownership go from 5% to 27% of people. The pollution is mind-boggling," says Dorothy McCormick, a Nairobi university economics researcher and author of books on African transport.

"There are 16 times as many vehicles on the road as when I came – the city just cannot cope. We have no tarmac left, no congestion charge and people use charcoal, paraffin and wood to heat their homes. You can see the haze building up from the early morning. What do you do – stop breathing? There is no escape."

With half the world's population growth over the next 30 years predicted to occur in Africa, the United Nations Environment Programme (Unep) expects the number of cars in African cities to rise dramatically.

“The vehicle fleet will double in the next seven years in Nairobi,” says Rob de Jong, Unep’s head of transport. “The number of cars in Africa is still relatively small, but the emissions per vehicle are much higher [than the rest of the world].”

Africa’s urban air is especially bad because so few cars are new, the vast majority having been shipped in secondhand from Japan and Europe with their catalytic converters and air filters dismantled. It is in danger of becoming a dumping ground for the world’s old cars – importing vehicles that no longer meet rich countries’ pollution standards.

Across the continent, this explosion in car numbers, coupled with people cooking indoors on wood-fired stoves, is creating an urban health crisis already estimated by the UN to be killing 776,000 people a year. If unchecked, within a generation it is likely to kill twice as many annually, with devastating costs to public services and economies.

“Africa is urbanising and ‘motorising’ faster than any other region in the world,” says De Jong. “Its pollution is not yet level with New Delhi or Beijing, but it is getting there quickly. Respiratory diseases are now the number one disease in Kenya – and that is directly linked to air pollution. It is rapidly on the rise.”

According to Marie Thynell, an urban researcher at Sweden’s Gothenburg University who led a study of Nairobi pollution in 2015, the amount of cancer-causing elements in the air within the city is 10 times higher than the threshold recommended by the World Health Organisation.

Thynell’s research uncovered dramatic pollution spikes on all of Nairobi’s main roads. “The pollution is uncontrolled and particularly deadly in slum districts and for drivers, street vendors and traffic police,” she says.

Michael Gatari, an environmental scientist at the Kenyan Institute of Nuclear Science and Technology, predicts the country will have “a very sick population in years to come. Even what limited data there is suggests it is around 30 times worse than in London, and that Kenya is building up an immense health problem. Thirty percent more diesel is being burned in Nairobi compared with five years ago. Without doubt, the pollution will have a huge economic and health impact. We will see more and more cancers and heart disease, many more asthma cases and respiratory diseases.”

African air pollution is closely linked to poverty, according to Gatari. “In the slums, people light an open fire and close their windows; they are enclosed in very high pollution. Drivers mix good diesel with kerosene. There is a lot of burning of plastics and no proper incineration. Dust is blown everywhere by the wind, and there is loose soil from farming.”

In west Africa, the manmade air pollution from the string of coastal cities including Lagos, Accra, Abidjan and Cotonou is now so bad that it is mixing with natural pollutants blown from the Sahara and affecting cloud cover and rainfall, according to Mat Evans, professor of atmospheric chemistry at York University, who is leading a large-scale investigation of air pollution in the region.

“A chain of megacities is building in Africa. The continent is in the same position that China was 20 years ago – if Africa does not regulate its air pollution, it will be a disaster.”

The WHO highlighted the danger from air pollution last month when it released data on 3,000 cities worldwide. The few African cities which had any public monitoring records all had particulate (PM) levels way over UN guidelines, and four Nigerian cities were among the world’s 20 worst-ranked.

Unless action is taken, says the WHO, the continent's urban air pollution levels could triple or quadruple within 15 years.

Onitsha, a commercial hub in eastern Nigeria, had the world's worst official air quality. A roadside monitor there registered 594 microns/cubic metre of PM10s, and 66 of the more deadly PM2.5s – nearly twice as bad as notoriously polluted cities such as Kabul, Beijing and Tehran, and 30 times worse than London.

Evans says that African cities such as Lagos have entirely different problems to London, where "pollution is mainly due to the burning of hydrocarbons for transport that can be addressed by tackling fuel usage through electric vehicles, and car-free zones

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Green Party air quality project seeks help of 'citizen scientists'

Date: 11th July, 2016 Source: Evening Standard



A project investigating air quality outside central London wants volunteers to become "citizen scientists" and measure local pollution levels.

The Green Party is looking for residents and community groups in outer London to buy £10 monitors and clip them to lamp-posts to gather toxic nitrogen dioxide from the air.

The monitors, called diffusion tubes, are removed after a month and sent for analysis on the levels of toxins inside.

Nearly 9,500 Londoners die prematurely every year as a result of long-term exposure to pollution, with a massive contributor being nitrogen dioxide emitted from diesel exhausts.

The project is part of a campaign to convince Mayor Sadiq Khan to extend an Ultra Low Emission Zone to cover the entire capital for all vehicle types.

A zone for cars, vans and motorbikes is planned for central London by 2019 and then to the North and South Circular roads by 2020. Lorries, buses and coaches will be subject to London-wide restrictions. The zone means vehicles must meet exhaust emission standards or pay a daily charge to travel inside. Green Party London Assembly member Caroline Russell said she hoped data from outer boroughs would convince Mr Khan to expand it.

Boroughs being targeted for the project include Enfield, Merton, Barnet, Harrow, Hillingdon, Hounslow, Havering, Redbridge, Croydon, Bromley and Kingston. Ms Russell has written to community groups including a guide for setting up the tubes.

She said: "Everywhere I go people are talking about the way they feel chesty, the way they're aware of their breathing in a way they didn't used to be.

"I'm aware there's a huge number of big roads beyond the North and South Circular, where people are going to be breathing unbelievably polluted air.

"It's only right that people living there have a chance to find out how polluted their air is. I think if people see their air is polluted then they start to see the reason for the drastic action required to reduce the amount of pollution."

Last week the Mayor unveiled a series of tough new measures to crack down on polluting vehicles, including a £10 "T-charge" next year for the worst offenders in central London.

The charge will apply to all vehicles, whether diesel or petrol, generally registered before 2005. It will be on top of the £11.50 daily congestion charge.

Smell the coffee and clear the air with new household appliances by Miele, Dyson and Somabar

Date: 11th July, 2016 Source: South China Morning Post



Starting the day without a perfect cup of coffee or tea doesn't bear thinking about. Happily, the basket of new offerings from premium household brands such as Miele and Dyson includes a machine that eliminates the thought process.

After stumbling from bedroom to kitchen, sleepyheads are greeted by the simple and intuitive interface of Miele's CM7 coffee maker. The patented CupSensor function automatically adjusts the spout unit to the height of the cup or glass, so there's no spillage or temperature loss. All you have to do is choose which of the 20 different beverages you feel like – including special coffees and crafted teas – and let your mechanised barista do its work.

A nifty feature is that this coffee maker will brew two cups at once. It also offers a double-shot option: the beverage is brewed for a shorter time but with double the amount of coffee, offering a particularly aromatic blend without any excessive bitter notes. There's no elaborate maintenance required, either – this appliance takes care of that too, including automatic descaling. The freestanding bean-to-cup gourmet coffee maker looks sharp on the bench with an elegant casing in obsidian black.

Now that you're awake, some sobering news. Appliance manufacturer Dyson and a research team at the Hong Kong Baptist University have revealed an inconvenient truth about the health of our domestic domain. The air pollution inside your home can be up to five times worse than outside, they say – which is troubling, considering that most people spend around 90 per cent of their time indoors.

According to their findings, 84 per cent of the Hong Kong homes tested had volatile organic compounds exceeding the recommended requirements for indoor air quality. Some households recorded a higher level of fine-particle pollution (PM2.5) than the roadsides of Causeway Bay and Mong Kok.

The culprits can range from toxic fumes released from cleaning solvents, deodorants and scented candles, to gases from cooking, mould, pet hair, pollen and allergens – all invisible to the naked eye, but travelling easily through the air.

The problem, the researchers explain, is that modern buildings are often sealed in order to retain heat and block noise, but this can also trap ultrafine and potentially harmful particles inside. This led Dyson to

design its new Pure Cool Link purifier fan, which detects and automatically purifies indoor pollutants, self-adjusting the airflow to maintain the target air quality.

Using a unique, 360-degree glass, high-efficiency particulate air filter, the technology is designed to capture 99.95 per cent of ultrafine allergens, odours and pollutants as small as 0.1µ from the air – keeping them in the filter. Sensors inside the machine detect changes in conditions, projecting cleaner, purified air around the room evenly and quietly.

The appliance, which doubles as a cooling fan in summer, also pairs with the new Dyson Link app, developed for iOS and Android, which allows users to remotely monitor the inside air quality, even if they are out of the house. The app keeps a history, so you can track peak pollution times, such as when cleaning or cooking. Through a partnership with air quality data analytics company BreezoMeter, the app will allow users to keep an eye on the live outdoor air quality in a location of their choice.

Another new product from Dyson helps to remove pollutants in the first place. The brand's latest-generation cord-free vacuum cleaner, the Dyson V8 Motorhead, operates via a small but powerful digital motor to remove ground-in dirt and pet hair from carpets.

So your house is clean, the indoor air is pure, a day's work is done - it must be cocktail hour. You could call in at one of the city's cool speakeasies on the way home, or program via app your own robotic bartender. The Somabar, taking pre-orders via a kickstarter campaign, is designed to mix more than 300 different cocktails, or even create your own recipe.

Unveiled at this year's Consumer Electronics Show in Las Vegas, it could, perhaps, be the ultimate appliance of next summer.

DNREC files two petitions aimed at out-of-state air pollution

Date: 12th July, 2016 Source: Delawareonline

State officials last week filed a pair of petitions with the federal court system in the hopes of forcing other states to reduce air pollution that makes its way into Delaware.

The Department of Natural Resources and Environmental Control filed one petition in the U.S. Court of Appeals for the District of Columbia to challenge a ruling that would give surrounding states another year to meet federal air-quality standards.

Pennsylvania, Maryland and New Jersey have requested that the U.S. Environmental Protection Agency give them one more year to comply with a 2008 national ozone standard.

Delaware is arguing against the extension, claiming those states should be forced to reduce air pollution that travels into its borders and impacts local residents.

State officials say Delaware's efforts to meet the standards are being thwarted by emissions from Maryland, Pennsylvania and other states farther west, with 94 percent of "bad ozone" levels created by air pollutants from "upwind" states.

DNREC last week also filed a petition with the EPA asking the federal agency to specifically address air pollution created by the Brunner Island Power plant near York, Pennsylvania.

State officials say computer modeling indicates the plant's three coal-fired electric generating units are contributing to unhealthy ozone concentrations in Delaware.

The plant's generation units are not equipped with modern nitrogen oxide controls. Similar controls installed at Delaware's NRG Indian River facility near Millsboro have reduced the annual nitrogen oxide emissions rate by nearly 80 percent, according to DNREC.

Short-term exposure to high levels of ozone can result in suppressed immune systems and acute respiratory issues, including coughing, wheezing and shortness of breath. High ozone levels are especially problematic in the Mid-Atlantic states during summer months. High temperatures produce atmospheric conditions conducive for ozone formation while high electrical demand also produces greater output of nitrogen oxide, a precursor to the formation of ambient ozone.

Under the Clean Air Act, the EPA has 60 days to find that the Brunner Island plant is impacting Delaware air quality or deny DNREC's petition.

Premature deaths will rise minus air quality norms: IEA

Date: 13th July, 2016 Source: The Hindu



Less than one per cent of India's population lives in areas that meet World Health Organisation air quality guidelines. But if stringent air pollution regulations are in place, this could increase to almost 10 per cent by 2040, says a study by the International Energy Agency (IEA).

The "Energy and Air Pollution, World Energy Outlook Special Report", released in June, assesses the role of energy in air pollution and makes emissions projections for 2040 based on two scenarios.

The existing policy scenario includes policies adopted or announced by the government, and the clean air scenario highlights what could be achieved through stronger action.

Housing over one-sixth of the world's population but using only six per cent of energy, India's energy use is bound to rise, the report says. Thermal power stations, vehicles, back-up generators, brick kilns, industrial activity and biomass burning for cooking and heating are major sources of energy-related pollution. The report identifies sources for three big pollutants: NOx (nitrates), SO2 (sulfates) and PM2.5 (particulate matter).

Transport is the major contributor of nitrates, power sector for sulfates and residential sector for particulates. While power plants have installed control technologies for nitrates and sulfates, they are often suboptimal or operate inefficiently.

Without policy efforts, sulfates and particulates would roughly double by 2040 and nitrates would grow almost 2.5 times.

But due to new power sector regulation, SO2 is likely to be restricted to around 10 per cent relative to today's. NOx emissions growth could be contained to 10 per cent in 2040 by new passenger car standards. Further, efforts to promote access to clean cooking facilities for poor households have to be

continued to moderate PM2.5 rise to around 7 per cent. But even with all existing policies, absolute growth in emissions (especially PM2.5), coupled with strong population growth, means the number of premature deaths linked to outdoor air pollution will still grow significantly, says the report.

The report acknowledges the role of Environmental Protection Amendment Rules (EPA) 2015 in strengthening emission standards for new and existing plants. But the results will not be delivered without effective compliance, which has to be monitored at the plant level, with penalties for violations, it says.

Weak norms

But regulation is weak. For instance, PM emission limits for most iron and steel processes are three times higher in India than in China and 7.5 times higher than in Germany. India is taking important steps to tackle air pollution with policies that are in place and those that have been announced, but much more can be done, the report says, advocating a 'Clean Air Scenario' involving three key areas of action.

First, set an ambitious long-term WHO-benchmarked air quality goal. Second, a clean AIR strategy for the energy sector: Avoid pollutant emissions, Innovate to reduce pollution abatement costs and Reduce emissions. Third, it calls for effective monitoring, enforcement, evaluation and communication using reliable data.

The Clean Air Scenario could cut down PM2.5 emissions by almost 80 per cent relative to the existing policies scenario, NOx emissions by half and SO2 emissions by 70 per cent. This will lower average life expectancy loss by eight months compared to the existing policy scenario and cut premature deaths linked to outdoor and household air pollution.

One of the main conclusions of this study is that the energy sector must work closely with a range of stakeholders to tackle air pollution successfully.

Truck sales in NCR choked after drive against air pollution, Supreme Court imposed ban

Date: 14th July, 2016 Source: The Economic Times



NEW DELHI: The Supreme Court imposed ban on big diesel-powered passenger vehicles in the National Capital Region has hurt commercial vehicle makers as well, and they are unsure when they will have some clarity on the matter.

The National Green Tribunal (NGT) in its ruling on December 11 had barred vehicles older than 10 years from plying on roads in the capital and stalled registration of all diesel vehicles to curb air pollution.

While the Supreme Court intervened later that month and imposed a ban on the registration of passenger vehicles sporting diesel engines displacing 2 litres and more in the whole of NCR — Delhi and its satellite cities in adjoining states — no clear directions were given on commercial vehicles.

But registration department officials in the region put a halt on the registration of new CVs with 2 litre and higher capacity diesel engines. "It is a catch 22 situation now," a senior industry executive said, speaking on the condition of anonymity.

"The Supreme Court has refused to clarify the matter stating it never deliberated on commercial vehicles. The NGT, on the other hand, has said that since the apex court is deciding on the issue of registration of diesel vehicles in Delhi-NCR, it will not intervene." To be sure, this doesn't directly affect CV sales within Delhi, because any vehicle plying for commercial purposes within the city needs to be powered by CNG.

But it is a problem in the satellite cities that form part of the NCR. With the ban stretching into the eighth month now, makers of commercial vehicles are in a fix.

Like in the passenger vehicle space, the NCR is the largest market for medium and heavy commercial vehicles, accounting for 8-9% of country's monthly sales of around 2,000 to 2,500 units. The directive of the NGT to not allow old vehicles on Delhi roads was initially expected to generate replacement demand for new trucks. The ban on new registrations, however, ended up clogging the medium and heavy truck market in the region, said industry observers.

Tata Motors said the company is hoping for the final order of the Supreme Court to shed some light on the issue. "We will await details of the order, before we make any comments on the subject," said the company spokesperson.

Some fleet operators are bypassing the ban by registering vehicles outside the NCR. Diesel vehicles on All India Transport Permits can enter Delhi, but are required to pay a green tax. "The major impact is being felt on medium and heavy duty truck sales, as buses have already been converted to CNG.

Due to imposition of higher green tax, the business model of local transporters are disturbed as it is clearly an additional cost to him on daily movement of vehicle within the NCR," said a senior executive on the condition of anonymity. The industry has made several representations before the court, the tribunal and the government.

"The Society of Indian Automobile Manufacturers has appealed to the government and is now a party to the case before the NGT," said the industry body's director-general, Vishnu Mathur. There has not been much headway in the case.

Vietnam looks to curb air pollution from motorbikes

Date: 18th July, 2016 Source: Digital Journal

Motorbikes account for the vast majority of vehicles used on the streets of Vietnam. With air pollution on the rise in major Vietnamese cities, government officials are trying out new methods to fix the air quality.

As of 2008, the Guardian reports, 80 percent of trips on Hanoi's streets were made by motorbike or scooter. The growth of car ownership only threatens to place more strain on the traffic infrastructure and the air quality of urban centres in Vietnam. While the Ministry of Industry and Trade states that the current rate of vehicle purchases will see 45 million vehicles on the road by 2020, the slated capacity of the traffic infrastructure for Vietnam is only 36 million.

A sharp rise in particulate matter levels — at one point as high as seven times the World Health Organization's recommended levels — was measured by the U.S. embassy in Hanoi in March of this year. The vast majority of the pollution collecting in urban areas has been credited to traffic, calling Vietnamese officials to action.

Major cities in Vietnam continue to develop their plans for mass transit. Hanoi hopes to see their expanded bus service and new metro project draw in 60 percent of the trips in the city by 2030 — the city's bus line currently accounts for only nine percent of all daily trips. Saigon's breathtakingly ambitious metro project, though over budget and delayed, hopes to open their first, 11-station addition to the city's transit infrastructure for 2020, with four more projects to follow.

Meanwhile, the Ministry of Transport in Vietnam has decided to roll out emissions testing for motorbikes as soon as 2018. The tests will be carried out on older vehicles first. Any motorbikes that fail the emissions testing will be required to undergo maintenance, and if the owner resists, a fine will follow.

The Vietnamese government began a project in 2010 to limit motorbike exhaust levels, but it never got off the ground. The recent environmental indications may convince officials and the public that the new legislation is worth enacting.

Air quality in Reading: Don't leave your engine idling

Date: 18th July, 2016 Source: getreading



Reading councillors discussed the borough's air quality action plan and what to do about idling engines

Drivers should stop leaving their engines idling to improve air quality in Reading .

That was the view of councillors discussing the National Air Quality Plan at the Reading Borough Council's strategic transport, environment and planning committee on Wednesday, July 13.

Councillor Isobel Ballsdon urged the council to raise awareness straight away of the pollution caused by drivers - including taxi drivers - leaving their engines idling.

She said: "Anything that can be done right now to improve air quality I am sure would be, by those who suffer from asthma and all others, appreciated."

Deputy leader of the council Cllr Tony Page supported Cllr Ballsdon pointing out the council would be bringing back a report on idling engines - including a consultation with taxi drivers - later in the year which might include voluntary measures and sanctions.

Cllr Ricky Duveen said it was time to introduce charges for polluting vehicles.

However Cllr Page said any measures in Reading needed to be "fair and equitable" because of the link between air pollution and old vehicles, adding: "Most people don't choose to run dirty old cars if they had the opportunity to be able to afford to get a new one."

He praised Reading Buses for adopting low polluting buses adding: "The other local bus companies need to up their game as well and bring on stream the cleaner, greener buses that Reading Buses has won awards for, rightly".

He added that Reading already had a high level of public transport use in the borough.

The committee was told Reading was expected to meet national air quality air targets by 2020 although there are areas in the borough currently not complying with the EU directive on air quality.

Areas being monitored are in Oxford Road , West Reading, Caversham Road, Central Reading, London Road, East Reading and Newtown - currently showing low pollution levels on the council's website.

Cllr Page said "Air quality as we know locally is a subject of great importance to the council and to residents who live in areas of the borough where air quality is not all it should be.

"One of the advantages of membership of the EU has been that the European Union has been in the forefront of promoting higher standards.

"Air pollution does not recognise borough or country boundaries.

"It is incumbent on all member states - and one would hope in or out of the EU this would apply - to drive up the quality of the air that we breathe."

He said Reading made a contribution, but it required strong national government action.

He added: "The present and previous Governments have not been as entirely proactive as they could or should have been."

Councillors reaffirmed the commitment to Reading's Air Quality Action Plan and to work with partners to explore "innovative solutions" to improve air quality in the borough.

Oil giants agree to pay $425 million to reduce air pollution

Date: 19th July, 2016 Source: RT



Six oil refineries will be modified to reduce emissions of hazardous air pollutants by thousands of tons in a $425 million settlement over alleged Clean Air Act violations. The Justice Department calls the deal the largest-ever agreement of its kind.

The settlement announced Monday clears the accusations against the subsidiaries of Par Hawaii Refining and Tesoro Corp. A huge chunk of the settlement money – $403 million – will go toward the installation of new equipment that will control emissions at six refineries.

"Sulfur dioxide, nitrogen oxide – there's going to be tens of thousands of tons of pollution reduced every year as a result of this consent decree," US Assistant Attorney General John Cruden announced in Seattle, where the settlement was reached, according to KPLU.

He also said the new equipment included adding cutting-edge enforcement measures at the refineries, such as infrared cameras that can detect compounds invisible to the naked eye.

After a 30-day public comment period, the settlement will come before a judge for final approval.

The affected refineries turn crude oil into gasoline, diesel and other products. They operate in Kenai, Alaska; Martinez, California; Kapolei, Hawaii; Mandan, North Dakota; Salt Lake City, Utah; and Anacortes, Washington.

Once the companies install the pollution controls, the EPA expects emissions reductions at the six refineries to drop by an estimated 773 tons of sulfur dioxide, 407 tons of nitrogen oxides, 1,140 tons of volatile organic compounds, 27 tons of hazardous air pollutants, 20 tons of hydrogen sulfide and the equivalent of 47,034 tons of carbon dioxide.

Under the settlement, Tesoro will also pay for the third-party audits of compliance with increased leak detection and repair requirements at all of the facilities, as well as $22.45 million for civil penalties and local environmental projects.

Couriers tool up to map London air pollution

Date: 20th July, 2016 Source: The Engineer



Drayson Technologies is partnering with Inmarsat and courier company Gophr in an effort to build the world's most accurate map of air pollution.

Fifty of Gophr's bike couriers in London will be equipped with Drayson's CleanSpace Tags, which measure carbon monoxide levels in real time. The tags are powered by the company's Freevolt technology that harvests residual radio frequency energy from the air, including from 4G and WiFi signals. Data from the couriers will be combined with that of other tag users and fed into the CleanSpace app's Air Map.

"The CleanSpace network aims to provide the world's most advanced air pollution map using thousands of personal sensors powered by Freevolt," said Lord Drayson, founder and CEO of the company.

"This partnership brings together the combined expertise and commitment of Drayson Technologies, Gophr and Inmarsat so that people in London can see the air they breathe and help to create, not just a smart city – but a smarter society."

The couriers will also be equipped with Inmarsat's LoRa (Long range) trackers to provide accurate location data via satellite. Compared to mobile-based location services, fewer access points are needed to establish the position of the riders in the city, and the couriers won't have to worry about battery drain on their mobile devices. According to Inmarsat, this is the first time its LoRa trackers will have been used for a public network in London.

"Air pollution is a global problem, contributing to about 40,000 early deaths a year in the UK alone," said Greg Ewert, president for Enterprise Markets at Inmarsat.

"Creating an accurate air pollution map at breathing height will contribute to the better understanding of how to combat this issue and improve air quality in London."

Drayson said there are plans for its CleanSpace Tags to be distributed amongst other organisations in the near future, creating even more accurate air quality maps. In the meantime, the Gophr couriers are predicted to travel around 17,000 miles each month, accumulating indoor and outdoor air quality data on a scale that hasn't been seen before in London.

“We’re a company that’s proud to be using the most innovative technology solutions available to make the world a better place to live in,” said Seb Robert, Gophr’s founder. “As a courier service built by, and with bicycle couriers from day one, we’re proud to be able to use our resources to map air pollution in the capital.”

Air pollution up in a third of Chinese cities: Greenpeace

Date: 20th July, 2016 Source: The Times of India

Beijing, July 20, 2016 (AFP) -

Air pollution levels rose in nearly a third of Chinese cities monitored in the second quarter, environmental campaign group Greenpeace said Wednesday.

China's cities are often hit by severe pollution from coal-burning by power stations, heavy industry and vehicle use, and it has become a major source of discontent with the ruling Communist Party.

Air quality worsened year-on-year in 103 cities in April-June, nearly 30 percent of those monitored, Greenpeace said. It cited pollution data collated from China's environmental protection ministry, which makes live figures available but does not publish full historic or comparative statistics.

Communist authorities are looking to retool the economy away from heavy industry and exports to one led more by consumer demand, but the transition is proving bumpy.

"It is now clearer than ever that air pollution and coal-burning heavy industry are directly connected," said Greenpeace's East Asia climate and energy campaigner Dong Liansai.

China's financial hub Shanghai saw its average PM2.5 level rise 6.1 percent to 48.4 micrograms per cubic metre in the April-June period, in comparison with the same period in 2015.

Exposure to the minute particles in the 2.5 size range can affect lung function and worsen medical conditions such as asthma and heart disease.

But Beijing saw its PM2.5 level drop 6.9 percent to 59.2 micrograms per cubic metre in the same period, year-on-year.

The World Health Organization's recommended maximum is an average 25 micrograms over 24 hours and 10 micrograms over a year.

The government has declared "war on pollution" and vowed to reduce the proportion of energy derived from coal and fossil fuels, but critics say efforts have fallen short of expectations.

rld/slb/sm

The World’s Most Advanced Map Of Air Pollution To Be Created

Date: 20th July, 2016 Source: Blue & Green Tomorrow

Gophr bicycle couriers will be equipped with CleanSpace Tags™ and LoRa™ trackers to provide real-time air pollution mapping across Greater London.



Drayson Technologies is today announcing its plans to build the world's most advanced air pollution map, for Greater London, and new partnerships with Gophr and Inmarsat to achieve this aim. UK courier company Gophr will equip 50 of its bicycle couriers with CleanSpace Tags – portable air pollution sensors created by Drayson Technologies that are powered by its revolutionary Freevolt technology. The couriers, all based in London, will map pollution levels on their journeys across the capital, collecting data that will help to build a real-time map of London's air pollution as they carry out their same-day deliveries. The couriers will also be equipped with LoRa trackers by Inmarsat, the global mobile satellite communications services provider; enabling highly accurate, real time location and height data to be collected on the move.

The carbon monoxide data collected from the CleanSpace Tags will feed into the Air Map, an interactive map that will show the pollution levels at the location of each courier, in real time. With the couriers predicted to travel over 17,000 miles each month, the amount of indoor and outdoor air pollution data collected will be on a scale that has never been achieved previously. The collected data is anonymised and fed into the CleanSpace mobile application, alongside other Tag users' data, to provide users with personal and actionable air pollution data.

The LoRa™ (Long Range) trackers will track the location of the Gophr couriers via satellite without having to use mobile Location Based Services which drain battery life. This provides more accurate readings on the move, with the need for fewer access points to cover the whole area of a city.

The CleanSpace Tag is a personal air pollution smart sensor that enables people to measure and monitor the pollution levels in the air they breathe, wherever they are, at any time. It is the first product to be powered by Freevolt™, a revolutionary technology launched by Drayson Technologies, that harvests and recycles wasted wireless signals to power low-energy devices so their batteries never need changing. The CleanSpace Tag works alongside the CleanSpace mobile application, allowing users to view their exposure to air pollution through an interactive Air Map.

Gophr and Inmarsat are the first partners announced in Drayson Technologies' plan to create the world's most advanced air pollution map of a city. Further organisations, groups and individuals will be equipped with CleanSpace Tags in the coming weeks and months in order to collect data, gather insights and help address the issue of air pollution in the capital.

Lord Paul Drayson, Chairman and CEO, Drayson Technologies, said, "the CleanSpace network aims to provide the world's most advanced air pollution map using thousands of personal sensors powered by Freevolt. This partnership brings together the combined expertise and commitment of Drayson Technologies, Gophr and Inmarsat so that people in London can see the air they breathe and help to create, not just a smart city – but a smarter society."

Seb Robert, Founder, Gophr, commented, "we're a company that's proud to be using the most innovative technology solutions available to make the world a better place to live in. As a courier service built by, and with bicycle couriers from day one, we're proud to be able to use our resources to map air pollution in the capital. Making the most of our bike couriers to deliver a great same-day service, and a healthier future for London."

Greg Ewert, President for Enterprise Markets, Inmarsat, said, "air pollution is a global problem, contributing to about 40,000 early deaths a year in the UK alone. This is the first example of a public LoRa™ network in London and we hope this partnership with Gophr and Drayson will be the first of many city air pollution projects."

Researchers use city pigeons to study air pollution

Date: 21st July, 2016 Source: Humanoshere



Air pollution is one of the greatest threats to humans, caused by humans, today. The public is increasingly aware of the health and economic costs of air pollution, which has a disproportionate impact on the world's poor.

But efforts to combat the pollution problem have yet to outpace the speed at which we're polluting the atmosphere, and the attention this had received in the media is reinvigorating efforts to tackle air pollution in innovative ways – like researchers who recently found they could predict levels of lead and other pollutants with pigeons.

The study, published Monday in the journal Chemosphere, found a link between elevated lead levels in children and pigeons in the same Manhattan neighborhoods. According to the authors, pigeons could be used to help detect lead contamination as well as other air pollutants in areas across the country, particularly urban regions.

"There's a potential to be able to circumvent health problems in humans before they even begin," said Rebecca Calisi, the study's lead author and an assistant professor at the University of California, Davis, in an interview with the New York Times.

Pigeons are ideal for making comparisons with human health, she explained, because they live in such close proximity to people and eat much of the same food. They also tend to spend their entire lives within the same square mile, unlike many other birds.

The researchers in Calisi's California lab intend to use pigeons to monitor other heavy metals, as well as pesticides and fire retardants, in urban areas around the world.

Calisi's study isn't the first to use pigeons to monitor air quality. In March, French tech firm Plume Labs launched a flock of 10 air-pollution monitoring pigeons into the skies of London. The birds, wearing GPS devices and a sensor to measure levels of nitrogen dioxide, took real-time measurements of air-pollution levels.

"There's something about taking what is seen as a flying rat and reversing that into something quite positive," said Pierre Duquesnoy, creative director at marketing agency DigitasLBI, which won a London Design Festival award for the idea last year.

Due to, in part, the success of the Pigeon Air Patrol, Plume Labs recruited 100 volunteers in London who will wear a prototype of the firm's air pollution-monitoring sensor for several weeks this fall. This experiment intends to help people track pollution in their area, understand its impact on health and show how they can reduce the risks of pollution-related illness.

Despite the ingenuity and success of the pigeon projects, most pollution experts say the solution is to use cleaner energy sources. On a global scale, it may take years to see such changes, but recent analyses indicate that making the switch to wind, solar and other energies may not be as difficult or expensive as once thought. Indeed, a recent report by the International Energy Agency (IEA) found that just a 7 percent increase in global energy investment ($4.7 trillion) could cut air pollution-related deaths in half by 2040.

"This is completely peanuts. With a 7 percent increase you can save over 3 million lives," IEA Executive Director Fatih Birol told reporters in London.

There is more pressure than ever for governments and policymakers to make changes that reduce our negative impact on the environment. Air pollution is now the fourth largest threat to human health – only behind high blood pressure, dietary risks and smoking – contributing to around 6.5 million deaths annually.

Air pollution above permissible levels at Hopes College area

Date: 22nd July, 2016 Source: The Times of India

Coimbatore: Two weeks after the citizen driven air pollution monitoring exercise was launched in Coimbatore, the readings taken at Hopes College where a sensor was installed has shown that pollution levels at this spot was higher than permissible levels.

The quantum of respiratory suspended particulate matter (RSPM) has touched a high of 200 microgram/m3 to 600 microgram/m3 during the peak hours of 6.30pm to 9pm at Hopes College signal. This is very high compared to the permissible pollution levels prescribed by World Health Organization which stand at just 12 microgram/m3 of particulate matter. These particles in the air are made up of a mixture of soot, organic and inorganic materials which when inhaled cause serious health problems.

Though pollution levels during the peak hours in the morning were mostly well within the permissible levels and hovered around an average of 10 microgram/m3, readings show that pollution levels, sometimes touched 200 microgram/m3 during the mornings. "However, we can't say the the pollution levels are alarming as the highest amount of RSPM recorded by the pollution monitor we had installed was not constant even during peak hours. The pollution level touched the peak only very few times during the two weeks we monitored," said Antony Deepak, member of a city-based organization of social entrepreneurs named SPICE foundation, which launched the initiative called Citysenze.

The pollution monitor was developed by Antony Deepak using a low cost infra red filter which can count of particles that can go through the sensor.

The level of RSPM is however higher than the pollution data recorded by TNPCB for the whole city because the board calculates only average pollution level of the whole city during a particular period and not location specific. "The average is around 10 mg/m3 which is lower than the WHO prescribed levels," said Deepak.

However, data declared by TNPCB has also shown that air pollution levels have been continuously going up. The city recorded a RSPM of 43 in 2003-'04, rose to 53 the following year and went as high as 68 in 2011-12. Pollution levels went down only once in 2005-'06 to 39 and 44 in 2006-'07.

Pollution control experts say there could be a specific reason for the difference in data but they also agree that pollution levels in Coimbatore are comparatively good. "Hopes Signal area is populated with trees

which are very good absorbers of particulate matter," said senior scientist at IFGTB, Rekha R Warrier. " So, if the meter was slightly interior rather than on a median on Avinashi Road, the readings might be lower," she said.

Eco-friendly motorcycle couriers to help reduce air pollution in Tehran

Date: 23rd July, 2016 Source: Tehran Times



TEHRAN — Some 600 eco-friendly electric motorcycle couriers will start working in central Tehran in a bid to reduce air pollution in the megacity, the director of Tehran's Air Quality Control Company has said.

Hopefully by the beginning of the second half of the current year - falling on September 22, 2016 - and in association with Tehran's Municipality and Badpa Courier Company the scheme will be administered in 6 areas located in district 12 of Tehran, Vahid Hosseini said, Mehr news agency reported on Friday.

Air pollution in Tehran stems from various factors including great number of cars as well as the clunkers, motorcycles, sand mines surrounding the city, and occasional dust storms originating from hotspots which used to be wetland and are now dried up due to mismanagement of the water resources.

To tackle all these problems different organizations must get involved to formulate coherent policies to reduce this persisting predicament.

As carburetor motorcycles are responsible for a great deal of harmful emissions replacing them with electric motorcycles would play a significant role in mitigating the air pollution, Hosseini added.

Electric motorcycles produce zero emission and noise disturbance, he said, adding, "It is not so far-fetched that with their emergence in the city we would experience less pollution the center of the city."

He also criticized the manufacturers who didn't cooperate to mass produce the electric motorcycles as at the beginning of the scheme 30 manufacturers have expressed readiness but not only two have kept their words.

It would be more fruitful if there were more manufacturers to stimulate competition and consequently enhance the quality and lower the prices, Hosseini suggested.

Shell's ethane cracker will reduce regional air emissions

Date: 24th July, 2016 Source: Pittsburgh Post-Gazette

The July 17 Forum article "One Cracker = 36,000 Cars" by James P. Fabisiak, associate director for the Center for Healthy Environments and Communities, omitted important information about the steps Royal Dutch Shell must take to document a regional "net decrease" in air emissions to obtain permits for its Beaver County ethane cracker.

This attempt to mislead readers by portending the opposite is not surprising, coming from an organization whose homepage features a group photograph with "Gasland" producer/director Josh Fox.

A company building a new facility in Pennsylvania determined by regulations to be a "significant" source of air emissions — producing 100 tons per year of nitrogen oxides (NOx) and/or 50 tons per year of volatile organic compounds (VOCs) — must purchase air emission reduction credits (ERCs) that result in a "net reduction" in regional emissions and purchase them at prescribed ratios to ensure this reduction. If a new facility emits 100 tons of VOCs, the applicant must purchase 115 tons of ERCs.

In the world of air pollution control regulations, Shell's cracker will not add to regional air emissions; its permitted construction will reduce them.

Mr. Fabisiak makes other misrepresentations. Not all VOCs are toxic, and ozone precursors (NOx and VOCs) are regulated, but not as "toxic" emissions. Characterizing all VOCs as "air toxins" is sensationalism, misleading and demonstrates a lack of understanding of the Clean Air Act, made worse by incorrectly equating the regulation of mobile and stationary sources.

There is nothing simple about regulating air emissions. Mr. Fabisiak's attempts to falsely exacerbate potential health impacts and dumb down an important federal regulatory program grounded on science are very unfortunate.

LOUIS D. D'AMICO
President & Executive Director
Pennsylvania Independent Oil & Gas Association
Marshall

Cyclists to ride in protest at air pollution of Heathrow's third runway

Date: 24th July, 2016 Source: Road.CC



Family friendly ride will highlight safety concerns of more air pollution in west London.

Cyclists with a keen interest in the environment will be taking part in a Critical Mass ride on September 17th to protest a third runway at Heathrow.

The organisers say that 'enough is enough' of 'the daily reality of roaring planes and lethal levels of air pollution' in the shadow of the flightpath in west London, and that another runway could cause the same climate impacts as the entire country of Kenya.

The family-friendly ride will run between Chiswick and Heathrow, gathering in Chiswick Common (nearest tube station: Turnham Green) from 11am on 17 September to hear speeches by local residents and campaigners before setting off along Chiswick High Road at 12.

The journey takes around an hour at a gentle pace and there will be mechanics on hand for any bike problems.

Accompanied by a float and music to keep the pedal power pumping, the atmosphere is described as intending to be fun and carnivalesque. Protesters are encouraged to wear props to highlight the issues at play including gas masks and ear muffs.

One road.cc reader and organiser, Maggie Zenwa, told us: ”Clean air is of major importance to everyone. Communities under Heathrow's flightpath have suffered noise and air pollution for years. Many have lived in isolation with their concerns over the proposed Heathrow expansion.

“This event is to unite the community under one big voice. It serves to engage, empr, galvanise and mobilise the community to take action in standing up for their rights. It will also serve to raise awareness of our local environment."

SoCal wildfires' smoke spurs air pollution warnings in Nevada

Date: 26th July, 2016 Source: CBS News



SANTA CLARITA, Calif. -- Most of the roughly 20,000 evacuees forced out by a wildfire have been cleared to go home, but firefighters still had huge work ahead in taming the massive blaze northwest of Los Angeles.

A week of triple digit temperatures awaited the army of some 3,000 firefighters battling flames in rugged hills and canyons.

Residents of two neighborhoods still under threat had to remain out of their homes, the U.S. Forest Service said, after a day when the fire grew only slightly, to about 55 square miles.

The Sand Fire has been consuming at least 10,000 acres of land a day, the equivalent of 10,000 football fields, reports CBS News correspondent Mireirya Villarreal.

"I have been in the fire service for 38 years," said Los Angeles County Deputy Fire Chief John Tripp. "We have never had this kind of experience in June and July. That is a testimony to what we are going through with the drought."

Eighteen residences have been destroyed in the blaze that started Friday afternoon and quickly tore through drought-ravaged brush that hadn't burned in decades.

Laurent Lacore was among those who evacuated on Saturday, the last of his family of four to leave as the fire bore down on his house.

"The flames were right behind our backyard," he said.

Lacore was also among many told they could return on Sunday only to learn on arriving at the scene that new winds and new flames meant more days in a hard-to-find hotel room.

He returned Monday night delighted to find the house and everything around it had been saved, and could see a line of red fire retardant nearby where a helicopter had stopped the fire's approach.

"Everything is fine," he said. "Even all of the trees are there."

Firefighters saved about 2,000 homes in the fire's first three days, Tripp said.

Some 300 miles to the northwest, a blaze in the scenic Big Sur region of the Central Coast destroyed 20 homes and threatened 1,650 others as it burned 25 square miles, though firefighters made gains Monday and had it 10 percent contained.

The two blazes sent smoke as far away as Nevada, where officials issued air pollution warnings.

In Santa Clarita, 30 miles northwest of downtown Los Angeles, the fire broke out Friday, spreading through rugged mountains before making its way into canyons with sprawling subdivisions.

At the fire's peak, about 10 percent of Santa Clarita's 200,000 residents had been ordered out of their homes, before most were allowed to return Monday night.

The fire exploded over the weekend like a "crazy storm," said Kara Franklin, who said sand driven by heavy winds hit her in the face as she tried to get a horse and donkey into a trailer so she could tow the animals away. From a ridgetop, she saw flames engulf a neighborhood.

"The heat was so intense," Franklin said Monday from a high school that had been turned into an evacuation center.

A house two doors from hers was engulfed, providing a buffer that helped save her house.

Three Forest Service firefighters lost their homes at a remote fire station in the San Gabriel Mountains, including two who were fighting the fire at the time.

Investigators on Monday were trying to determine the cause of death of a man whose body was found in a car in the fire zone Saturday.

Air pollution can affect child's brain development: Experts

Date: 27th July, 2016 Source: The Times of India

New Delhi, July 27 (IANS) Air pollution can affect a child's brain development, create abnormalities, and lower the IQ, health experts have claimed.

The health experts, whose claim is based on several studies, said that the difference between the working memory capacity of children living in urban areas is 4-5 per cent lower than children living in rural areas due to the effects of pollution.

"The findings are disturbing as optimal brain development is crucial in setting the foundation of children's future. Children are most vulnerable to negative effects of air pollution due to their higher breathing rate to body size ratio, and less developed natural barriers in the lungs," explained S.P. Byotra, Head of Department of Internal Medicine at Sir Ganga Ram Hospital.

Byotra claimed that even indoor environment cannot be termed as safe since exposure to many common everyday pollutants in our homes, including tobacco smoke, lead in paint and toys, emissions from cooking stoves, mycotoxins among others, can affect a child's brain development.

A study published in PLOS Medicine, a peer-reviewed weekly medical journal, said that air pollution not only causes respiratory problems but can also affect the brain development of children of all ages including in the womb.

According to medical experts, millions of children exposed to toxic levels of indoor and outdoor pollution were showing brain detrimental effects exhibiting brain abnormalities. Tobacco dust, indoor air pollution, and airborne polycyclic aromatic hydrocarbons were contributing the most.

"Indoor air pollution is one such health hazard which silently enters our body and incapacitates us from the inside. Its quality is equally or more dangerous than outdoor air pollution. Since we spend more time indoors, naturally the risk associated with indoor air is more," said Raj Kumar, Head of Respiratory Allergy and Applied Immunology at Vallabhbhai Patel Chest Institute.

Considering the deterioration in health due to air pollution, a country wide anti-pollution awareness programme, named Clean Air India Movement (CLAIM), has been started by air purifier manufacturer Blueair. Under the initiative, Blueair has decided to plant a million trees across the country in the coming years.

A study published in the Pediatrics journal shows a clear association between mothers' exposure to high levels of environmental pollutants during pregnancy to a four-point drop in children's IQ scores by age five.

--IANS

A Color-Changing Shirt That Detects Air Pollution

Date: 27th July, 2016 Source: CITY LAB

Designer Nikolas Bentel conjures a dystopian future in which we have to learn to live with irreparably poor air quality.

At first glance, the latest line of smart clothing looks unassuming—a set of black sweaters not unlike what you'd find at the local mall. But wear them out in the city long enough and you'll start to see why they carry a hefty price tag. In a matter of seconds, the black fades into a pristine white, revealing an intricate pattern of polka dots, cheetah prints, and another labyrinthine design.

The shirts—true to the name of the line, Aerochromics—are responding to changes in air quality. Specifically, the shirts change color when they detect an unhealthy, or even dangerous, concentration of pollutants in the air. One shirt reacts to carbon monoxide, another to radioactive particles, and the third to air pollutants commonly found outdoors.

Futuristic as the shirts may sound, the technology used is actually readily available, says creator Nikolas Bentel, a speculative designer based in Queens, New York. The color-changing dye used in the carbon monoxide-detecting shirt, for example, contains the same chemicals found in monitors used in homes. And embedded into the pollutant-detecting shirts are tiny sensors that monitor changes in air quality.

When the Air Quality Index detected hits 60, defined by the Environmental Protection Agency as a "moderate" health concern, the sensors activate a micro controller embedded in the collar. That controller then activates heat pads that cause the shirt's thermal chromic dye to change from black to white. As the AQI approaches 160, which falls into the "unhealthy" interval, the shirt's entire pattern is revealed.

"The project came out of a speculative world," says Bentel, whose designs focus on addressing issues of the future. "The way I do a lot of projects is I start with a future scenario of how our world will end up if we keep [ignoring] pollution, let's say, and then how the objects around us will have to change."

In the dystopia he's built for this project—which isn't too far off from what we are seeing today—the human population has let the already alarming levels of air pollution increase so much that extreme weather has become the norm and the atmosphere is beyond repair. "Due to our inability to maintain

healthy pollution levels in the past, these storm patterns have gotten so large that we now must live with them instead of fixing them," he writes on his website. "Fixing the pollution problem was lost a long time ago."

Bentel says the shirts may come in handy if you want to track pollution changes in your immediate surroundings or get a read on the levels in countries you visit. He adds that he'd like to have people test the shirt and provide feedback, but at $500 a shirt (the nonreactive ones cost $90), Bentel also acknowledges that he probably won't sell many.

Really, the endeavor is more of a statement. Nowadays, there are several ways for people to stay on top of their city's level of air pollution—from websites that map global air pollution in real time to portable sensors and mobile apps. London is even planning out to roll out a robust air pollution warning system. Yet that information escapes the general public—and therefore isn't on top of their list of priorities. "I want people to get more familiar with the fact that pollution is everywhere and that we will have to live with it if we don't change our ways," Bentel says, admitting that although he has an AQI on his phone, he barely checks it.

The hope is that the shirts will be a starting point. "One of the ways to get people to look at information," Bentel says, "is to embed the technology into daily life, and into the objects they use every day."

Warning: Unhealthy Air Pollution Levels Exist in Parts of NH

Date: 28th July, 2016 Source: Salem Patch



Breaking: NH DES issues Air Quality Action Day for Rockingham County; issues "moderate" ozone warning for Hillsborough, Strafford Counties.

CONCORD, NH — The New Hampshire Department of Environmental Services (NHDES) issued a warning on July 28, 2016, and stated that the department is expecting air pollution concentrations to reach unhealthy levels for sensitive individuals in Rockingham County, according to a press statement. NHDES officials are calling for an "Air Quality Action Day" and advise sensitive individuals in this area to take precautions to protect their health by limiting prolonged outdoor exertion, according to Jim Martin, a public information officer for the department.

"Sensitive individuals include children and older adults; anyone with lung disease such as asthma, emphysema, and bronchitis; and people who are active outdoors," he said. "Even healthy individuals may experience mild health effects and should consider limiting strenuous or prolonged outdoor activities."

NHDES forecasts unhealthy concentrations of ground-level ozone (the main component of smog) for sensitive individuals in the above-mentioned region. The expected unhealthy air quality is due to the persistence of high temperatures under sunny skies and light winds transporting pollution into New Hampshire from surrounding areas. Conditions are expected to improve on Friday as lower temperatures, clouds, and cleaner air move into the region. Conditions could begin improving as early as Thursday afternoon depending on when exactly the anticipated cloud cover arrives.

"Symptoms of ozone exposure include coughing, wheezing, chest tightness or pain when inhaling deeply, and shortness of breath," he added. "The severity of the health effects increases as ozone concentrations increase."

For further information, contact NHDES at 603-271-1370. For air quality forecasts and current air pollution levels in New Hampshire, call 1-800-935-SMOG or visit the NHDES website at airquality.nh.gov.

Mapping London's Air Pollution, With Help From Bike Couriers

Date: 28th July, 2016 Source: Clean Technica



Originally published on Bikocity.

The Greater London area will eventually have "the world's most advanced air pollution map," thanks to a collaboration between Drayson Technologies, Inmarsat, and the bike courier company Gophr.

50 bike couriers with Gophr will be outfitted with Drayson's CleanSpace Tags, which are small air pollution sensors powered by wireless signals, and these sensors will collect pollution data as the couriers cycle their way around and across London each day. The data on carbon monoxide levels that gets collected by the sensors will then be imported into the Air Map, which will display real-time pollution levels at each sensor's location. As the bike couriers are estimated to cover some 17,000 miles each month, the air pollution data, which includes both indoor and outdoor air, is expected to be "on a scale that has never been achieved previously."

The CleanSpace Tag sensors are the first products to be powered by Drayson's Freevolt technology, which allows the devices to "harvest" radio frequency (GSM and WiFi) signals for their energy, which is then used to power the low-energy devices, essentially allowing the devices to never have to replace their batteries.

The location data will come from other devices, LoRa trackers from Inmarsat, which the couriers will also be supplied with, that capture the real-time location and height data of the couriers, allowing for precise tracking of the location of each pollution data point. By employing the LoRa trackers instead of using the location services on the courier's mobile device, it reduces the drain on the battery, which is often already in heavy use.

The data, which will be anonymized before being added to the Air Map, will also be supplemented by data fed into the system by other CleanSpace Tag users, which will provide both personal air pollution metrics, as well as "actionable" air pollution data, through the CleanSpace mobile app. This information allows users to view their own exposure to air pollution through the interactive Air Map, which can help users make informed decisions about their travel and activity plans in order to best avoid unnecessary air pollution "hotspots." It's estimated that some 40,000 early deaths each year in the UK are attributable to air pollution.

According to Drayson Technologies, more organizations, groups, and individuals will be employing CleanSpace Tags in the near future, in order to collect more air pollution data and to further build out the air pollution map of London.

The 'human sensor' making Manchester's air pollution visible

Date: 28th July, 2016 Source: The Guardian



The hi-tech illuminated costumes worn by media artist Kasia Molga reveal changes in urban air pollution and bring together art and science

Heads turn when media artist Kasia Molga and her performers walk the streets of Manchester. When they near buses belching diesel fumes, their futuristic capes and masks turn a bright red. Near a park they go green. Depending on the traffic pollution levels in the northern industrial city, their clothing pulses, flashes and changes colour from purple through to white.

Molga calls herself a "human sensor". She has linked with atmospheric scientists at King's College London to develop clothing that reacts to the minute particles (PM2.5s) emitted mainly by diesel engines.

A pocket-sized aerosol monitor linked to a GPS watch and a tiny Raspberry Pi computer allows pollution data collected in the street to communicate with LED lights embedded in the artists' capes and masks. The data cannot yet be broadcast by the clothing in real time but information collected a few hours previously is used.

"The reaction has been amazing. People quickly realise it's to do with the air and breathing. Many passers-by have been surprised and concerned that the changing colours on the costumes mean that they can 'see' the air pollution for the first time," said Molga.

"I realised that my own body is the best sensor for the environmental changes around me. The act of breathing is a very intimate action – an interface which connects our inner bodies to the outside."

Because air pollution, climate change and so many other environmental problems are largely invisible, artists are increasingly working with scientists to communicate the hazards of everyday life.

"It is really important for artists and scientists to work together," said King's College senior air quality analyst, Andrew Grieve. "The big challenge we have is that air pollution is mostly invisible. Art helps to makes it visible. We are trying to bring air pollution into the public realm. Scientific papers in journals work on one level, but this is a way to bring it into the street where the public is."

The development of hi-tech clothing is expected to lead to big societal change, said Prof Frank Kelly, director of the Environmental Research Group at King's. "Here it is being used in a really positive way – making dangerous air pollutants visible. The problem we have as scientists is people cannot see the problem."

In a separate development, 16 children and teachers at East Barnet secondary school in London have this week been issued with portable air pollution sensors enabling the school to generate live air pollution data from both inside the classroom and on routes to and from the school.

The monitors, from London technology startup Drayson Technologies, measure carbon monoxide. The data will be fed into a time-lapse heat map that will show the pollution levels in realtime.

"We are extremely conscious of the issue of pollution and are keen to raise awareness of it among our children, parents and staff. This will enable us to understand the quality of the air inside, and around our

school, and help us to devise a strategy to ensure our pupils have a minimal exposure to pollution," said Stuart Owen, head of science at the school.

A May report on London air pollution showed that 433 of London's 1,777 primary schools were in areas where pollution concentrations breached EU limits.

Outdoor air pollution is now one of the biggest killers in the world and responsible for nearly 9,500 deaths a year in London. In the world's cities, it has has grown by 8% in the past five years, according to the World Health Organisation.

How low-cost tech can help India monitor the air it breathes

Date: 29th July, 2016 Source: Mashable India



India has some of the most unhealthy air in the world, but the wake up call came in 2014, when its capital New Delhi was ranked by the World Health Organisation as the most polluted city in the world.

Over the next two years, reports on its air quality remained grim. The country's air pollution levels reached their highest levels in 2015, after being on rise for the last decade. For the first time, India's air was also found to be more polluted than China's. This year, WHO revealed that the country was home to half of the world's most polluted cities. Other studies indicated clear health risks, with 1.6 million premature deaths in India linked to air pollution.

In a first step towards being more transparent about its pollution crisis, India launched its first air quality index to monitor pollution in 10 cities in 2015. Despite this, awareness and knowledge of air pollution remained low and inadequate.

To remedy this, a number of Indian startups are building low-cost pollution sensors and IoT devices to measure air pollution on a hyper-local level and at a wider scale in order to gain a wider knowledge of the problem and how it can be tackled. They argue that more comprehensive pollution data can help increase public awareness about the extent of the problem and help the government find solutions.

"The government devices solve a different purpose, at best help in regulatory decisions." says Mrutyunjay Mishra, who runs an analytics company Juxt-SmartMandate. "The data is not publicly visible, and even if they are for some locations like Delhi, it doesn't drive 'community action'. The data is far from being open and is not inviting the complex network to come and work with the data to drive action. The need is to get a lot of people come and use their collective intelligence to develop a solution."

Moreover, government-operated pollution monitors are often expensive and therefore few in number. "The number of government pollution monitors, besides New Delhi, is in single digits," Ronak Sutaria of IndiaSpend explains. "That is, in most polluted cities, the govt. has installed a single pollution monitor for a million people. That seems woefully inadequate."

There is also the question of how effective the operations of the government's monitors are. Sutaria cites the example of a recent study that revealed that while Delhi has 21 air pollution monitors, there were significant long gaps in their monitoring when they may have stopped working.

IndiaSpend's Breathe initiative is one of the organisations running a network of independent air quality monitoring devices across India. In a step towards making live air pollution air data more democratic, IndiaSpend partnered with Twitter India to let users get real-time data on air pollution in their neighbourhood with just a tweet.

"It helps make the air quality data more actionable for people as they just have to send their location and within seconds they are provided information about the air quality levels in their area," Sutaria says.

IndiaSpend's network uses low quality sensors fitted with GPRS transmitter, which have deployed in around 40 devices in Mumbai, Delhi, Bangalore, Chennai, Patna and Lucknow. It is also working on deploying devices in cities such as Dehradun, Ahmedabad, Varanasi, Allahabad, Kanpur and Bhopal.

The devices are built in India, using a digital Particulate Matter (PM) sensor from China and then doing the controller board and data transmission integration locally. The PM sensor is a laser sensor which is connected to a controller board which receives data from the sensor. A GPRS module transmits the data to IndiaSpend's servers using a 2G connection.

"The goal of the low-cost devices and analysis provided by IndiaSpend is to involve citizens in seeing the effects of policies as well as their own actions on the air quality levels in the area surrounding their own houses," Sutaria says. "When devices are owned or installed by people themselves, they tend to be more involved in the understanding of the problem and in demanding that action be taken on conditions which are harmful to them."

Delhi-based analytics company Juxt-SmartMandate (JSM) takes this a step further with its non-profit platform, India Open Data Association (IODA). Its open environment data project was started with the aim of creating a "simple, scalable and easy to deploy solution" to bring in "real time status of the environment from thousands of locations in India". The data is also open source, with the device design and data APIs being accessible to everyone.

"If the data remains open, it will attract all stakeholders, not only general public, but also the people who influence public policy," IODA founding member Mrutyunjay Mishra says.

Piloted during the massive Hindu festival Nashik Kumbh Mela, JSM now has 30 environmental monitoring kits installed in Delhi. These have multiple sensors, and are connected to either analog, digital or UART ports of a base shield, which is in turn connected to a IoT board with data being transferred through SIM cards. In June, IODA in association with Oizom also launched AirOwls, which measure dust particulate matter. Mishra says that while the readings sometimes differ from government monitors, the devices are calibrated to determine the differences.

IndiaSpend and JSM aren't alone. The Chennai-based Sensors Without Borders provides hyperlocal and open source environmental data on air and water quality gathered from low-cost devices to help with governmental policy making and support community organisations.

Policy Implementation Key to Improving Air Quality

Date: 31st July, 2016 Source: EDM Digest

The dangers of poor air quality



The fourth largest threat to human health is poor air quality, which contributes to the premature deaths of approximately 3 million people per year, with the poorest in the world being the most affected, according to a recent report from the International Energy Agency (IEA).

Even worse, the IEA found that, overall, 6.5 million deaths each year can be linked back to air pollution. Unless emissions are curbed substantially over the next several decades, premature deaths are likely to increase significantly.

In cities that monitor air quality levels according to standards set by the World Health Organization (WHO), 80 percent of those city populations are breathing air that falls below the acceptable levels. At current rates of emission, premature deaths are likely to rise from the current 3 million to 4.5 million per year by 2040 unless action is taken to reduce harmful pollutants from being released into the air.

The report highlighted definitive links between health, air pollution, and energy production and its use, with inadequate regulations or inefficient fuel combustion having the most impact on air quality.

As a result of the poor regulations or inefficiencies, millions of tons of pollutants, including particulate matter and sulfur and nitrogen oxides are spewed from vehicles, power plants, and factories, along with home heating and cooking fuel sources from nearly 2.7 billion people, most of whom live in poverty conditions.

IEA's analysis found that properly implemented policies, along with a minimal investment in energy (around seven percent through 2040), could sharply increase air quality and improve overall human health.

Emissions are declining, primarily in industrialized nations, but continue to rise in India, Southeast Asia, and Africa as those countries continue to develop. Stronger governmental policies will help provide these growing nations with sustainable energy sources that are more widely accessible, preventing the sacrifice of air quality for continued economic growth.

Dubbed the "Clean Air Scenario" by the IEA, requirements for policy implementation include delivering access to clean cooking facilities for 1.8 billion people, emission controls, and shifting to cleaner, more sustainable energy sources. It also requires nations to strictly enforce emissions standards for industries and roadway vehicles, including transportation sectors.

Adherence to these policy implementations would increase pollution controls from the current rate of 45 percent to 75 percent, significantly decreasing air pollution. By 2040, this could reduce the number of premature deaths by up to 1.7 million.

The report outlines three actions that a government needs to take to ensure air quality strategies are adequate and long-term, including:

- Setting air quality goals that are ambitious and long-term.
- Instituting comprehensive clean air policies for the energy sector.
- Ensuring compliance with effective communication, monitoring, enforcement and evaluation.

Implementing and following these comprehensive guidelines is likely to help rapidly reduce greenhouse-gas emissions and provide sustainable energy sources even to the poorest areas, improving human health across the globe.

AUGUST 2016

In Nashville's Pipeline And Quarry Fights, Opponents Now Raise Air Pollution Fears

Date: 1st August, 2016 Source: Nashville Public Radio



About 150 opponents to a natural gas compressor station rallied at the Metro Health Department before an air quality public hearing.

Two of Nashville's fiercest neighborhood fights now have something in common. Opponents of a gas pipeline compressor in Joelton and, separately, residents near a quarry in Old Hickory, are both appealing to the Metro Health Department because of fears of air pollution.

The public comment periods for both end this week.

At this point, the two industrial projects have been through local, state, and federal challenges — and criticisms from residents armed with yard signs and matching T-shirts.

The turn to air pollution created a rare scene last week when about 150 gas compressor opponents swarmed Metro's Lentz Public Health Center for a hearing.

"We want to have clean air," said Jeff Richfield, of Joelton. "I've been in other locations and states where they've had problems like this and it doesn't smell good at all."

At this juncture, opponents say the rural area isn't right for the large turbines that would pump natural gas through underground pipes — for both noise and emission reasons.

"We're looking at 60,000 horsepower running in your neighborhood 24 hours a day," said Fred Lieb, "it's a jet engine!"

The gas company, Kinder Morgan, has deflected quite a bit already.

But the attorney for residents, Gary Davis, says Metro has a lot of discretion over air quality and must enforce the national Clean Air Act.

"You don't want an industrial facility with toxic air pollution in the middle of a residential community," he said. "It's a health concern … we believe that Nashville can enforce its own ordinance."

Davis at least wants Metro to require that the compressor turbines install technology to clean their emissions.

A permitting decision could take several months, and will involve the U.S. Environmental Protection Agency, according to the Health Department.

At the same time, the dispute continues at the federal level, where Congressman Jim Cooper, D-Nashville, has entered the fray to oppose the compressor station. He recently wrote to federal regulators that the compressor company is a "clueless, offensive bully."

For its part, Kinder Morgan says concerns from environmentalists are "entirely without merit." This spring, a preliminary finding by regulators said the compressor station would have "no significant impact" on the environment.

Quarry Seeks Simpler Permit

Meanwhile, the Old Hickory quarry also needs approval because of the dust clouds it would create.

Opponents have also sent letters, but admit the quarry will likely move forward on this front. Because the quarry wouldn't be a "major source" of pollution, it did not require a public hearing.

The quarry recently obtained a state permit related to water quality. Another outstanding question is the operation's impact on local roads, which some residents see as the next battle line.

As NC Air Quality Improves, So Do Mountain Views

Date: 1st August, 2016 Source: WFAE



Then and now views show how visibility has improved at Great Smoky Mountains National Park.

If you're on a North Carolina mountaintop on a sunny day this summer, expect a great view… maybe the clearest in decades. State environmental officials say it's the payoff from years of air quality improvements.

Here's one example: At Great Smoky Mountains National Park, visibility on the clearest days was 54 miles in 1996. Now, it's nearly 90 miles.

State officials touted the improvement in a press release. The state Department of Environmental Quality cites state and federal laws and regulations that have cut pollution from coal-fired power plants, factories and cars and trucks.

State and federal measurements show long-distance visibility has steadily improved since the 1990s.

"We are literally able to see the improvements in air quality across North Carolina," Sheila Holman, director of the state Division of Air Quality, said in the press release. "Clearer air means that residents and visitors are better able to enjoy views of our mountains, coastal waters, urban skylines and other scenic areas."

At Mount Mitchell State Park this spring, park ranger Bryan Wilder bragged about the view.

"On a clear day typically if you look out, the views… you can see the skyline of Charlotte, actually. It has to be a clear day with very little haze, but you can see the skyline of Charlotte," Wilder said.

Environmentalists agree air quality is better, but think there's room for improvement. And we can all play a role. Clean Air Carolina says vehicle exhaust is the biggest source of air pollution in the Charlotte area. As one spokesman told me, that's the result of millions of individual driving decisions every day.

And better air quality is about more than the view. We all breathe easier, too.

Dutch activists sue government over air pollution

Date: 2nd August, 2016 Source: Yahoo News



The Milieudefensie group alleges that in tests carried out at 58 sites across the country last year, levels of nitrogen dioxide exceeded European norms in 11 places

The Hague (AFP) - Dutch environmentalists said Tuesday they are suing the government over poor air quality, saying people's "fundamental" rights to good health were being infringed.

In a lawsuit filed on Monday, the Milieudefensie group alleged "the Netherlands exceeds the legal standards for air quality and is violating fundamental human rights by doing too little to combat air pollution."

"This pollution causes thousands of deaths every year, and leaves tens of thousands of people seriously ill. That is unacceptable," added the group's campaign manager, Anne Knol, in a statement.

The suit launched in The Hague is the first step in a lengthy process which could lead to a trial. The first hearing is due to be held on August 17.

Environmental activists say under the constitution "the state has a duty to protect citizens from unhealthy air."

The group alleges that, in tests carried out at 58 sites across the country last year, the levels of nitrogen dioxide exceeded European norms in 11 places.

The indictment has been signed by 57 Dutch citizens, and the lawsuit has been launched after a crowd-funding campaign raised some 30,000 euros ($33,593) to cover the costs.

This latest action comes after another Dutch environmental rights group, Urgenda, last year won a landmark ruling ordering the government to slash greenhouse gases by a quarter by 2020.

Climate experts hailed the June 2015 ruling as "a milestone" in a case brought by 900 Dutch citizens seeking to force a national reduction of the emissions blamed for global warming. The government is appealing.

Can a flower help cities reduce air pollution?

Date: 3rd August, 2016 Source: Mother Nature Network



Urban air pollution is a huge public health issue — it kills more than 3 million people every year, according to the latest World Health Organization estimates (more than AIDS and malaria combined). And for the people breathing it every day, bad air can cause chronic health issues such as asthma and emphysema.

"The cost for countries is enormous. Air pollution affects economies and people's quality of life. It leads to major chronic diseases and to people ultimately dying," Dr. Maria Neira, director of public health at the World Health Organization in Geneva, told The Guardian. As cities from Beijing to Paris to Sydney focus on reducing car traffic as a way to improve air quality, the city of Amsterdam is really ahead of the pack. In about 10 years, gas-powered cars in the city will be banned. Their bus fleet is moving from diesel to electric, which by 2025, will be powered by solar and wind.

Here's where honeysuckle could help

While major transportation and infrastructure changes take time, researchers at the Wageningen University in The Netherlands are testing a more immediate solution: a new type of honeysuckle called Green Junkie. This new honeysuckle is bred to consume more carbon dioxide — in other words, it eats smog.

"The parts of a plant that pick up air pollution out of the air are the 'hairs,' so what they've changed for this honeysuckle is that they've made it very, very hairy," Emily Parry from AMS Institute, told FastCoExist. The leaves of the plant are bigger and hairier than typical honeysuckle, and they grow more quickly, too. And it's fed with a special organic fertilizer made with plant waste collected from the city.

Right now, it's not clear how significant the impact of this new honeysuckle could be, and researchers will know more this fall when testing has concluded.

It makes sense that plants would be hybridized for pollution cleanup of a specific kind. Many plants absorb pollution — so much so that NASA has long promoted a list of those that can keep indoor air cleaner — and many homeowners choose plants that are particularly good at doing so. Some grasses and ivy are already used in traffic medians and roadsides specifically because they can reduce particulate pollution by up to 60 percent.

Many of us imagine cities of the future as more verdant spaces than they are today. If some plants can keep air cleaner for urban residents while adding green to the landscape, they'll provide double the benefit for us.

Games won't leave Rio de Janeiro's air any cleaner

Date: 3rd August, 2016 Source: Bankok Post

Rio de Janeiro's air is dirtier and deadlier than portrayed by authorities and the Olympics' promised legacy of cleaner winds has not remotely been met, an analysis of government data and Reuters' own testing found.



Brazil declared in its official bid for the Olympic Games, which open on Friday, that Rio's air quality was "within the limits recommended by the World Health Organisation".

That was not true when Rio won the right to host the Games in 2009 and it is not true now.

Rio for years has surpassed WHO limits for the most dangerous air pollutant -- called particulate matter (PM) -- spewed from millions of vehicles clogging the city's roads.

Thousands die annually in Rio's metropolitan area of 12 million people because of complications related to the air. People exposed to the pollution have higher risks of lung cancer, heart attacks, strokes, asthma and other diseases.

"This is definitely not 'Olympic air'," said Paulo Saldiva, a University of Sao Paulo pathologist and member of the WHO committee that set tougher global pollution standards in 2006.

"A lot of attention has been paid to Rio's water pollution, but far more people die because of air pollution than the water," he said. "You are not obligated to drink water from Guanabara Bay but you must breathe Rio's air."

Rio's contaminated Olympic waterways have drawn attention as the city suffers endemic levels of gastrointestinal diseases from a lack of sewage collection. Reuters recently reported that Rio's Olympic water venues and favourite beaches also tested positive for drug-resistant "super bacteria".

But there has been no talk of Rio's air pollution, three-quarters of which is caused by exhaust fumes from the 2.7 million vehicles on its roads, according to Rio state's environmental protection agency, Inea. Its data shows that since 2008, Rio's air has consistently been two to three times above WHO's annual limit for PM 10 -- so called because theparticulate matter has a diameter of 10 microns or less, seven times smaller than that of a human hair.

That means Rio has the dirtiest air of any Olympic host city since scientists began consistently tracking PM 10 in the late 1980s, with the exception of Beijing in 2008.

Tania Braga, head of sustainability and legacy for the Rio Olympics organising committee, said, "When you talk about air quality, it cannot be judged on PM data alone, and Rio's other pollutants like nitrogen dioxide and sulphur dioxide are comfortably within WHO's limits."

Though accurate, Mr Saldiva said "the health damages associated with PM pollution are the most severe of all pollutants" and, because of that, Rio'sair is of poor quality.

The WHO says on its website that "PM affects more people than any other pollutant", that outdoor pollution caused 3.7 million premature deaths worldwide in 2012 and that those deaths were due to exposure to PM 10. The UN body did not respond to requests for comment on Rio's air quality.Using the WHO's methodology on estimating mortality, Mr Saldiva calculates some 5,400 people died in Rio because of air pollution in 2014, the most recent year that data is available.

By comparison, Rio's infamous murder levels resulted in 3,117 deaths last year.

From 2010 to 2014, metropolitan Rio had an annual average PM 10 reading of 52 per cubic metre of air, according to Inea statistics. The WHO's limit for the annual average is 20.

Jamie Mullins, a professor of resource economics at the University of Massachusetts-Amherst, estimates that for every 10 units above the WHO limit on PM 10 levels, track athletes across all events see their performances diminished by 0.2%. Mr Mullins based that calculation on an examination of nearly 656,000 results from US track athletes over eight years, and the air pollution during each.

During the Beijing Olympics, the PM 10 level was 82 -- well above Rio's. When London held its Games in 2012, the PM 10 level was 23, government data showed.

The PM level was 44 during the 2004 Olympics in Athens, 24 in Sydney in 2000 and 28 in Atlanta in 1996, said Staci Simonich, a professor at Oregon State University who published a 2009 study on pollution at the Beijing Games.

"Rio's numbers are all too common for the developing world. That is the sad reality," said Ms Simonich. Air quality varies depending on weather -- rains temporarily clean PM from the air. But Rio is in its dry season and pollution is at its peak.

Inea denied Reuters' requests to see monthly data on PM levels for 2015 and this year.

Some experts even question the reliability of Inea's data -- noting that three-quarters of its 64 automatic monitoring stations are run by private companies that pollute, as a condition for them winning environmental licenses.

Tips to handle poor air quality

Date: 3rd August, 2016 Source: WTHITV

TERRE HAUTE, IND. (WTHI) – Your lungs could take a beating this time of year due to poor air quality.

Dealing with the heat and humidity can be a chore, but you also need to pay attention to the quality of the air too. Too much ozone can spell trouble for your airways. Indiana Department of Environmental Managements' Air Program Branch Chief Scott Deloney says the gas can form quite easily given the right weather.

"The way ozone is formed, it's a photo-chemical reaction of oxides of nitrogen and volatile organic compounds in the presence of sunlight and heat," explained Deloney.

People with lung issues like asthma and chronic obstructive pulmonary disease are most at risk when levels are high. That's why state environmental departments in partnership with other agencies (including the National Weather Service and Environmental Protection Agency) will issue air quality forecasts. Too much ozone and other particles in the air can lead to an "Air Quality Action Day".

"The 'action' that we would like to see the public take is the same regardless of the pollutant," said Deloney. "Also the secondary reason for calling an action day is to make sure the sensitive population is aware of it."

Air experts recommend to avoid burning fuel and to stay in cool environments during these days.

Union Hospital Registered Respiratory Therapist Jimmy Mckanna says air pollution effects are immediate.

"If someone is really wondering what they're lung tissue is doing, look at what your nasal tissue is doing," urged Mckanna. "When you get those nasal headaches, that same tissue that's in your nose lines your airways. So if that's inflamed, your lungs are inflamed."

Mckanna says wearing certain medical masks can reduce effects of pollutants on bad days. You can also have your lungs tested by a registered respiratory therapist or doctor to gauge your vulnerability.

Air pollution linked to lung cancer survival time

Date: 5th August, 2016 Source: USC News



USC researchers found that survival of patients in areas with high regional pollution was about three years shorter than for those in areas with lower levels of pollution.

Exposure to air pollution has many impacts across the life span and has now been linked to survival of patients after being diagnosed with lung cancer, the most commonly diagnosed cancer over the past several decades.

"We thought that if ambient air pollution is a carcinogen that can drive lung cancer development, then exposure to air pollution in patients already diagnosed with lung cancer could promote the progression of their disease through the same biological pathways," said Sandrah Eckel, assistant professor of preventive medicine at the Keck School of Medicine of USC and lead author of the research. Eckel and colleagues at the Keck School decided to more closely explore the question of whether lung cancer survival times might be affected by air pollution.

Their research, published this month in Thorax, shows that the length of time that lung cancer patients live after diagnosis varies depending on their exposures to regional pollution. Researchers found that the median survival for people diagnosed with early stage lung cancers who lived in areas with high levels of regional pollution was approximately three years shorter than for people who lived in areas with lower levels of pollution.

"We focused on California, since there are a wide range of air pollution levels here and one of the largest and longest running air quality monitoring networks and cancer registry system in the U.S.," Eckel said.

Eckel and her team of researchers looked at lung cancer data from over 350,000 patients in the California Cancer Registry who were diagnosed with lung cancer between 1988-2009. From the extensive and detailed dataset, the team assigned air pollution exposure levels based on the average exposure at the patient's residence at diagnosis.

Unique study

"This study is unique in that it looks at another modifiable risk factor, besides smoking, that can impact lung cancer survival after diagnosis. The California Cancer Registry data provided a large, population-based sample of all lung cancer cases diagnosed in California over the last 20 years, minimizing the biases often encountered in other types of study designs," Eckel said.

In general, the stage of cancer at diagnosis is a major determinant of survival, with patients diagnosed with earlier stage cancer living longer. As expected, the impacts of air pollution on survival were most

evident in patients diagnosed at an early stage, when their cancer was localized to only their lungs. The median survival in patients with localized cancer at diagnosis living in areas with higher levels of fine particulate matter (2.5 micrometers in diameter) was only 2.4 years as compared to 5.7 years in patients living in areas with lower levels of fine particulate matter.

Patients whose cancer had spread to other parts of their bodies had shorter survival times overall and showed little difference in survival time whether they had high or low exposures to air pollution. These patterns of association persisted even after adjusting for numerous socio-demographic characteristics and type of cancer treatment.

More research needed

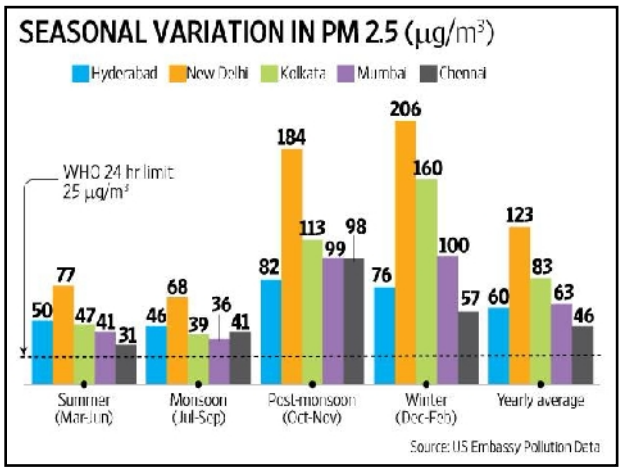
The study's findings are intriguing, but additional research is needed to determine the causality of the association between air pollution and lung cancer survival rates.

Even so, the findings suggest that newly diagnosed lung cancer patients might want to consider taking precautions to reduce their own exposures to air pollution. As lung cancer screening in emphasized, more patients will likely be diagnosed at early stages — and they could potentially benefit the most from reduced air pollution exposures.

What can lung cancer patients with a locally diagnosed cancer do to take action that may effectively extend their survival times? Frank Gilliland, senior investigator on the study, said, "In the short-term, common-sense precautions to reduce personal exposure to air pollution exposures include avoidance of places and times with high air pollution levels and using indoor home filtration systems. In the long-term, air quality standards should be evaluated to consider whether they are adequately protecting human health."

Fresh monsoon air? There's no such thing

Date: 5th August, 2016 Source: Live Mint



Although pollution levels come down during monsoon months, they are still above WHO prescribed limits in major Indian cities.

The much-awaited monsoon season has finally arrived, marking an end to a year of winter smog and the overbearing summer heat. The rains also provide some respite from polluted air in many Indian cities—or so it seems. Clear, smog-free skies, gusty winds and a grassy, fresh smell offer a brief spell of clean air.

However, air quality data over the last two years shows that monsoon air pollution levels are still significantly worse than those recommended by the World Health Organization (WHO). Although monsoon air is cleaner than air during other seasons, air-pollution levels are worse than what is considered safe and remain a risk to public health.

To understand seasonal air pollution, we examined air quality data published by the US embassy in New Delhi and its consulates in Mumbai, Chennai, Hyderabad and Kolkata. We broke down the data between

June 2014 and June 2016 into four seasons: winter (December to February), summer (March to June), monsoon (July to September) and post-monsoon (October to November). We then calculated the average PM 2.5 levels for each season. PM 2.5 measures particulate matter that is less than 2.5 micrometres in diameter—particles so small they can penetrate deep into the respiratory system and pose significant health risks.

It is important to note that our data only covers areas where the US embassy has its monitors—Chanakyapuri in New Delhi, Bandra in Mumbai, Ellaiamman Colony in Chennai, Patigadda in Hyderabad and Park Street area in Kolkata. Since air pollution may be localized to particular areas, the data may not indicate trends in other areas of a city.

In all five cities, no season had an average PM 2.5 level that met the WHO's 24-hour exposure guideline of 25 micrograms per cubic metre. Delhi ranked worst with a high of 206 µg/m³ of PM 2.5 during winter and a low of 68 µg/m³ during monsoon. Hyderabad ranked the "best" with a high of 82 µg/m³ of PM 2.5 in the post-monsoon season. The city had its lowest seasonal PM 2.5 in the monsoon at 46 µg/m³. Chennai had the "best" yearly average of PM 2.5, ranging from 31 µg/m³ during summer to 98 µg/m³ during winter. The averages for Mumbai and Kolkata fell in between the other cities. Overall, even at their lowest PM 2.5 levels, Mumbai had 36 µg/m³, and Hyderabad 39 µg/m³ during monsoon season, indicating that even the best season doesn't have safe levels of air pollution.

Seasonal variation in air pollution stems from a variety of factors. For one, post-monsoon season and winter have relatively lower wind speeds and air tends to accumulate at lower heights without mixing, which causes pollution to linger. Moreover, these seasons see higher emissions, especially during festivals such as Diwali and New Year, when fireworks pollute the air further. Both winter and early summer air is also polluted by post-harvest burning, especially in Delhi, which receives particulate emissions from burning crop residue in Uttar Pradesh, Punjab and Haryana.

But it's important not to lose sight of the bigger picture. Even the relatively "good" air quality during the monsoon poses significant health risks. It is only "clean" compared with the toxic winter and post-monsoon air, but not nearly clean enough to be considered healthy. Though summer and monsoon may not create immediate symptoms that are common during winter and post-monsoon air quality—namely worsened asthma, shortness of breath, sore throat, migraines or clogged lungs—long-term exposure to air containing PM 2.5 above 25 µg/m³ has much worse effects. These include asthma, stroke, damage to the nervous system, kidney damage, high blood pressure, lung and other types of cancer, and even lower cognitive functioning.

What can be done to protect oneself from air pollution? Apps such as those from Plume Labs or AQIcn.org can help people know how dangerous the air is around them. These apps can also give advice on the time of day when outdoor activities, especially exercising, may be suitable. Wearing an N95- or N99-certified mask (95% and 99% effective against particulate matter, respectively) whenever possible will reduce exposure, which is especially important when spending time outdoors in traffic or exercising. Air purifiers that use high-efficiency particulate air (HEPA) filters can provide protection indoors as long as rooms are well sealed from outdoor air. The outdoor air data suggests we should use these precautions year-long. Leaving protective measures to winter time, when the air is visibly polluted, may not be enough to reduce long-term health risks.

Yet, limiting exposure through masks and air purifiers is not enough. They come at a cost, leaving low-income families who may not be able to afford them exposed to toxic air. Policy changes are necessary.

Though small changes in policy, such as the odd-even scheme in Delhi, have at times reduced the burden of air pollution, systematic changes haven't gone far enough. The odd-even scheme in Delhi, for instance, only measurably reduced air pollution during the January trial, but not the April trial. And the January reduction was relatively modest: researchers affiliated with the University of Chicago and Harvard University estimated that PM 2.5 concentrations were around 35 µg/m³ lower, on average, during the January trial. With an average January PM 2.5 of over 200 µg/m³, such reductions are nowhere close to bringing pollution levels within the WHO's recommended 24-hour guideline of 25 µg/m³.

Moreover, odd-even schemes do little to deter car ownership, which is increasingly growing in cities such as Delhi. But even car-focused policies aren't enough, as industrial pollution from brick kilns and coal-fired power stations also need to be better regulated. Though Delhi has made more efforts to curb air pollution than other cities, ad hoc and short-term policies enacted during winter time are unlikely to reduce the long-term health effects of poor air quality throughout the year.

While one should take measures to protect oneself in the short run, policy changes which generate substantial and sustained improvements in air quality are essential. Our health depends on it.

Jay Kannaiyan is the director of Smart Air India and founder of Jammin Global Adventures. Bhumi Purohit is an incoming PhD student of Political Science at the University of California, Berkeley, and research lead at Smart Air India.

Air pollution alerts to be displayed across London

Date: 5th August, 2016 Source: BBC News



Air quality alerts will be introduced across the capital during the worst incidents of air pollution, The Mayor of London has announced.

Notices will be displayed at bus stops, river pier stops, Tube stations and on road signs, from 15 August.

Sadiq Khan said he hoped the warnings would "become less and less frequent" as pollution is reduced.

The Supreme Court ruled in April that London's air quality breaches European clean air rules.

A Clear Air consultation launched by Mr Khan in July revealed 79% of people wanted to be told when pollution was high.

The warnings will be displayed the day before and during high pollution days at 2,500 bus countdown and river pier signs, the entrances to all 270 Tube stations and on 140 roadside dot matrix signs.

Mr Khan said it was the first step towards London putting in place a comprehensive air pollution incident plan.

"I believe that Londoners have a right to know about the quality of the air that they breathe," he said.

The mayor has proposed a series of measures to tackle the problem, including introducing charges for the most polluting vehicles in the Congestion Charge Zone.

Professor Paul Monks, chairman of the Air Quality Expert Group, said the signs would help people understand the scale of the air pollution problem.

"Information is a good thing. The next big step is to make sure policies benefit both air quality and climate change," he added.

Leon Daniels, from Transport for London, said the alerts were an important part of the group's work to improve air quality.

A more detailed consultation will take place later this year and some measures could be implemented as early as 2017.

Environmental group plans suit against diesel shop

Date: 7th August, 2016 Source: The Davis Clipper

SALT LAKE CITY—A group of medical professionals who are working to improve the environment in Utah, announced last week their intent to sue a Woods Cross company they contend are defeating pollution control systems on diesel trucks.

Utah Physicians for a Healthy Environment (UPHE) alleges DieselSellerz/Diesel Brothers is deliberately removing pollution controls on diesel trucks that the group said could cause a 10 to over 30-fold increase in emissions of health-damaging particulate matter and oxides of nitrogen from each vehicle, according to a release.

“As physicians we see the broad range of health consequences from air pollution – sudden death, heart attacks, strokes, lung disease, cancer, and birth defects,” said UPHE President Dr. Brian Moench, in the statement. “Diesel exhaust is one of the most toxic types of pollution there is. It is, in fact, dangerous and deadly. This company’s removal and deactivation of vehicle pollution control equipment represents a callous disregard for the harm they are doing to the entire community. It is also deeply offensive to all the law abiding vehicle owners who make a good faith effort to abide by our pollution laws.”

Moench said Diesel Brothers, a popular TV show on the Discovery Channel linked to DieselSellerz in Woods Cross, have been shown modifying vehicles on the program that gives UPHE further evidence. He also said someone from UPHE took a vehicle in to them and it was modified. “We have a very tight case,” he said.

“Can you imagine a company like PacifiCorp deciding to remove the scrubbers on its power plants so that it could generate more power?” said UPHE board member Dr. Howie Garber in the release. “But that’s what Diesel Brothers are doing, truck by truck.”

UPHE’s notice letter states that if the company doesn’t agree to stop tampering with and removing diesel pollution controls, stop selling and installing defeat devices and resolve any other claims under the Clean Air Act (CAA) within 60 days, UPHE will file the suit.

The United States Environmental Protection Agency (U.S. EPA) explains the tampering and defeat devices prohibitions as follows: Defeat devices: It is a violation of the CAA to manufacture, sell, or install a part for a motor vehicle that bypasses, defeats, or renders inoperative any emission control device.
Tampering: The CAA prohibits anyone from tampering with an emission control device on a motor vehicle by removing it or making it inoperable prior to or after the sale or delivery to the

buyer.
“Pollution controls are required to prevent disease,” Garber continued in the release. “Diesel Brothers are no better than Volkswagen for increasing diesel emissions at the expense of our health.”

Officials for DieselSellerz had no comment.

Air pollution tied to shorter survival with lung cancer

Date: 8th August, 2016 Source: Reuters



(Reuters Health) - Exposure to air pollution has long been associated with an increased risk of lung cancer, and a new study suggests it might also be tied to a faster death from the disease.

Researchers examined cancer registry data on more than 350,000 people diagnosed with lung cancer in California and found patients who lived in communities with higher than average levels of air pollution typically died sooner than their peers who lived in places with cleaner air.

Patients with lung cancer may be a new subgroup of people susceptible to the health impacts of air pollution, since exposures after diagnosis may impact how long they live, said lead study author Sandrah Eckel, a researcher at the University of Southern California in Los Angeles.

Worldwide, lung malignancies kill about 1.6 million people a year, causing nearly one in five cancer deaths, Eckel and colleagues note in the journal Thorax.

To assess how air pollution may contribute to these deaths, researchers examined concentrations of ozone, nitrogen dioxide and so-called particulate matter.

Ozone is an unstable form of oxygen produced when various types of traffic and industrial pollution react with sunlight. Nitrogen dioxide is a byproduct of fossil fuel combustion that can contribute to smog. And so-called particulate matter is a mixture of solid particles and liquid droplets that can include dust, dirt, soot and smoke.

All of these pollutants have been found to damage the lungs.

Almost half the patients in the current study lived at least 1,500 meters (almost one mile) away from a major interstate highway, while fewer than 10 percent lived with 300 meters (about one-fifth of a mile) of one. Air pollution is usually worse closer to these highways.

Researchers tracked health outcomes for patients diagnosed with lung cancer from 1988 to 2009 based on the level of air pollution near their homes.

Patients were 69 years old on average at the time of diagnosis.

More than half were diagnosed at an advanced stage when tumors had spread.

Overall, the average survival time was about 3.6 years for people diagnosed with early stage disease and about four months for those with advanced tumors that had spread beyond the lungs.

Air pollution appeared to have the greatest effect on survival for people diagnosed with early-stage adenocarcinoma, the most common type of lung cancer and the form that often afflicts non-smokers.

In particular, patients diagnosed with early-stage disease had average survival times of about 2.4 years with high exposure to fine particulate matter, compared with 5.7 years with low exposure, the researchers report.

For these early-stage patients, the risk of death from any cause during the study period was 30 percent greater with exposure to nitrogen dioxide, 26 percent higher with exposure to large particulate matter and 38 percent bigger with fine particulate matter, the study found.

One limitation of the study is that researchers focused on pollution near residential addresses, which doesn't account for how much time patients spent outdoors breathing this air, the authors note.

Even so, the findings add to a small but growing body of evidence linking pollution to worse outcomes after a lung cancer diagnosis, Dr. Jaime Hart, a researcher at Brigham and Women's and Harvard Medical School in Boston, noted in an accompanying editorial.

"Studies have shown that pollution increases inflammation and oxidative stress, both of which have been linked to increased mortality," Hart said by email. "Those studies weren't done in lung cancer patients, but it is reasonable to think that similar things may be occurring."

Taken together, this emerging research suggests that patients with lung cancer should consider reducing pollution exposure along with other lifestyle changes aimed at boosting longevity such as smoking cessation or dietary changes, Hart said.

"There are a number of common-sense precautions that anyone can take to reduce their exposures to air pollution, including monitoring daily air pollution alerts and reducing outdoor activities – especially outdoor exercise – during high pollution periods, using air filtration systems while indoors, and using the recirculate setting of your car ventilation system while traveling in heavy traffic," Eckel noted.

SOURCE: bit.ly/2b8R0GI Thorax, online August 4, 2016.

Climate Change Likely To Worsen Colorado's Air Quality, Experts Say

Date: 8th August, 2016 Source: Colorado Public Radio



Editor's Note: This story is part of a long-term reporting project from CPR News that explores how climate change is affecting Colorado, what's being done to address those changes and more.

Global climate change is likely to worsen Colorado's air quality, with higher temperatures, more pollution and an increase in pollen. And Denver currently ranks 8th in a list of 20 cities with the most ozone, according to the American Lung Association.

"I'm very concerned about it. Climate change affects our health in many different ways," said James Crooks, a professor and investigator with National Jewish Health in Denver, one of the nation's leading respiratory hospitals. "Part of the danger of climate change is not just that it makes things hotter. It's that it makes lots of other problems worse."

The increased heat produces more ground-level ozone, forming when emissions from cars or power plants are heated in the sun. It can lead to serious respiratory diseases and harm the lungs. Crooks says a hotter climate means more ozone, and that means more respiratory trouble for more people.

“In the future, under climate change, we expect to see a lot more extremely hot days,” Crooks said. “We can probably expect to see a lot more high ozone days as well.”

Last year the Colorado Climate Change Vulnerability Study was submitted to the Colorado Energy Office. It listed "negative air quality effects" as a major public health area of concern related to future climate change.

One study found tens of thousands more people could become ill or die prematurely from ozone if air quality policies in the U.S. don’t change. Marilyn Pinaud of Nederland found an unexpected tumor on her lung after receiving an X-ray from a skiing accident.

“I was shocked,” Pinaud said. “I was like, no way. Smokers get cancer; they’re the only people who have lung cancer. They’re the only ones.”

Pinaud needed chemo and had part of a lung removed. The shock came from the fact that she had been an athlete, a personal trainer, a cyclist and runner with no family history of lung cancer.

“I did not smoke,” she said. “I had my share of second-hand smoke, and a lot of my activities were running and cycling in traffic.”

While doctors never told her exactly what caused her cancer; she suspects air pollution played a role. Pinaud now needs an inhaler, and the recent wildfire burning near her house has been difficult for her.

“I definitely have a compromised cardiovascular system,” Pinaud said.

Dr. Robin Deterding, director of the Breathing Institute at Children’s Hospital Colorado, says another big climate-related problem comes from particles in the air that can lodge in your sinuses or deep in your lungs.

“Your lung function can actually decline with that exposure,” said Deterding. “So if you start with lower lung function because you have chronic disease, that’s really a significant problem that can impact you as a child and equally important cause lung disease when you are an adult.”

Rising global temperatures means more wildfires, resulting in an increase of smoke and dust. Deterding says a recent study found kids with respiratory problems usually become adults with compromised lungs.

“75 percent of children who have asthma will end up with lower lung function as an adult,” said Deterding.

Another effect of climate change may already be obvious to the more than 30 percent of Americans who have allergies, like hay fever. That’s because pollen season is longer, for certain plants. Ragweed is one example; with more carbon dioxide in the atmosphere, the plants flower earlier and have increased pollen levels.

These potential health impacts have groups like the American Lung Association raising the alarm. Dawn Mullally, director of air quality and transportation for the group, says some people will be hit hardest.

“The young, the elderly, people who already have compromised immune systems and health problems,” Mullally said. “And also people in lower-income areas because they tend to live in more highly polluted places.”

Health advocates say it's important to pollute less by biking, carpooling, using transit or switching to an alternative-fuel vehicles. Marilyn Pinaud says her experience has taught her a lot.

“You are vulnerable whether you know it or not,” Pinaud said, adding that everyone can do their little bit to help.

Does Air Pollution Reduce Cycling’s Health Benefits?

Date: 10th August, 2016 Source: National Geographic

Most cyclists have been there: peacefully pedaling one minute and sucking bus exhaust the next. In the moment, all you can do is keep riding and shrug off the blast of smoke. But now a growing body of research suggests breathing this pollution can have both short-term and long-term health consequences.

A team of researchers from Columbia University has started using a suite of state-of-the-art personal monitoring devices to gather more details about how air pollution affects cyclists’ health.

The new study—a joint undertaking by scientists in the Mailman School of Public Health and the Lamont-Doherty Earth Observatory—aims to show minute-by-minute health and pollution data.

The researchers have equipped volunteer bike commuters with a skintight biometric shirt, a mesh vest stocked with air pollution monitors, a location tracking system that liaises with smartphone GPS software, and a blood pressure monitor. Combined, the instruments will characterize exactly where a rider inhales pollution and how his or her lungs and heart respond.

“We’re really trying to quantify the health impacts of commuting by bicycle in a dense urban setting,” says Darby Jack, an environmental health scientist at Columbia University and part of the study’s brain trust.

A Pollution Problem

In New York City alone, health officials estimate that fine particulate matter (known as PM2.5) contributes to nearly 2,000 premature deaths and more than 6,000 hospital visits per year. The young and old are particularly susceptible, as are people who suffer from asthma and other respiratory disorders or heart disease.

“We have internal combustion engines that emit particles, we put them out a tailpipe, and then we drive along our sidewalks. And we sort of emit this stuff right into our breathing zones,” says Arden Pope, a professor of economics and an epidemiologist at Brigham Young University who is not involved in the Columbia study.

As these particles—particularly the fine ones—spew from tailpipes, they are inhaled and accumulate in lungs. Most of these particles are black carbon, but vehicles also discharge nitrogen oxides and polycyclic aromatic hydrocarbons (PAH).

Research has shown that long-term exposure to these pollutants increases the risk of heart and lung disease, and short-term exposure can trigger heart attacks.

The problem is amplified by exercise. During workouts, respiration increases and more air enters the lungs. Jogging, for example, can increase the volume of air by three to four times, and strenuous exercise can push the volume even higher. All this extra air also brings more pollutants into the body.

This creates a conundrum for bike commuters in the city: At what point does exercise hurt your health more than help it?

It is generally thought that the benefits of exercise outweigh the hazard of air pollutants, and a recent study suggests this is true in "the vast majority of settings." In a city like New York, with background PM2.5 concentrations below the global average, a healthy person without heart or lung problems would need to cycle for hours and hours a day before the adverse impacts of pollution outweigh the health benefits of exercise. At that point, the only health effect you're likely to suffer is a sore bum from riding all day.

However, Jack says looking at background concentrations alone may not tell the full story. "You can really underestimate the exposure for folks exercising in urban settings," he says. Pollution varies by location—it is not static or evenly distributed. And as we move through a city, exposure differs depending on the setting.

"Using a single number for PM2.5 to represent an entire city isn't really true exposure," explains Patrick Ryan, an epidemiologist at the Cincinnati Children's Hospital Medical Center who is not involved in the research. "We know that you interact with air pollution over the course of the day … and it really changes your exposure."

Furthermore, exposure fluctuates based on our level of physical activity. Cranking up a hill behind a belching garbage truck is much different than a casual cruise on the Manhattan Waterfront Greenway.

Gearing Up

As cycling grows in popularity—over a million New Yorkers ride a bike every month—health and safety are growing concerns for bike advocates.

Advocacy groups are mostly focused on preventing crash hazards and vehicle collisions, but pollution data would dovetail nicely with their cause, according to Paul Steely White, the executive director of New York's Transportation Alternatives. Safety and pollution trends are mutually reinforcing, he explains, and the group is watching the research carefully.

The research is in its pilot phase, and Jack and his colleagues are focused on convincing themselves—and their funders—that both health and pollution data can be collected simultaneously, in real time.

The team is working with about 30 cyclists—men and women commuters from all corners of the city—but they hope to expand the research to hundreds of cyclists within a few years. Eventually Jack hopes the data can be incorporated into a smartphone app to help cyclists optimize their bike routes based on pollution data.

For now, however, the team is focused on perfecting their measurements and tinkering with the equipment to best capture life on a bike in New York City.

Report: London's parks choked by potentially dangerous levels of air pollution

Date: 10th August, 2016 Source: Business Green



Even London's parks could be facing potentially dangerous levels of air pollution, according to new research that promises to provide Londoners with detailed information on the air quality of the capital's green spaces.

Trees and open green spaces are often seen as a cost effective mechanism for improving air quality and curbing pollution levels. But new research by London-based data science company ASI, to be released later today, reveals nearly a quarter of London's open green spaces have unsafe levels of pollution, breaching the EU's recommended limit for Nitrogen Dioxide of 40 micrograms per cubic metre.

The park's found to be in breach of the target include some of London's best-known spaces, such as Green Park, St James's Park, Hyde Park, Clapham Common, Kensington Palace Gardens and Regent's Park.

The top five dirtiest green spaces were named as Whittington Garden, near Cannon Street station; the gardens at the rear of Langham Mansions, near West Brompton station; St Mary's Square, near Edgware Road tube; Redbridge Roundabout; and the Royal Crescent Mews Amenity Area, near Shepherd's Bush station.

The research brings together air quality data for 2013 from the Greater London Authority (GLA), geographical grid references, and readings from 100 sensors across the capital that were used to cross check the GLA data.

"Huge numbers of Londoners are unknowingly going for walks, playing with their children and having their lunchtime sandwich in open spaces with appalling air quality," said ASI Data Science Fellow Pablo Mosteiro, who produced the research. "Our new website will allow them to see whether there are any better and cleaner alternatives nearby. This was only possible, though, through the continued efforts of the GLA and others to make data publicly available."

Marc Warner, chief executive of ASI, urged Mayor Sadiq Khan to continue his air quality policy push in a bid to improve the air in the city's parks.

"The city's parks are often referred to as the ‘lungs of London'," he said. "We now know that these lungs aren't as healthy as we'd hoped. The new Mayor is going to have to prioritise clean air policies so that we can make our parks and open spaces the healthy places they're meant to be."

Khan has won plaudits from green groups during his first few months in office, after launching a wide-ranging package of proposals designed to improve London's air quality, including the early introduction of an ultra low emission zone that would impose new charges on the dirtiest vehicles, new green bus routes, and additional funding for local projects designed to tackle air pollution.

The UK government is facing ongoing legal action over its failure to bring the country into line with EU air quality standards, with ministers under mounting pressure to deliver a more ambitious national plan for tackling air pollution.

Meanwhile, in related news a group of Dutch environmentalists announced earlier this month they would sue their government over the health impacts of air pollution.

Gurgaon will get new air quality monitoring station to keep eye on pollution

Date: 11th August, 2016 Source: Hindustan Times



To keep a watch on the level of air pollution in the region, the Haryana State Pollution Control Board (HSPCB) plans to install an additional continuous ambient air quality monitoring stations in the city.

This move will strengthen the real time ambient air quality data generation in the city. At present, there is only one monitoring station in Gurgaon, in Rajiv Chowk. The city will soon get a second unit in Manesar, which is an industrial area.

The will help analyse in detail the air quality of the region and formulate measures that can be taken to lower the level of pollution, an official of the HSPCB said.

The plan is a part of the bigger initiative by the state government, under which around new monitoring stations will be set up in nine cities this year. These cities are Panipat, Sonepat, Dharuhera in district Rewari, Bahadurgarh, Karnal, Kaithal, Yamunanagar, one additional station in Gurgaon in Manesar and one additional station in Faridabad near Sector-55 and 56, the official said.

With a view to monitor the polluting industries and to generate real time data, the board is putting emphasis on installation of online monitoring system in highly polluting industrial areas.

The perennial construction work in the city and the excessive use of diesel generator sets have led to a steady increase in pollution.

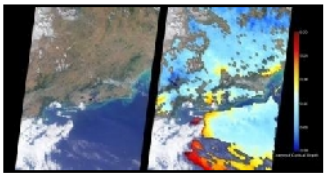
The officials at HSPCB said the process to install these systems has been commenced and in the first phase, directions has been issued to monitor the air quality of the highly polluting industries and common treatment and disposal facilities (CTDF).

As many as 100 large and medium scale highly polluting industries and CTDF have already installed online monitoring system in the first phase, the board officials said.

"So far, 69 industries have installed online monitoring devices and 28 industries have already started displaying online data for effluent and air emissions by setting up a server or through cloud servers. The provision of online monitoring system will reduce the manual inspection of industries and generate real time data," the official said.

Nasa images air pollution over olympic games

Date: 12th August, 2016 Source: Popular Science



Rio: The black mark in the left image shows the location of the Maracanã Stadium. The right image shows the same picture overlaid with air particulate data. The skies over Rio have about the same air pollution seen in cities when there is a light haze in the air.

There's a lot at the Olympics to take your breath away. The amazing opening ceremonies, the athletics, the green pool(s). Now we can add another item to the list: Air pollution.

The image above was taken by the Multi-angle Imaging SpectroRadiometer (MISR) instrument aboard NASA's Terra satellite on August 2. It shows the elevated levels of air pollution in Rio de Janeiro, which has been plagued with criticism over dirty water in its waterways, and the presence of Zika in its mosquitos.

To be clear, the pollution imaged by MISR in Rio is nowhere near the level of smog in China where air pollution can reach dangerous levels in cities like Beijing. It's more of a light haze than anything else. But the image does show off the capabilities of MISR. Researchers plan on making images like this one, taken from the instrument available to the public in the near future for locations all over the world.

Students join project to track air quality in Yakima Valley

Date: 14th August, 2016 Source: The Seattle Times

The battle against air pollution in the Yakima Valley, where air quality in winter months can sometimes be as bad as in traffic-choked Seattle, is about to get reinforcements in the form of students.

A 3-year project between Heritage University and the University of Washington will study wood-smoke pollution in the Lower Valley, as well as starting environmental advocacy on the topic as early as high school.

“We want (these students) to be citizen scientists and activists,” said Jessica Black, a Heritage professor and project organizer.

A 2015 report from the Yakima Regional Clean Air Agency shows particulate-matter levels have been high. In fact, during late fall and winter, pollution levels exceeded national air-quality standards two of the past five years.

Catherine Karr, a University of Washington professor working on the joint project, said in some cases local levels have exceeded levels seen in high-traffic areas, even though traffic density in the region is generally low.

Wood smoke, in particular, is a major factor. The 2015 report says smoke from residential wood burning is to blame for 29 percent of particulate-matter emissions.

“Particularly with the reservation, we have families and homes that have (wood) burning stoves,” added Black, an associate environmental-science professor at Heritage. “Indoor air quality is impacted because of this, as well as outdoors.”

Other factors include inversions that trap pollution particles in the winter air.

The constant exposure to this type of pollution can cause a number of respiratory illnesses, such as asthma. Particle-pollution exposure can also lead to premature death, decreased lung functions and irregular heartbeat.

Under Heritage and UW’s “Next Generation Sensors and Scientists” project, the ultimate objective is to reduce air pollution by gathering better data about the local air.

Scientists from the UW will guide students from Heritage, White Swan High School, and Yakama Nation Tribal School on how to use new, low-cost sensors to study wood smoke and particulate levels, get real-time readings and immediately share findings.

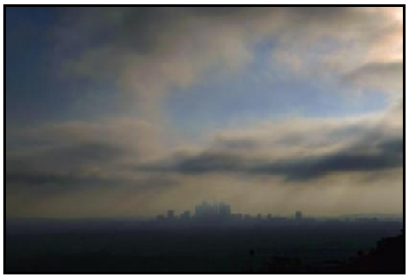
About 25 of the battery-powered sensors will be built. Each sensor will cost about $500 and require assembly, but are less expensive than more traditional air-monitoring instruments, which can cost thousands of dollars. Heritage students will be trained on how to use the equipment as early as this month, added Black.

Clean Air Agency spokesman Mark Edler said data collected from the project could influence the direction of the agency's existing programs, such as its woodstove change-out program in which the agency removes older wooden stoves from homes and provides cash to replace it. The use of uncertified stoves is something the Clean Air Agency has tried to persuade residents to move away from.

Heritage and UW's joint venture is funded through a $750,000 grant from the U.S. Environmental Protection Agency, as part of the agency's "Science to Achieve Results" program. Five other institutions in California, Massachusetts, North Carolina, Kansas and Pennsylvania earned such grants.

Pollution makes air in parts of California dangerous to breathe

Date: 14th August, 2016 Source: CBS Evening News



LOS ANGELES -- In the West, extreme heat, combined with thick smoke from wildfires and air pollution from millions of cars, is making the air in some places dangerous to breathe.

Back in the 80s, thick hazy smog was as much a part of the Los Angeles skyline as the Hollywood sign.

Today, while Los Angeles County's air quality has improved, health officials say pollution kills 1,300 people a year, making it the deadliest air in the country.

According to a new study, that number is more than triple the number of air pollution related deaths in New York, and twice the total in Texas.

"We see that the annual number of excess deaths is quantitatively very similar to the number of deaths from alcohol related traffic fatalities," said lead author of the study Kevin Cromar.

In California, heavy traffic, industrial commerce, lack of rain and wildfires, are all to blame for the air pollution.

"Bad air and high levels of pollution become deadly to a society because chronically people are ingesting these particulate molecules," said Dr. Anthony Cardillo.

Dr. Cardillo is an emergency room doctor at Glendale Adventist Medical Center. He said he has seen a rise in patients suffering from pollution -- and you don't need to be a medical expert to figure out the solution.

"If we had tighter restrictions and better control over our air quality, we would see a drop, or decline in these acute crises that people have with these underlying chronic conditions," he said.

The pollution in California has been so bad, that federal health standards for ozone levels have only been met three days this summer.

Experts believe, with another heat wave hitting the West Coast and sticking around through the middle of the week, air quality will continue to get worse.

Environmental group rallies against air pollution in Beaver County

Date: 16th August, 2016 Source: The Times



BEAVER -- A group called Moms Clean Air Force gathered in Irvine Park Tuesday morning to call for more transparency and better safety protocols for the Shell Chemicals ethane cracker plant in nearby Potter Township.

Patrice Tomcik, a field organizer for the group, said she doesn't live in Beaver County, but lives close enough in Allegheny County to be concerned about emissions from the new plant.

She referenced the American Lung Association's annual report that consistently ranks southwestern Pennsylvania as having some of the worst air quality in the nation.

"We already have bad air and now we're talking about adding new industry that will be a very significant contributor to air pollution," she said. "That's a very dangerous thing."

Tomcik was one of about 30 people in attendance, including many children who played in the gazebo in Irvine Park. She talked about her son's battle with cancer several years ago and how that impacted her decision to speak out about all kinds of pollution in the area, not just potential pollution from the cracker.

"I'm fighting for my child's life," she said.

The group called on the Potter Township supervisors to force Shell to install fence-line air quality monitors at the cracker site. To that end, many children in attendance drew an outline of their hands on a poster board and signed their names, while the poster will be delivered to the Potter supervisors.

Jessica Crye said she recently moved to Moon Township and is concerned about the cracker because one of her children has severe asthma.

"The main thing is to ensure we're not taking away jobs, but also not compromising the safety of the future of our kids," she said.

Beaver resident Joleen Vongray agreed and said she's "perfectly fine" with jobs coming to the area, but added she's highly concerned about any potential pollution that might come with it.

The event ran from 10 to 11 a.m. at the park along Third Street.

True costs of air pollution

Date: 17th August, 2016 Source: Live Mint



Cleaner technologies with the potential to improve air quality are available, but policymakers tend to focus on the costs of action, rather than the costs of inaction.

Air pollution takes years off people's lives. It causes substantial pain and suffering, among adults and children alike. And it damages food production, at a time when we need to feed more people than ever. This is not just an economic issue; it is a moral one.

Air pollution can be produced both outdoors and indoors. For the poorest families, indoor smog from coal- or dung-fired cooking stoves is typically the more serious problem. As economies develop and start to electrify, motorize and urbanize, outdoor air pollution becomes the bigger issue.

Cleaner technologies are available, with the potential to improve air quality considerably. But policymakers tend to focus myopically on the costs of action, rather than the costs of inaction.

A new Organization for Economic Cooperation and Development (OECD) report, The Economic Consequences of Outdoor Air Pollution, estimates that outdoor air pollution will cause 6-9 million premature deaths annually by 2060, compared to three million in 2010. That is equivalent to a person dying every 4-5 seconds. Cumulatively, more than 200 million people will die prematurely in the next 45 years as a result of air pollution.

There will also be more pollution-related illness. New cases of bronchitis in children aged 6-12 are forecast to soar to 36 million per year by 2060, from 12 million today. For adults, we predict 10 million new cases per year by 2060, up from 3.5 million today. Children are also being increasingly affected by asthma.

These health problems will be concentrated in densely populated areas with high particulate matter (PM) concentrations, especially cities in China and India. In per capita terms, mortality is also set to reach high levels in Eastern Europe, the Caucasus region and other parts of Asia, such as South Korea, where ageing populations are highly vulnerable to air pollution.

The impact of air pollution is often discussed in dollar terms. By 2060, 3.75 billion working days per year could be lost due to the adverse health effects of dirty air. The direct market impact of this pollution in terms of lower worker productivity, higher health spending and lower crop yields could exceed 1% of gross domestic product, or $2.6 trillion, annually by 2060.

Massive as they are, however, the dollar figures do not reflect the true costs of air pollution. Premature deaths from breathing in small particles and toxic gases, and the pain and suffering from respiratory and cardiovascular diseases, do not have a market price. Nor does the experience of constantly inhaling foul-smelling air, or forcing your child to wear a face mask just to play outside.

Nonetheless, the truth remains that policymakers tend to respond more to hard figures than to abstract experiences. So, the OECD examined myriad economic studies on air pollution to quantify what people's health is worth to them.

On average, individuals would be prepared to pay around $30 to reduce their annual risk of dying prematurely by one in 100,000. Using well-established techniques, these "willingness-to-pay" figures were converted into an overall value of premature deaths caused by outdoor air pollution, as illustrated, for example, in the OECD's Mortality Risk Valuation in Environment, Health and Transport Policies.

By that measure, the global cost of premature deaths caused by outdoor air pollution would reach a staggering $18-25 trillion a year by 2060. Arguably, this is not "real" money, as the costs are not related to any market transactions. But it does reflect the value people put on their very real lives.

It is time for governments to stop fussing about the costs of efforts to limit air pollution and start worrying about the much larger costs of allowing it to continue unchecked. Their citizens' lives are in their hands.
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India air pollution death rate to outpace China: Researcher

Date: 18th August, 2016 Source: The Time of India



BEIJING: The increase in people dying in India from air pollution will outpace the rate of such deaths in China, as India drags its heels over environmental rules while opening more coal mines, the head of a US research group said on Thursday.

"India's situation is getting worse at a much faster speed than China," Dan Greenbaum, president of Boston-based Health Effects Institute (HEI), told Reuters in Beijing.

"It is definitely the case because India has not taken as much action on air pollution."

HEI and a group of Chinese and Indian universities recently said that over half of world's air pollution-related deaths were in China and India. In China, coal-fired plants have been the worst source of pollution. But India has lagged behind in implementing stringent environment policies for coal emission.

From now until 2020, China aims to cut coal output by 500 million tonnes, or about 19 per cent of its current annual output, and reduce emission of major pollutants in the power sector by 60 percent. By contrast, India has just only launched an emission standard for coal-fired power plants this year.

India is also ramping up coal production as Prime Minister Narendra Modi races to meet election promises to provide electricity to a population of 1.3 billion.

"Chinese actions to control emissions from coal power plants and from industries are considerably more strong than the ones in India," Greenbaum said.

Coal secretary Anil Swarup did not immediately respond to a request for comment. He has previously said India is setting a higher target for renewable energy and growing more trees than are being uprooted by coal mining.

He has also said coal can't be wished away because it is the cheapest form of energy in a country where millions of people still go without electricity.

Research from HEI and Tsinghua University in Beijing released this week shows coal burning caused 366,000 premature deaths in China in 2013, out of a population of 1.35 billion. Comparable HEI data for India is due out next year.

In China, coal will remain the biggest contributor to mortality related to the super-fine particulate matter PM2.5, according to the latest HEI-Tsinghua study.

Chinese coal consumption more than tripled between 1990 and 2013, while air pollution deaths jumped 67 percent during the same period, the research showed.

The study says the death rate will drop by 2030 if China strictly controls coal combustion and emissions.

Harley-Davidson pays $15 million in air-pollution settlement

Date: 19th August, 2016 Source: The Indian Express



Harley-Davidson Inc. agreed Thursday to pay $15 million to settle a US government complaint over racing tuners that caused its motorcycles to emit higher-than-allowed levels of air pollution. Harley-Davidson manufactured and sold about 340,000 Screamin' Eagle Pro Super Tuners since 2008 that allowed users to modify a motorcycle's emissions control system to increase power and performance, according to court filings by the Justice Department and Environmental Protection Agency.

The racing tuners, which the prosecutors said were illegal "defeat devices" that circumvented emissions controls, also increased the amounts of such harmful air pollutants as nitrogen oxide spewing from the bikes' tailpipes. The government said Harley-Davidson also made and sold more than 12,000 motorcycles of various models between 2006 and 2008 with the illegal tuners pre-installed on them by dealers that were not properly certified as meeting clean air standards. Under the agreement, the company is required to ensure that all of its future motorcycle models sold in the United States are fully certified by EPA to meet air quality standards.

"Given Harley-Davidson's prominence in the industry, this is a very significant step toward our goal of stopping the sale of illegal aftermarket defeat devices that cause harmful pollution on our roads and in our communities," said Assistant Attorney General John C Cruden, head of the Justice Department's environmental division. "Anyone else who manufactures, sells, or installs these types of illegal products should take heed of Harley-Davidson's corrective actions and immediately stop violating the law."

The Milwaukee-based company said the tuners in question were designed for use on specialized track racing bikes and not intended for use on public roads.

"This settlement is not an admission of liability but instead represents a good faith compromise with the EPA on areas of law we interpret differently," said Ed Moreland, Harley-Davidson's government affairs director. "For more than two decades, we have sold this product under an accepted regulatory approach that permitted the sale of competition-only parts. In our view, it is and was legal to use in race conditions in the U.S."

Under the agreement, Harley-Davidson said it will no longer sell the racing tuners. The company also will offer to buy back all such tuners in stock at Harley-Davidson dealerships across the country and destroy

them. The company said it now will offer a different model for sale designed to comply with state and federal clean air standards. Harley-Davidson will also pay a $12 million civil penalty and spend $3 million to mitigate air pollution through a project to replace local conventional woodstoves with cleaner-burning versions.

EPA officials discovered the violations through a routine inspection and information submitted by the company. The case comes amid increased scrutiny of the use of defeat devices in the wake of last year's revelations that Volkswagen sold more than 550,000 diesel cars and SUVs that contained illegal software to cheat US emissions tests. Hydrocarbon and nitrogen oxide emissions contribute to harmful ground-level ozone and fine particulate matter pollution. Exposure has been linked with a range of serious health effects, including increased asthma attacks and other respiratory illnesses.

"This settlement immediately stops the sale of illegal aftermarket defeat devices used on public roads that threaten the air we breathe," said Cynthia Giles, assistant administrator of EPA's enforcement arm. "Harley-Davidson is taking important steps to buy back the `super tuners' from their dealers and destroy them, while funding projects to mitigate the pollution they caused."

How to win the fight against air pollution

Date: 19th August, 2016 Source: CNN

(CNN)Breathing is the most basic function of our bodies, we do it all day, every day.

So it's hard to think of an environmental issue which is less discriminating than air pollution. It affects us all.

As Andrew Grieve, air quality analyst from King's College London says, the effect is cumulative, from your first breath to your last breath. Little kids, older people, people who have respiratory conditions. Everyone is exposed.

And yet by the same token because of its huge impact, any reduction, however small, benefits us all.

The World Health Organisation estimates that air pollution is responsible for up to seven million deaths each year. That means one in eight deaths worldwide can be attributed to contaminated air.

And urban areas are some of the worst affected.

A report from King's College London has found that around 9,500 people die each year in the UK capital because of the levels of nitrogen dioxide and fine particulate matter.

One of the main contributors is traffic. It's responsible for up to two thirds of urban pollution, says Grieve. So what can we do about it?

Clean fuels mean cleaner skies, and in an ideal world we'd all use electric vehicles.

But there is another way we could improve our city air, according to Martin Williams, from the Environmental Research Group at King's College London, who advises the World Health Organisation.

Contrary to what we've learned over the last few decades, he says, we need to switch our cars back to petrol from diesel.

"Diesels 20 years ago were seen to be a lot more fuel efficient than petrol cars and so they were encouraged. It now seems in retrospect that they haven't worked."

Diesel vehicles have been championed for being more efficient, giving more miles to the gallon, and therefore creating fewer carbon emissions. They were seen as a way to help countries make reductions in their greenhouse gases.

In fact the International Council on Clean Transportation has shown that modern diesel cars are on average seven times over the European limit for nitrogen oxides -- the poisonous gases that are released when fuel is burnt. And they are also worse for particulate pollution -- tiny specks of contamination which can harm the lungs and cause respiratory illness.

Diesel vehicles have been a game-changer for air quality, says Grieve: "It turns out that they emit far more nitrogen dioxide and particulates than petrol cars. Ten or 20 times more. And that has been a real problem for air pollution in cities."

These are lessons which need to be shared, says Williams. In China, where the rising middle classes are putting more cars on the road, people should be cautious.

"The main change has been buying cars instead of bicycles in places like Beijing. But the good thing about Beijing is that most of their vehicle fleet is petrol. 95% of cars in Beijing are petrol cars, very few diesel. And China needs to learn from the West's bad experiences and keep it that way."

There are steps we can take as individuals too. We can drive more responsibly, says Williams.

"Switch off your engine when you're at a long traffic light, and be careful with your right foot.

And of course choose to walk and cycle rather than drive in the first place."

Surgical or washable cloth masks are no protection against air pollution

Date: 20th August, 2016 Source: Hindustan Times



You need to protect yourself against pollution more adequately. Inexpensive cloth masks commonly used by people in India and China to reduce exposure to air pollution may not be effective and could be giving them a false sense of security, scientists have warned.

Researchers at the University of Massachusetts Amherst believe this is the first study to rigorously test disposable surgical masks and washable cloth masks, which are widely used in Asia and Southeast Asia for personal protection against airborne particulate matter.

The study showed that “wearing cloth masks reduced the exposure to some extent,” but “the most commonly used cloth mask products perform poorly when compared to alternative options available on the market.”

Particularly in the developing world, users should not assume that such masks convey protection, “especially if an individual makes personal choices not to avoid high concentration environments because they assume they are protected from these contaminants,” said Richard Peltier from University of Massachusetts.

It was during an earlier air quality research project in Nepal that researchers were struck by how many people wore surgical or reuseable cloth masks on the street.

Kathmandu has poor air quality because high polluting gasoline and diesel engines are common, as is burning tires and garbage.

"We found ourselves wondering how effective these masks are. I was shocked that we couldn't find any research studies investigating them," Peltier said.

While the standard industrial hygiene mask known as the N95 is well tested, such masks are not readily available in most developing countries, and would be too expensive for most consumers. By contrast, reuseable cloth masks cost little and can be washed and worn for months.

With an experimental mannequin, researchers tested four masks: one pleated surgical type, two cloth and one cone-shaped cloth with exhalation flaps.

They tested for several variables and effectiveness in filtering out five different synthetic aerosol particle sizes plus three particle sizes of diluted whole diesel exhaust, which simulated real-world conditions.

Among the cloth masks, the one with exhaust valves performed fairly well, removing 80-90% of synthetic particles and about 57% of diesel exhaust.

Plain cloth masks were "only marginally beneficial" they said, in protecting people from particles smaller than 2.5 micrometres, often considered more harmful than larger particles because they can penetrate the lungs more deeply.

The least expensive cloth masks removed just 39-65 per cent of standard particles of 30, 100 and 500 nanometres, and one and 2.5 micrometres. All masks performed worse for diesel combustion particles compared to monodispersed particles, the researchers said. Peltier said this study has implications well beyond Nepal, because these masks are very common in China and India, and across much of southeast and southwest Asia. The study was published in the Journal of Exposure Science and Environmental Epidemiology.

Iraqi children pay high health cost of war-induced air pollution, study finds

Date: 22nd August, 2016 Source: The Guardian



Air pollution caused by war may be a major factor in the numbers of birth defects and cancers being reported in Iraq and other war zones, a study has suggested.

Human exposure to heavy metals and neurotoxicants from the explosion of bombs, bullets, and other ammunition affects not only those directly targeted by bombardments but also troops and people living near military bases, according to research published in the scientific journal Environmental Monitoring and Assessment.

Mozhgan Savabieasfahani, an Iranian toxicologist and lead author of the report, said "alarming" levels of lead were found in the "baby" or "deciduous" teeth of Iraqi children with birth defects, compared with similar teeth donated from Lebanese and Iranian children.

“Deciduous teeth from Iraqi children with birth defects had remarkably higher levels of Pb [lead],” she said during a recent visit to London. “Two Iraqi teeth had four times more Pb, and one tooth had as much as 50 times more Pb than samples from Lebanon and Iran.”

The study is important, because there has been scant research on how years of warfare across the Middle East have impacted local civilian populations, and data is hard to collect.

However, the few investigations that have been conducted suggest sharp increases in congenital birth defects, premature births, miscarriages and leukaemia cases in Iraq and other war zones, a finding supported by interviews with doctors.

The study supports claims that the long-term health of many thousands of former US soldiers was devastated by air pollution caused by the unregulated burning of huge volumes of military waste in hundreds of open air “burn pits” during the Iraq war.

More than 85,000 US Iraq war veterans who have signed a government register have been diagnosed with respiratory and breathing problems, cancers, neurological diseases, depression and emphysema since returning from Iraq. About half have stated that they were exposed to the burn pits.

The toll among soldiers has been documented in testimonies given to the US Department of Veterans Affairs and in a new book, The Burn Pits, based on interviews with 500 veterans exposed to pollution. They record how foam, electronics, metal cans, rubber tyres, ammunition, explosives, human faeces, animal carcasses, batteries, asbestos insulation and heavy metal waste were doused in jet fuel and set on fire during the Iraq war.

“There were 270 of these pits burning 24/7, sometimes for years. Some are still burning today. These materials converged in a toxic plume that hovered over bases, and seeped into soldiers’ sleeping and working quarters, which were often a mile or less away,” said former US Marine and Army sergeant Joseph Hickman, author of the book.

“The vets told me that they were told the smoke was a nuisance but not a hazard. Some of the pits were worse than others. One, at Balad air base, covered 10 acres and burned 50 tonnes of trash a day. There were no regulations on what could be burned, anything that was considered trash went in there.”

An air sampling study by the US Department of Defense at Balad base in 2008 detected high levels of particulate matter, polycyclic aromatic hydrocarbons, volatile organic compounds, as well as Agent Orange-type dioxins and furans.

Thousands of tonnes of herbicides containing deadly dioxins were dropped on Vietnamese and Laotian forests in the 1970s, but the health effects on veterans and local communties were not officially admitted for 27 years.

“The open-air bonfires [in Iraq] – which violated not only Environmental Protection Agency air quality standards, but the Pentagon’s own regulations – were supposed to be used only as a temporary measure, until incinerators could be put in place. But they continued to operate throughout most of these wars, with a number still running as late as 2015,” said Hickman.

Evidence of the pollution effects on Iraqi communities is barely known because little research has been done. But Savabieasfahani said the toxicological effects of the air pollution would inevitably have been damaging.

“We know that they burned pesticides, pharmaceuticals, chemicals, solvents, medical waste and toxic heavy metals. All are extremely polluting to the environment. Thick black clouds of pollution were common, day and night,” she said.

“I was alerted to the pollution when living close to Basra when the invasion started and several women at the university where I was teaching spontaneously aborted.

“But getting tissue samples out of Iraq has proved nearly impossible and little research into the pollution’s effect on people living close to the burn pits has been conducted.”

“We found very high levels of mercury, lead, titanium and various toxic metals in hair of children and parents of children with disorders or severe birth defects, showing metal contamination has happened since 2003 – with increased disorders and defects.”

She added: “We could see that when the bombing started so did the birth defects. In May 2010, 15% of 547 babies born at the [Basra] hospital had severe birth defects. This is in contrast to 2% to 4% that is normal,” she said.

Later in 2010, rates of babies being born with birth defects were as high as 30%, said Savabieasfahani. “Pollution all ends up in the body. People were breathing in high levels. Major damage was being done to people,” she said.

The full scale of the pollution from years of war in the region may never be known.

This Start-Up Claims To Be Recycling Polluted Air To Make Ink And Paints For Art

Date: 22nd August, 2016 Source: The Huffington Post

In the last year, authorities in Delhi have resorted to several methods to improve the poor air quality in one of the world's most polluted cities. The steps include banning old vehicles and larger diesel cars, the odd-even traffic restrictions and an environmental levy for trucks passing through the city.

An Indian start-up is taking an alternative approach to tackling air pollution by collecting harmful polluted air at its source, and then cleaning and recycling it to make paint and ink. "Instead of telling people to buy a new car to replace their old one, we're talking about a technology that can prevent pollution from going into the air and in our lungs," Graviky Labs co-founder Nikhil Kaushik said.

Headquartered in Bengaluru, Graviky Labs is headed by Kaushik, Nitesh Kadyan and Anirudh Sharma. Their device, called Kaalink, claims to be the first of its kind in the world in capturing polluting carbon from its source.

"At the end of the day, pollution is a pigment," Kaushik said. "From there, if you can re-purpose it to make art, it solves two problems in one go. It reduces pollution, and the byproducts ink and paint further lessen the use of chemicals."

Kaalink is a cylindrical device that can be retrofitted to a vehicle's exhaust pipe, and claims to capture as much as 93% of the pollutants emitted without affecting the performance of the engine. The carbon soot that has been collected is then processed to remove heavy metals and carcinogens, leaving a purified

carbon-based pigment. This is then further processed and mixed with materials like oil to make inks and paints.

So far, Kaalink has been tested on cars, trucks and motorcycles, with side trials being held with diesel gensets as well. Graviky Labs has also developed a range of Air Ink products such as pens, markers, paints and ink, all made from carbon soot. The team says that 30 ml of their ink is equivalent to 45 minutes of car emissions.

This processing is as important as capturing the particulate matter. "For instance, if you collect garbage but don't process it, it ends up in huge landfills that you see around Delhi and Mumbai," Kaushik added. "We are not just trying to capture the pollution, but going a step further to repurpose it and complete the cycle."

Sharma, who has also invented the smart shoe Lechal to aid visually-impaired people walk, first conceived the idea while working as a researcher at the MIT Media Lab in Boston in 2013. The device was further developed over the next three years, and is currently being certified. The company finally plans to bring it out in the market by the end of 2016.

Graviky Labs argues that if implemented widely, the device can help in reducing vehicular pollution in cities considerably. Each device can be used for an average of 15 days, after which it will have to be cleaned at petrol pumps. "Unless it is deployed on a large scale and there is an entire ecosystem around it, it's effect will be minimal," Kaushik said. The lab is still working on improving the device's efficiency in capturing particulate matter, and getting it used on a large scale, especially in metropolises with heavy traffic.

Vivek Chattopadhyay, a researcher at the Centre for Science and Environment, says that the device could be different from existing diesel filters that reduce the particulate matter in emissions rather than capturing it, but still needs to undergo a certification process before being implemented.

The core idea is the capture of pollution, but Graviky Labs is also trying to work in an inter-disciplinary direction by combining technology with design. In May, it partnered with Tiger Beer for an innovative street art project Hong Kong, a city that faces an air pollution problem like Delhi's. Local artists used its air ink to paint walls in the city's Sheung Wan district."There is no better medium to connect to people than art," Sharma said. "Here we had our inks used as an antidote to the respiratory problems caused by air pollution."

Essential oils could counter lung and liver ailments caused by air pollution, research suggests

Date: 23rd August, 2016 Source: Science Daily

Certain ingredients in essential oils made from plants such as cloves, anise, fennel and ylang-ylang could serve as a natural treatment of lung and liver conditions caused by air pollution. This is according to Miriana Kfoury of the Unité de Chimie Environnementale et Interactions sur le Vivant, Université du Littoral Côte d'Opale in France and the Lebanese University in Lebanon. She is the lead author of a study in Springer's journal Environmental Chemistry Letters. It is the first of its kind to evaluate the value of using certain essential oil compounds to treat inflammation caused by the fine particles that are typical of hazy, polluted air, and that are known to be carcinogenic.

Plants naturally contain various essential oils that are made up of different compounds. Some of these have been found to have antioxidant value, and to also be able to fight inflammation. A group of organic compounds called phenylpropanoids are found in the essential oils of some plants, and show promise as possible anti-inflammatory substances. Among these are trans-anethole (a flavor component of anise and fennel), estragole (found in basil), eugenol (which occurs in clove bud oil) and isoeugenol (contained in ylang ylang).

Kfoury and her collaborators first collected air pollutant samples containing fine particles in Beirut, Lebanon. In laboratory tests, the samples were then introduced to human cell cultures of normal bronchial epithelial cells (BEAS-2B) and cancer derived hepatic cells (HepG2). The fine particle matter was found to induce inflammation in the cells -- these started to secrete the pro-inflammatory cytokines IL-6 and IL-8 (substances that are secreted during infections and tissue damage). Cytokin levels normally increase when the body's immune system is fighting a specific infection.

Next, the researchers established that the trans-anethole, estragole, eugenol and isoeugenol all have so-called cytotoxicity, which means that they could cause cell death at relatively high concentrations. In this evaluation, they were able to determine the level of cytotoxicity of these oil compounds. This was important in order to establish the maximum dose to be selected in the next step, namely the assessment for anti-inflammatory properties. In the second round of tests, the four compounds were introduced to the combination of cell lines and air pollutants to see whether these could protect liver and lung cells damaged by fine particle air pollutants. It was found that the essential oil compounds tested decrease the levels of the two types of cytokines in the samples. The levels of cytokine IL-6 decreased up to 96 percent, and the levels of cytokine IL-8 by 87 percent.

"The findings provide the first evidence that natural essential oil components counteract the inflammatory effects of particulate matter, such as that contained in polluted air," says Kfoury.

Report: Zoned Waste & Recycling Collections Could Cut New York Air Pollution

Date: 23rd August, 2016 Source: Waste Management World



Establishing commercial waste collection zones could reduce associated traffic by 49% to 68% and greenhouse gas emissions by 42% to 64%, according to a study by the New York City Business Integrity Commission.

Establishing commercial waste collection zones could reduce associated traffic by 49% to 68% and greenhouse gas emissions by 42% to 64%, according to a study by the New York City Business Integrity Commission (BIC).

According to the Commission the city's private waste and recycling companies collect more than 3 million tonnes of materials each year from restaurants, hotels, offices, and other commercial establishments.

Over the next two years, the New York City Department of Sanitation and BIC will work with stakeholders including businesses, the private carting industry, and environmental justice advocates to develop an implementation plan for commercial waste reform in New York City.

The Commission explained that the plan will layout a framework for establishing commercial waste collection zones that will improve customer service standards, achieve the City's environmental goals, set clear standards for worker safety, and allow for new investments in recycling infrastructure and cleaner trucks.

The study was conducted by team of consultants that included BuroHappold, Sam Schwarz Engineering, Appleseed, and Paul Carpenter Associates. It revealed that the current open-market commercial waste system generates excess truck traffic, is highly concentrated among a few carters, has little transparency in pricing, and prevents private carting companies from achieving efficiencies that allow investments in recycling initiatives or cleaner trucks.

Currently, commercial waste trucks travel over 23 million miles annually to collect refuse and recycling material from over 108,000 businesses.

It was claimed that a commercial waste collection zone system would divide the City into several geographic zones and assign private carters to serve businesses within each zone through a competitive bidding process.

In this type of system, the study showed, truck would travel much less distance, resulting in far less overlapping truck traffic on commercial streets and highways.

The study also found that collection zones would reduce other air pollutants, including those most closely linked with asthma and other respiratory illnesses, by between 34% and 62%. Reducing commercial waste collection traffic will lead to cleaner air, less traffic, safer streets, and quieter nights in neighborhoods across New York City.

"The magnitude of the improvements in air quality and reduction in truck traffic coupled with the projected stable pricing for businesses the study found are compelling reasons for implementation of commercial waste collection zones," commented sanitation commissioner Kathryn Garcia.

"This study is the first step toward developing a more efficient and effective commercial waste collection system in New York City for businesses, employees and the public at large," continued Garcia.

Commissioner of the Business Integrity Commission, Daniel Brownell added: "The trade waste industry has made great strides in the last twenty years since the Business Integrity Commission was formed. However, the results of the study released today are compelling."

According to the commissioner it is clear that the examination should now move ahead to analyse how a zone collection model for commercial waste removal in the City could help:

Reduce truck traffic and vehicle emissions</br>Achieve greater recycling rates, especially for organic materials</br>Create greater uniformity in the trade waste industry as a whole.

"Going forward, as we look to fashion the right zone collection system for the specific needs of New York, it will be critical that the interests of all affected parties are part of the design conversation," said the commissioner.

5 houseplants for removing indoor air pollution

Date: 24th August, 2016 Source: Tree Hugger



New research finds that certain houseplants are best for removing specific harmful compounds.

It's not new news that houseplants are beautiful little workhorses when it comes to human health. Among their many benefits is one decidedly impressive one – they remove toxins from the air. And this isn't just woowoo mumbo-jumbo. NASA, given their interest in improving air-quality in sealed environments, has researched this extensively and concluded: "Both plant leaves and roots are utilized in removing trace levels of toxic vapors from inside tightly sealed buildings. Low levels of chemicals such as carbon monoxide and formaldehyde can be removed from indoor environments by plant leaves alone."

Meanwhile, indoor air pollution is a constant problem and a threat to human health. So looking further into the idea of how houseplants can fend off the potentially harmful effects of volatile organic compounds (VOCs), a main category of air pollutants, a team of researchers have made some new discoveries. They found that certain plants are better at removing specific compounds from the air – this is especially meaningful for indoor air, as studies have shown that interior air can have three to five times more pollutants than outside.

"Buildings, whether new or old, can have high levels of VOCs in them, sometimes so high that you can smell them," says Vadoud Niri, Ph.D., leader of the study.

VOCs include things like acetone, benzene and formaldehyde – they are emitted as gases and can cause short- and long-term health effects. They are invisible to the eye and come from common things many of us have around the house, things as innocent-seeming as furniture, copiers and printers, cleaning supplies and even dry-cleaned clothes.

"Inhaling large amounts of VOCs can lead some people to develop sick building syndrome, which reduces productivity and can even cause dizziness, asthma or allergies," Niri says. "We must do something about VOCs in indoor air."

Since the NASA research in the 1980s, a number of studies have looked into how plants work their magic on air quality, but most of the research has looked at the removal of single VOCs by individual plants from the air; Niri wanted to compare the efficiency of simultaneous removal of several VOCs by a number plants. You can see more on how the research was conducted in the video below, but basically he and his team from the State University of New York at Oswego used a sealed chamber in which they monitored the VOC concentrations over several hours with and without a different type of plant. For each plant they measured the VOCs the plants took up, how quickly they removed these VOCs from the air, and how much of the VOCs were removed altogether. They employed five plants and eight VOCs.

1. Jade plant
2. Spider plant
3. Bromeliad
4. Caribbean tree cactus

5. Dracaena

They found that all of the plants were good at removing acetone, but the dracaena plant took up the most, around 94 percent of the chemical. The bromeliad plant was great at removing six of the eight VOCs, taking up more than 80 percent of each over a 12-hour sampling period. Likewise, the jade plant was very good for toluene.

Experts caution people over poor air quality during rainy season

Date: 26th August, 2016 Source: Indian Express



More than 5.5 million people worldwide die prematurely every year due to air pollution, and India as well as China together account for 55 per cent of these deaths.

Experts from various fields have urged people to plant more trees and adopt anti-pollution measures after a US embassy report said there was an increase in the concentration of air pollution in many cities, including Delhi, even during monsoon which is considered the best season in terms of air quality.

According to the report, the study for which was conducted between June 2014 and 2016, while air pollution levels decrease during the monsoon period the fall does not reach the level that can be considered safe for humans.

"Air pollution is one of the biggest threats, yet very minimum has been done to address the issue. The data is an eye opener… More plants need to be planted and cutting down extremely prohibited as they purify the air," said Himanshu Garg, head of respiratory and critical care department at Artemis Hospitals.

"Figures of air pollutant PM 2.5 as high as 68 µg/m³, 46 µg/m³, 36 µg/m³, 39 µg/m³ and 41µg/m³ in Delhi, Hyderabad, Mumbai, Kolkata and Chennai respectively showed that even monsoon does not provide respite from already worse level of air pollution," said the report.

µg/m³ unit for concentration of an air pollutant given in micrograms per cubic metre air.

Garg urged the government to make strong policies to tackle the problem, saying it was vital that people realise their responsibility towards the environment and adopt air-friendly measures.

Vijay Kanan, founder of CLAIM — India's largest anti-pollution campaign, said: "The data is shocking because it overturns the belief many of us had that the monsoon rains cleanse the air, which now appears not to be the reality."

Noting that outdoor and indoor air are two sides of the same coin, Kannan, who is also India's head for Blueair, said the report demonstrated the need for a host of different measures, policy changes and awareness campaigns to drive substantial and sustained improvements in air quality.

More than 5.5 million people worldwide die prematurely every year due to air pollution, and India as well as China together account for 55 per cent of these deaths.

Jayant Chaudhary, a Delhi based environment expert, said public awareness about the increase in air pollution and toxicity level needs to increase.

"There is a need for many such researches which can contribute towards public awareness on rising pollution and poor air quality. With the speed of urbanisation and decline of forest the air quality is going to dwindle in the future," said Chaudhary.

Air pollution up by 35% in 6 years

Date: 27th August, 2016 Source: The Times of India

PIMPRI CHINCHWAD: Over the past six years, air pollution in Pimpri Chinchwad has increased by 35.7% according to the environment status report prepared by the civic body.

Air pollution in the city is monitored at six places. The percentage of pollutants has increased due to emissions from public as well as private vehicles, the report states.

Like most years in the past, Pimpri Chinchwad Municipal Corporation (PCMC) has submitted the environment status report much after the July 31 deadline even as it has expressed an ambition to prepare a time-bound programme for environment-friendly development.

The report considers poor rainfall last year and variations in the weather, besides rising vehicular population as main reasons for increased air pollution in the city. On the air pollution in the city, the report also blames the poor rainfall last year and the variations in temperatures, besides public and individual vehicles. The civic body has been encouraging motorists to use compressed natural gas (CNG) and provides financial assistance to autorickshaw drivers for installing CNG kits in their vehicles. As of now, 1,221 buses run on CNG in the city. Among 30 crematoriums in the city, three are electric crematoriums while one each is gas and diesel-based.

The report accepts that of the nearly 291 million litres per day (MLD) sewage generated in the city, the civic body treats 242.22 MLD sewage before releasing it into the river.

PCMC has proposed to set up five sewage treatment plants with a total capacity of 70 MLD, lay 135km length of pipeline and change nearly 200km length of the old drainage pipelines under the AMRUT scheme.

Speaking to TOI, additional municipal commissioner Tanaji Shinde said, "Each civic department provides data about the status of environment related to their department which is compiled as the environment status report. There are several suggestions given to improve the environment concerning various subjects like air, water and noise pollution. Each department concerned will make budgetary provision to implement the suggestions."

Plants Clear Indoors of Pollutants, Study Finds

Date: 27th August, 2016 Source: VOA News

WASHINGTON - Polluted air is a public health problem, not only outdoors, but indoors as well. Experts say it can be even worse inside because of the variety of household chemicals that emit fumes and

irritating particulates. Researchers, however, have found that plants, as part of their carbon exchange cycle, can take up these pollutants, clearing the air in homes.



It makes sense in a way since we could not live without plants. They absorb the carbon dioxide that we exhale, and release the oxygen we need to breathe. And we depend on plants to produce an enormous amount of oxygen, according to Vadoud Niri from the State University of New York at Oswego.

"Each of us breathes over 3,000 gallons of air every day. And also, we can't go without air over three minutes. So it means that air quality is extremely important and we need clean air to breathe every day."

Scientists say air pollution, caused by chemicals called volatile organic compounds (VOCs), is three to five times greater inside our homes. VOCs include cancer-causing benzene and formaldehyde, which are given off by paints, upholstery, printers and stored fuel.

Indoor air pollution can be the source of "sick building syndrome," which can cause dizziness, asthma and allergies.

New approach to 'scrubbing' air

The traditional way of removing indoor air pollutants is through filtration methods that remove harmful air from the house while pumping in cleaner air from outdoors.

"But we thought maybe we could use an easier and simpler and even cheaper way to get rid of these VOCs," said Niri. He said the idea to look into plants for filtration came from a 1984 report by the U.S. space agency NASA, which was investigating putting plants on the space station to clean the air.

In a specially designed chamber, Niri and colleagues tested five different plants that are commonly found in central New York homes: the jade plant, spider plant, a bromeliad, Caribbean tree cactus and dracaena. They were exposed to eight different VOCs.

Niri says that each plant absorbed many of the different chemicals, some specific to a particular species.

The bromeliad, for example, took up six of the eight volatile organic compounds it was exposed to. Eighty percent of each chemical was absorbed by the bromeliad plant in just 12 hours. The researchers thought it could not absorb the other VOCs, such as chlorine, because its atoms are too big.

All five plants were effective at removing acetone, the smelly compound in nail polish, from the air, taking up around 94 percent of the chemical. For this reason, scientists are anxious to see how well the plants perform in nail salons.

"We would recommend that instead of having one plant, five of one plant, we chose one of each to make sure that we uptake all types of VOCs from our air," Niri said of greenery's chemical-absorbing properties.

Niri discussed the air cleansing properties of plants at the annual meeting of the American Chemical Society.

He said the next step is to place plants in actual rooms to see how well they perform.

New research examines how air pollution is melting Earth's Third Pole

Date: 28th August, 2016 Source: New Atlas



The third-largest region of ice on the planet is located on the Tibetan Plateau and Himalaya-Hindu Kush mountains, also known as the Third Pole. As the polar regions, the glaciers in this third region are shrinking. The difference is that the Third Pole is especially vulnerable to pollution due to its close proximity to densely populated and industrialized regions. New research is shedding light on these effects and potential ways to mitigate the disappearance of glacial ice.

In Western China alone, which consists of 48,571 glaciers with an area of 51,840 sq km (20,015 sq miles), there has been an 18 percent decrease in its glaciers over the last 30-50 years according to a study by the Chinese Academy of Sciences' Institute of Tibetan Plateau Research. This shrinkage is especially concerning since over a billion people in the region rely, some indirectly, on the melt water that feeds the region's waterways, such as the Indus River.

In the new study funded by the National Natural Science Foundation of China and other institutions, researchers used a special chemical process to fingerprint the source and details of the air pollution, which can be differentiated between South Asia and East Asia. Samples of black carbon (soot) were collected throughout the Third Pole, in the air and on the ground, to determine the type of burning that produced them and where they came from.

Because black carbon is the most heavily light-absorbing component of particulate matter, it can cause temporary warming in the region by absorbing sunlight. In addition, when found atop snow and ice it can darken surfaces, which leads to the absorption of sunlight (and heat), and thus faster melting.

For the Himalayas region, the researchers found evidence of the burning of both fossil fuels and biomass, which includes plants and animal dung, coming from northern India's Indo-Gangetic Plain. Black carbon from the northern Tibetan Plateau came mostly from fossil fuel burned in China. But the researchers discovered that black carbon in the central Tibetan Plateau came primarily from biomass; meaning the daily routine of burning yak dung for cooking and home heating contributed significantly to the region's air pollution.

The information is important for creating and adjusting policies that could cut pollution sources that directly affect melting ice. In the case of the Tibetan Plateau, substituting efficient stoves and clean energy sources for yak dung could slow the rate of glacial ice melt. Policies such as China's three-year moratorium on new coal mine approvals could also help reduce black carbon air pollution.

Air pollution decreasing in York but remains too high

Date: 29th August, 2016 Source: The Press



AIR pollution levels in York are improving slowly but are still breaching air quality standards.

A report to be presented to City of York Council shows that air pollution

levels in the city reduced in most areas between 2014 and 2015.

But while there is evidence of a steady downward trend in concentrations of nitrogen dioxide - a poisonous gas that can inflame airways and cause other serious health problems - the most recent data indicates the levels are still too high in locations around the inner ring road.

The report states: “Air pollution particularly affects the most vulnerable in society: children and older people, especially those with existing heart and lung conditions.

"Air pollution is recognised as a contributing factor in the onset of heart disease, strokes and cancer and has been linked to low birth weights and reduced IQ in children. The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion.”

The accepted limit for nitrogen dioxide readings is 40 microgrammes per cubic metre. In the long term, if you are exposed to levels above 40 cubic metres for the whole year it can affect your lung function and could decrease life expectancy.

The council has set up the air management areas where the health based national air quality objectives for nitrogen dioxide were being exceeded. They are in the city centre, in Fulford and along Salisbury Terrace in the Leeman Road area.

Readings in Gillygate, Holgate, Lawrence Street and George Hudson Street/Rougier Street, breached the limit, and while maximum readings in Nunnery Lane and Fishergate were 38 or 39 microgrammes per cubic metre it is possible the limit could be exceeded, the council said.

It was a similar picture in Fulford Road with a reading of 37 microgrammes per cubic metre. Meanwhile, readings in Salisbury Terrace were 32 per cubic metre, which may therefore no longer need to be monitored. Typically traffic is responsible for around 50-70 per cent of the total nitrogen dioxide in York.

Last year The Press reported the areas with the highest readings of nitrogen dioxide. There was a reading of 65.3 mcg per cubic metre under the canopy at the train station, 55.2mcg in Gillygate and 54.7mcg at the Bridge St / Micklegate junction.

The report states that an Air Quality Action Plan from December 2015 planned how to cut emissions through new electric buses and converting seven per cent of the taxi fleet to low emission alternatives. There is also more work with the City Car Club, a pool of low-emissions cars.

York was awarded £816,000 from the Office of Low Emission Vehicles (OLEV) earlier this year. The money will be used to fund a city-wide network of hubs, providing ultra fast, reliable and convenient electric vehicle charging. The report is being submitted to Department for Environment, Food and Rural Affairs for consideration.

Further work in 2016/17 includes an anti-idling campaign targeted at drivers, additional incentives for using low emission vehicles and alternative fuels, and more expansion of the charging network.

Cllr Andrew Waller, the council's executive member for the environment, said: “While this report is very encouraging, we must continue working to improve air quality levels at key locations... The policy is to target the vehicles which cause a disproportionate amount of air pollution, and to encourage a switch to electric or hybrid vehicles.”

UK air quality shows little improvement over past 20 years, says study

Date: 30th August, 2016 Source: The Guardian



Academics say planners are concentrating on reducing road deaths and promoting growth at expense of environment.

There has been little improvement in air quality over the past 20 years as transport planners focus on preventing road deaths, according to a study.

Two university academics set out to try to understand why there has been little improvement in air pollution concentrations from road transport since the UK signed up to international air quality standards in 1995, as part of the Environment Act.

Dr Tim Chatterton and Prof Graham Parkhurst, from the Bristol-based University of the West of England, said their work concluded that UK transport planners were not taking the environmental impacts of transport choices sufficiently into account.

They said that current figures estimate that more than 50,000 deaths a year can be attributed to air pollution in the UK yet planners focus on reducing road accidents.

"Air pollution is perhaps the grossest manifestation of a general failure of UK transport planning to take the environmental impacts of transport choices sufficiently into account," said Prof Parkhurst.

"Currently air pollution is a shared priority between the Department for Environment, Food and Rural Affairs and Department for Transport but shared priority does not mean equal priority.

"Environmental managers only identify and monitor the problems. Insufficient relevant priority has been given within the sector responsible for most relevant emissions – transport policy and planning – which has instead prioritised safety and economic growth."

The academics also claimed there were limited regulatory and financial support for alternative transport and for local authorities seeking to introduce air improvement measures such as low emissions zones.

They also said there was a strong social equity issue, with households in poorer areas more exposed to much higher levels of air pollution, while contributing much less to the problem, mainly through driving less.

Prof Parkhurst and Dr Chatterton also called for poor air quality to be promoted as a public health issue.

"Air pollution-related morbidity and mortality are at epidemic levels and, although less obvious, are more significant than road transport collisions as a cause of death and injury," Dr Chatterton said.

"Politicians at local and national levels must treat poor air quality as a public health priority, placing clear emphasis on the severity of the problem and the limitations of technological fixes.

"Existing approaches that focus on individual, voluntary, behaviour change and technological innovations are not sufficient to tackle poor air quality.

The findings are due to be presented at Royal Geographical Society annual international conference in London on Wednesday.

September 2016

LPG for all will prevent air pollution related diseases: Nadda

Date: 3rd September, 2016 Source: Money Control



LPG as the cleanest available cooking fuel has actually reduced respiratory health issues among rural Indian women.

Terming as "major challenge" to provide clean energy to people who still use bio-fuel for cooking, Union Health Minister J P Nadda said the Centre's resolve to make LPG available to all will prevent disease caused by air pollution, mainly among rural women.

"LPG as the cleanest available cooking fuel has actually reduced respiratory health issues among rural Indian women.

The Centre's plan to provide five crore LPG connections in a short span will not only empower more women, but also benefit the health care department," Nadda said.

"My Ministry will be the direct beneficiary of this move," the Minister said delivering the valedictory address at the two-day international conference on LPG here.

Stating that the negative impact of traditional sources of cooking fuels include indoor household pollution, he said causes serious health implications, particularly on women and children, loss of productive time due to time spent on gathering fuels and deforestation.

According to the WHO, five lakh people die every year due to indoor domestic air pollution, Nadda said adding, indoor domestic air pollution was also responsible for significant number of acute respiratory diseases in children.

"The main challenge is to give clean and safe source of energy to our population who still use bio-fuels, partly or wholly for cooking," the Minister said.

"We need to jointly work to reduce emissions and exposure to air pollution to enable people to maintain good health and prevent diseases caused by air pollution," he said.

Referring to the 'Pradhan Mantri Ujjwala Yojana', Nadda said LPG connections would be provided to five crore households in three years. "

The fruits of the scheme will be instantly reaped by poor households in terms of better health status of women and children by effectively addressing health problems due to indoor air pollution," he said.

"The scheme would yield rich dividends in the form of better health to all family members and reduced spending on health. Women of poor household would now have more time to engage in productive work," the Union Health Minister said.

Speaking at the concluding session, Union Petroleum Minister Dharmendra Pradhan said the policies of the NDA Government to provide LPG to poor and downtrodden was a step towards empowering the marginalised section of society.

As the conference was attended by guests from abroad, specially African countries, who appreciated the people friendly initiatives in India, Pradhan said this should convey a message that India can show the way for improving lives of poor women across the globe.

M4 hard shoulder to be used as fourth lane despite 'deadly air pollution' warning

Date: 3rd September, 2016 Source: Get West London



The extra lane will be created along a 32-mile stretch of the motorway from Hayes to Theale, in West Berkshire

The hard shoulder of the M4 will be converted into a fourth lane, despite a warning it could exacerbate "deadly air pollution" levels.

A 32-mile stretch of the motorway from junction three at Hayes to junction 12 at Theale, West Berkshire, will be widened under the controversial scheme.

Variable speed limits will also be introduced along that section, changing subject to traffic flow, making it what has been dubbed a "smart motorway".

Transport secretary Chris Grayling gave the go-ahead on Friday (September 2) for the measure, which is designed to ease congestion.

Work on the project is scheduled to begin in March next year and to last for five years.

Highways England, which is responsible for motorways across the country, estimates it will cost between £586.4m and £862.4m.

'Allowing traffic levels to increase is an outrage'

In making his decision, Mr Grayling ruled that the change would actually improve safety on that stretch of the motorway.

He recognised concerns about the potential impact on air quality, which he said would be monitored once the fourth lane is operating.

However, Jenny Bates, of the environmental pressure group Friends of the Earth, branded the decision "awful news for local people and the environment".

"Widening the M4 will lead to more traffic, more climate changing emissions and increase air pollution levels that already break legal health limits," she added.

"The requirement to at least monitor the toxic gas nitrogen dioxide is welcome, but allowing traffic levels to increase when they need to be cut to help meet EU legal limits for deadly air pollution is an outrage.

"Motorway widening is not the solution to our congested roads as more traffic just makes it worse: it's time to send UK transport in a new direction to protect our planet and our health."

Pollution Control Board report: Air pollution on the rise in Gujarat, both in cities and industrial clusters

Date: 4th September, 2016 Source: Indian Express

There seem to be serious rise in the air pollution levels across Gujarat during the last one year, as air samples collected under both the National and State Air Quality Monitoring Programmes – NAMP & SAMP – show a deterioration in the quality of air in both cities and industrial clusters.

According to the figures shared by Gujarat Pollution Control Board (GPCB) in its annual report for the 2015-16, the ambient air quality samples collected under the SAMP & NAMP projects show that, compared to last year, the quality of air (PM10) has deteriorated not only in industrial clusters like Vapi, Ankleshwar and Vatva, but has also slid in residential and commercial areas of Surat, Vadodara, Ahmedabad and Rajkot.

GPCB monitors ambient air quality under various projects like SAMP, NAMP, Air Action Plan, etc in Gujarat.

The samples collected under the SAMP project show that PM10 levels have gone up in 22 of the total 24 stations covered under this project. Though the NOx (Nitrogen Oxides) figures continue to be under prescribed standards, they too have risen in 20 monitoring stations within a space of 12 months.

The highest levels of PM10 (particulate matter) have been recorded at Chhani (109 micrograms per cubic metre) in Vadodara, followed by Gotri (105) and GPCB office at Jamnagar (104). The monitoring stations at Sachin and Kadodara in Surat, Narol near Vatva and Nehru Bridge in Ahmedabad, all have PM10 levels equal or above 100 micrograms per cubic metre (m3) which is way above the national ambient air standards of 60 micrograms/m3.

PM10 levels in only two stations have show a slight improvement. These are located at the Alang-Sosiya Ship breaking yard where the ship recycling business is currently at an all time low.

Similar rise in pollution levels has also been seen in the figures collected under the National Air Quality Monitoring Programme (NAMP), where the quality of air is monitored by 38 stations with financial help from the Central Pollution Control Board, Delhi. Under this programme, the quality of air (PM10) has deteriorated in at least 29 stations. The highest PM10 level has been clocked at Nandesari CEPT (111 micrograms/m3) at Vadodara., followed by Dahez SEZ (105) in Bharuch and Dandiya Bazar (101) in Vadodara.

NAMP figures also show that PM10 levels in industrial centres like GIDC Panoli, GIDC Jhagadia (both in Ankleshwar) and GIDC Narol (in Ahmedabad) have all increased.

“The rise in PM10 levels in Gujarat is primarily due to pollution caused due to traffic and industries. There has been a serious rise in the number of vehicles in the cities. Again the rise in NOx also points to the pollution caused by vehicular emissions,” says JK Vyas, Head, Industrial Pollution Prevention, of Centre for Environment Education (CEE).

“Poor condition of roads, non-mechanised sweeping and lack of trees bordering roadways all contribute to the rise in suspended particulate matter in cities. Burning of solid waste by sweepers on a daily basis is also unfortunate,” Vyas added.

The GPCB figures (SAMP) also show that the PM2.5 and SO2 levels have increased only in a couple of stations.

High concentration of harmful pollutants found in Firozabad: NEERI

Date: 4th September, 2016 Source: The Times Of India

Agra: A study by National Environmental Engineering Research Institute (NEERI) to gauge pollution level in Firozabad which is a part of Taj Trapezium Zone has revealed that the level of harmful PM10 and PM2.5 has exceeded the minimum level by double on a daily basis while nitrogen dioxide had crossed the basic level by more than two and a half times. The report, however, also added that the pollutants did not reach the vicinity of the monument or impact it directly. The aforementioned chemicals are said to be present in the region due to the bustling glass and bangle industry in the area.

The report would now be tabled in front of the National Green Tribunal (NGT) for further consideration. The study was initiated after a group of industrialists raised the issue of a ban by the Taj Trapezium Zone Authorityon starting any new glass unit in the district. The industrialists wanted more supply of natural gas for their units.

The study was conducted at three places in the city to note down the levels of PM10 and its sources. It was revealed that at Raja Ka Taal, which has the majority of glass factories, the contribution of glass industries is 40%, burning of waste (21%) and DG set emission was at 17% for PM10, while at Tilak Nagar, road dust amounted to 33%, followed by domestic burning (25%), and glass industries (10%). At DIC, burning of garbage amounted to 49%, road dust was at 15% and glass industry amounted to 12%. The overall source contribution of glass industries to PM10 is found to be 20% on an average, the study stated.

"Average PM 10 and PM2.5 concentration at all the sites were exceeded by 1.6 to 2.2 times to that of the daily average and by 1.2 to 1.4 times to that of the daily average of the Indian National Ambient Air Quality Standard (NAAQS). High concentration levels were found at DIC (site located at downwind point during study period) followed by Tilak Nagar and then by Industrial area," stated the report.

The average concentrations of sulphur dioxide, nitrogen dioxide and ammonia at all sites was found to be much below than the NAAQS regulatory limit. In fact that the study showed that the levels of sulphur dioxide had decreased drastically by two times as compared to 1993. But, the study further stated, the cause of concern was nitrogen dioxide whose levels had increased by 1.4 to 2.6 times when compared with the levels measured in 1993.

Uttar Pradesh Pollution Control Board regional officer BN Sharma said, "The report will be tabled in the meeting of TTZ Authority this week. NEERI has given several recommendations to reduce pollution levels in the city. All these will be discussed and further direction will be passed to the industry stakeholders."

In its recommendations, NEERI said that flue gas recirculation (FGR) was the best available technique to control dust emission from furnaces in the glass industry. Usage of low nitrogen oxide burners and bag filter system in conjunction with a dry or semi-dry acid gas scrubbing system and periodic performance evaluation of control systems should be also done. The efficacy of efforts made towards pollution control should be evaluated through independent agency on regular basis, NEERI suggested.

It added that two post combustion technologies that may be applied to natural gas-fired boilers to reduce Nox emission were selective non-catalytic reduction (SNCR) and selective catalytic reduction (SCR). The SNCR system injects ammonia (NH3) or urea into combustion flue gases (in a specific temperature zone) to reduce Nox emission.

Apart from the continuous monitoring of pollutants at source, regular ambient air monitoring should be also carried to assess the level of pollutant levels at various nearby areas that may be impacted due to industries, it said. It also suggested better traffic management to reduce levels of dust in the city.

Air Pollution in Bolivia's La Paz Falls by 72% on Car-Free Day

Date: 5th September, 2016 Source: tele sur



Bolivia's National Pedestrian Day was hailed as a huge success by environmentalists.

Bolivians breathed a huge sigh of relief Sunday as the streets in major cities were cleared of all motorized vehicles. The air they were breathing was significantly cleaner thanks to the annual car ban.

Air pollution in La Paz fell by 72 percent on National Pedestrian Day, according to the office of Environmental Services. ''Noise pollution dropped to just 22 decibels which is significant considering the average is around 65 decibels,'' said Nadiezna Godoy, administrator of Environmental Services in La Paz.

More than two million cars were taken off the streets in nine major Bolivian cities, with tens of thousands of people reclaiming the normally congested roads by taking part in more than 200 different activities ranging from gymnastics to tai-chi as well as dance competitions.

''It's a great idea'' Diego Hurtado told teleSUR. ''You can breathe much better and they should have it more often, every six months would be ideal.''

Bolivia's socialist government introduced car-free days in 2011 to get people thinking about the effects of air and noise pollution. Marking the event, President Evo Morales said it is the collective responsibility of everyone to care for Mother Earth.

"We call on everyone to continue to take care of our common home, so that future generations do not suffer the consequences," wrote Morales on his official Twitter account.

According to President Morales, "The National Pedestrian Day is a day for Mother Earth," asking Bolivians to "liberate it from pollution."

A report released by the World Health Organization in May confirmed that outdoor air pollution has grown 8 percent globally in the past five years.

According to a WHO database compiled from more than 3,000 cities, billions of people are exposed to dangerous air particles. The study said outdoor air pollution is responsible for more than three million deaths every year and is thought to be the biggest single killer in the world.

We're only just beginning to understand the issue of indoor air quality

Date: 5th September, 2016 Source: Insight



Our aim at BESA is to raise awareness about indoor air quality and encourage more people to be mindful of the best solutions for particular buildings and building types to ultimately promote a healthy workplace environment. The BESA revealed the results of a recent YouGov survey (released on 17 August 2016), which looked into views of office workers and their attitudes toward indoor air pollution in office environments across the UK. The aim of the study was to illustrate attitudes, behaviours and perceptions in order to understand how office workers feel, think and act. Our survey, combined with our ongoing research and collaborations, shows us that opening a window isn't always the most effective solution to accessing 'fresh air' in offices. BESA wholeheartedly agree with Mark Eltringham's comment that clean, fresh air, is the best way to ventilate a workplace environment. Our survey was commissioned to highlight that in the urban, office environment, this is not always possible.

Indeed, the report, 'Every breath we take: the lifelong impact of air pollution' by the Royal College of Physicians, notes that 40,000 deaths are attributable to exposure to outdoor air pollution, with outdoor pollution playing a role in many health challenges we face today.

Whilst our survey gave an insight into the views and attitudes of the UK office worker, it was also done on the back of a wealth of substantial academic research and publications. It is our belief that the issues around indoor air pollution are only just beginning to be understood. The building engineering community is only now fully understanding the problem of indoor quality check (IAQ), and as it is not routinely or adequately measured – we are urging building owners to check and to understand the potential impact on human health.

Sensible use of mechanical ventilation can go a long way in helping protect building occupants to access fresher air. Measurements have shown that a well-sealed building envelope and effective filtration of incoming supply air can reduce particle penetration by 78 percent. There has been a growing interest in airtightness testing to help improve energy efficiency perspective, but that process can also be used to measure IAQ.

The right indoor air ventilation systems, if selected, cleaned and maintained regularly can offer a cost effective solution and can often present a better solution to opening windows in city centre and urban areas.

As more and more buildings are designed to reduce energy costs, it's important we address the issues to balance both energy efficiency and occupant health. BESA remain committed that we combat the risks surrounding indoor air pollution and will continue to raise awareness ensuring that we all have safe buildings to live, work and play in.

Toxic air pollution particles found in human brains

Date: 5th September, 2016 Source: The Guardian

Detection of 'abundant' magnetite particles raises concerns because of suggested links to Alzheimer's disease



Toxic nanoparticles from air pollution have been discovered in human brains in “abundant” quantities, a newly published study reveals.

The detection of the particles, in brain tissue from 37 people, raises concerns because recent research has suggested links between these magnetite particles and Alzheimer’s disease, while air pollution has been shown to significantly increase the risk of the disease. However, the new work is still a long way from proving that the air pollution particles cause or exacerbate Alzheimer’s.

“This is a discovery finding, and now what should start is a whole new examination of this as a potentially very important environmental risk factor for Alzheimer’s disease,” said Prof Barbara Maher, at Lancaster University, who led the new research. “Now there is a reason to go on and do the epidemiology and the toxicity testing, because these particles are so prolific and people are exposed to them.”

Air pollution is a global health crisis that kills more people than malaria and HIV/Aids combined and it has long been linked to lung and heart disease and strokes. But research is uncovering new impacts on health, including degenerative brain diseases such as Alzheimer’s, mental illness and reduced intelligence.

The new work, published in the Proceedings of the National Academy of Sciences, examined brain tissue from 37 people in Manchester, in the UK, and Mexico, aged between three and 92.

It found abundant particles of magnetite, an iron oxide. “You are talking about millions of magnetite particles per gram of freeze-dried brain tissue - it is extraordinary,” said Maher.

“Magnetite in the brain is not something you want to have because it is particularly toxic there,” she said, explaining that the substance can create reactive oxygen species called free radicals. “Oxidative cell damage is one of the hallmark features of Alzheimer’s disease, and this is why the presence of magnetite is so potentially significant, because it is so bioreactive.”

Abnormal accumulation of brain metals is a key feature of Alzheimer’s disease and a recent study showed that magnetite was directly associated with the damage seen in Alzheimer’s brains. Magnetite particles are known to form biologically in human brains, but these are small and crystal-shaped, unlike the larger, spherical particles that dominated the samples in the new study.

“Many of the magnetite particles we have found in the brain are very distinctive,” said Maher. “They are very rounded nanospheres, because they were formed as molten droplets of material from combustion sources, such as car exhausts, industrial processes and power stations, anywhere you are burning fuel.”

“They are abundant,” she said. “For every one of [the crystal shaped particles] we saw about 100 of the pollution particles. The thing about magnetite is it is everywhere.” An analysis of roadside air in Lancaster found 200m magnetite particles per cubic metre.

Furthermore, said Maher: “We also observed other metal-bearing particles in the brain, such as platinum, cobalt and nickel. Things like platinum are very unlikely to come from a source within the brain. It is a bit of an indicator of a [vehicle] catalytic converter source.”

Other scientists told the Guardian the new work provided strong evidence that most of the magnetite in the brain samples come from air pollution but that the link to Alzheimer’s disease remained speculative.

"This is a very intriguing finding and it raises a lot of important questions," said Prof Jon Dobson, at the University of Florida and not part of the research team. But he said further investigation was needed: "One thing that puzzles me is that the [particle] concentrations are somewhat higher than those previously reported for the human brain. Further studies [are needed] to determine whether this due to regional variations within the brain, the fact that these samples are from subjects who lived in industrial areas, or whether it is possibly due to [lab] contamination." The researchers said they had gone to great lengths to avoid contamination.

Air pollution was linked to a significant increase in the risk of Alzheimer's disease by a major study published in 2015, while other research showed brain damage related to Alzheimer's disease in children and young adults exposed to air pollution. Air pollution has also been linked to dementia in older men and women.

"We have not demonstrated a causal link between these particles and Alzheimer's disease but when you consider that magnetite has been found in higher concentrations in Alzheimer's brains and you know that magnetite is pernicious in its effect on the brain, then having a direct [air pollution] source of magnetite right up your olfactory bulb and into your frontal cortex is not a great idea," said Maher.

Prof David Allsop, an Alzheimer's disease expert at Lancaster University and part of the research team, said: "There is no blood-brain barrier with nasal delivery. Once nanoparticles directly enter olfactory areas of the brain through the nose, they can spread to other areas of the brain, including hippocampus and cerebral cortex – regions affected in Alzheimer's disease." He said it was worth noting that an impaired sense of smell is an early indicator of Alzheimer's disease.

"Knowledge is power," Maher said. "So if there's at least a possibility that exposure to traffic pollution is having even worse health impacts than were previously known, then take the steps you can to reduce your dose as far as you can."

"What this is pointing towards perhaps is there needs to be a major shift in policy and an attempt to reduce the particulate matter burden on human health." Maher said. "The more you realise the impact this is having, the more urgent and important it is to reduce the concentrations in the atmosphere."

Dr Clare Walton, research communications manager at the Alzheimer's Society, said: "This study offers convincing evidence that magnetite from air pollution can get into the brain, but it doesn't tell us what effect this has on brain health or conditions such as Alzheimer's disease. Further work in this area is important, but until we have more information people should not be unduly worried. There are more practical ways to lower your chances of developing dementia such as regular exercise, eating a healthy diet and avoiding smoking."

Israel reduces air pollution

Date: 6th September, 2016 Source: Y NET



Figures released by the Ministry of Environmental Protection show reduction of 52% in emissions of air pollutants; however, levels of emissions and waste discharge are still higher relative to countries in the EU.

Reductions of up to 52% in the emissions of air pollutants were

registered in Israel between 2012-2015, according to figures published by the Ministry of Environmental Protection on more than 540 of the biggest enterprises in Israel.

However, according to the same figures, emissions of nitrogen oxides and sulfur oxides in Israel are still 1.3 and 4.4 times higher respectively than EU countries. 87% of sulfur oxide emissions are the result of the operation of coal-fired power plants which are concentrated in Ashkelon and Hadera and still lack advanced pollution control systems.

Additionally, the amount of nitrogen, phosphorous and organic carbon discharged into sewage is also much higher relative to EU countries.

However, the flow of pollutants into the Mediterranean has also dramatically decreased between 2012-2015 as a result of reducing the amount of activated sludge discharged into the sea by the Gush Dan wastewater treatment plant.

A reduction in the amount of activated sludge was a requirement of the commission for discharge permits. All activated sludge discharge will cease by the end of 2016 with the completion of a new treatment facility.

Further improvements occurred in the quality of treated wastewater, with a reduction of 11% recorded in the amount of salt present in the treated wastewater between 2013-2015. This reduction is due to an increase in the use of desalinated water, with 50% of the total amount of water supplied to consumers being desalinated.

Minister of Environmental Protection, Ze'ev Elkin, commented on the figures, saying "The ministry is implementing the principles of transparency and public access to information. It is a tool used for setting policy and making decisions for us, as well as for citizens to get involved and make a difference. We plan to continue to give the public access to information and to reduce emissions of pollutants to the environment."

Study Predicts Increased Air Pollution Levels from CO Wildfires

Date: 7th September, 2016 Source: Public News Service



New research says more than 80 million residents of Western states will be subject to increased health risks from wildfire pollution in future decades. (Pixabay)

DENVER - As Western states continue to struggle with an increasing number of large-scale wildfires and longer fire seasons, a new joint Yale-Harvard study predicts 82 million people will be exposed to higher levels of air pollution in coming decades.

Report co-author Jia Coco Liu, a postdoctoral fellow at Johns Hopkins Bloomberg School of Public Health, said a changing climate is bringing hotter and drier conditions to the West, a perfect combination for wildfires - and increased health risks from the smoke.

"So, in the future, we estimated that there will be more air pollution episodes from wildfires," she said, "so there will be more fine particulates from wildfires that can potentially impact your health."

Liu said fine particulate matter in wildfire smoke is about 1/20th the diameter of human hair and can lead to respiratory and heart disease when absorbed by lung tissue. Researchers studied data from wildfire pollution in more than 500 Western counties from 2004 to 2009, and made projections for a future six-year period ending in 2051.

The study forecasts that 20 currently smoke-free counties will experience at least one major wildfire event by 2050, and Liu said Western counties already exposed to pollution are likely to see the length of "smoke waves" or consecutive days of pollution increase, by an average of 15 days.

"So, anyone really in the western U.S. could potentially be affected," she said, "so you have to be aware of the potential impact of wildfire smoke to protect your health and your family."

Liu said she hopes the results will help public-health officials prepare for higher air-pollution levels and give fire managers additional information as they face future blazes.

How Can Cyclists Avoid the Dangers of Air Pollution?

Date: 8th September, 2016 Source: Pollution Solutions



Cyclists are already doing their bit to avoid contributing to air pollution. But is there a way they can avoid the results of other people's pollution? With cyclists still in a minority of commuters, cycling amongst the traffic means running the risk of inhaling potentially dangerous chemicals. An innovative solution might just remove or at least reduce that risk.

The risk for cyclists

It isn't just an exaggeration. There's evidence to suggest air pollution is actually the biggest risk to cyclists. Kings College London found that nearly 9,500 people die annually in London from constant exposure to air pollution. It means that while people emphasise the importance of a helmet, a gas mask might actually be a cyclist's most important piece of safety equipment.

Prolonged exposure to nitrogen dioxide and particulate matter can heighten the risk of various respiratory diseases like asthma and lung cancer, and can even affect the function of the heart. Gas masks for cyclists have been proven to stop these pollutants entering the airways of cyclists, but they aren't without their problems.

Mask the problem

Aside from looking pretty odd, cycling gas masks can make it more difficult to breathe while you're on the bike. They can also make you get pretty sweaty, and are generally quite uncomfortable. The more serious problem is that some gas masks simply aren't fit for purpose. At less than £1 each, some facemasks seem like a cheap solution, but actually don't filter the air at all. It means you have to spend quite a bit just to get something that filters at least some of the pollutants out.

NOSK filter

Cue the innovative air filter from South Korean healthcare company NOSK. It's a small nose fitting that slots into the nostrils. With a three-part filter, it stops particulate matter in its tracks while avoiding the sweaty face, discomfort and strange appearance of a face mask.

Particulate matter

It isn't just air that is polluted by particulate matter. Water pollution is also caused by these tiny particles. While it doesn't dissolve in the water, particulate matter can become suspended in the water or settle at the bottom of rivers and lakes. It's dangerous to wildlife both in and around the water. 'Side Stream Air Lift MBR Development and Successful Application of a New Generation of MBR' explores how membrane bioreactors can be utilised in wastewater management with an increasing level of efficiency.

Air pollution may increase diabetes risk: study

Date: 9th September, 2016 Source: Business Standards

Long-term exposure to air pollution may increase the risk of developing type 2 diabetes - especially for people with impaired glucose metabolism, a new study has warned.

Air pollution exposure at the place of residence increases the risk of developing insulin resistance as a pre-diabetic state of type 2 diabetes, researchers said.

"Whether the disease becomes manifest and when this occurs is not only due to lifestyle or genetic factors, but also due to traffic-related air pollution," said Professor Annette Peters, director of the Institute of Epidemiology II at Helmholtz Zentrum Munchen in Germany.

For the current study, Peters and her colleagues from the German Centre for Diabetes Research (DZD) analysed the data of nearly 3,000 participants of the Cooperative Health Research in the Region of Augsburg (KORA) study who live in the city of Augsburg and two adjacent rural counties.

All individuals were interviewed and physically examined. The researchers took fasting blood samples, in which they determined various markers for insulin resistance and inflammation.

In addition, leptin was examined as adipokine which has been suggested to be associated with insulin resistance. Non-diabetic individuals underwent an oral glucose tolerance test to detect whether their glucose metabolism was impaired.

The researchers compared these data with the concentrations of air pollutants at the place of residence of the participants, which they estimated using predictive models based on repeated measurements at 20 sites (for particle measurements) and at 40 sites (for nitrogen dioxide measurements) in the city and in the rural counties.

"The results revealed that people who already have an impaired glucose metabolism, so-called pre-diabetic individuals, are particularly vulnerable to the effects of air pollution," said Dr Kathrin Wolf, lead author of the study.

"In these individuals, the association between increases in their blood marker levels and increases in air pollutant concentrations is particularly significant.

"Thus, over the long term - especially for people with impaired glucose metabolism - air pollution is a risk factor for type 2 diabetes," said Wolf.

The research was published in the journal Diabetes.

Can Air Pollution Affect Your Brain?

Date: 10th September, 2016 Source: Pollution Solutions



Bad for the environment, bad for wildlife, and bad for your health. The negative effects of air pollution are wide ranging and well evidenced. It's no secret that prolonged exposure to polluted air can have serious impacts on your health. Diseases like lung cancer, asthma and breathing difficulties in general are all linked to air pollution. But does it have any effect on your brain?

Tiny particles

New research by Lancaster University has discovered that, yes, air pollution does have an effect on the brain. While most studies focus on the detrimental effects on the lungs and heart, the scientists at Lancaster analysed people's brain tissue. In total, they analysed 37 people - 29 people from the highly polluted Mexico City, and eight participants from Manchester, aged 62-92 – some of whom died from neurodegenerative diseases.

The results

An examination of the nanoparticles in the participants' brain tissue found millions of magnetite particles. They differ from the small amount that naturally occur in brain tissue because of their rounded shape. In terms of proportion, there were around a hundred rounded magnetite particles for every one jagged, natural magnetite particle. In previous research at Lancaster, Professor Barbara Maher has found that magnetite particles, specifically these rounded forms, are present in the air outside power stations. It's quite clear that there's a link to air pollution.

A bigger picture

Given that the pollutants are making their way into the brain, there's nothing to stop them spreading. It's thought that the findings might be linked to other diseases, such as Alzheimer's. "There is no blood-brain barrier with nasal delivery," explains Lancaster's Professor David Allsop, "once nanoparticles directly enter olfactory areas of the brain through the nose, they can spread to other areas of the brain, including hippocampus and cerebral cortex – regions affected in Alzheimer's disease."

The research doesn't stand alone though. A 2015 study in the Journal of Alzheimer's Disease found that long term exposure to polluted air increases the risk of developing Alzheimer's. It's likely that further research will be taken out specifically relating to Alzheimer's and air pollution.

Solutions

So how do we fix the problem? People can't avoid breathing. Clearly it's the air that needs cleaning up. Controlling emissions is at the centre of this. With a number of different regulations aiming to minimise harmful emissions, flexibility is an important part of the solution. The many considerations when

designing a flexible abatement system are discussed in 'Flexibility is Key to Solving Air Pollution Abatement Challenges'.

Air pollution kills more than Aids and malaria: study

Date: 12th September, 2016 Source: Daily Nation



In-door air pollution from wood smoke. Sub-Saharan Africa deaths from household air pollution resulting from cooking with solid fuels remain high despite development gains and improvements in health services.

Air pollution is a threat to the poor and could push an additional 100 million people into poverty by 2030, a World Bank report has shown.

The report — a joint study of the Bank and the Institute for Health Metrics and Evaluation — lists air pollution as the fourth cause of death, with sub-Saharan Africa and South Asia accounting for more than half of the estimated 5.5 million lives lost in 2013 to diseases associated with pollution.

This translates to one in every 10 deaths worldwide being attributed to air pollution.

It means six times as many people die from air pollution every year than from malaria and four times more than HIV/Aids deaths.

It is also more than alcohol and drug abuse, and child and maternal malnutrition deaths, which together account for nine per cent against air pollution's 10 per cent.

The deaths cost the global economy about $225 billion (Sh22.5 trillion) in lost labour in 2013.

Sub-Saharan Africa recorded losses equivalent to 0.61 per cent of its Gross Domestic Product.

The study released on September 8 says the poor are more vulnerable to the impacts of climate change, with about 90 per cent of the population in low and middle income countries exposed to dangerous levels of air pollution.

The pollution comes from many sources, including dirt, smoke, vapour, gases, microscopic liquid droplets and heavy metals.

"Air pollution is a challenge that threatens basic human welfare, damages natural and physical capital and constrains economic growth," said Laura Tuck, the Vice-President for sustainable development at the bank.

"By supporting healthier cities and investments in cleaner sources of energy, we can reduce emissions, slow climate change and save lives."

Sub-Saharan Africa deaths from household air pollution resulting from cooking with solid fuels remain high despite development gains and improvements in health services.

Those aged 70 and above are the most affected with more than 2.7 million succumbing to such deaths.

Warning! Air Pollution Could Lead to Diabetes

Date: 12th September, 2016 Source: Nature World News



A new study from Germany reveals that exposure to air pollution could lead to diabetes, especially for those individuals in the so-called pre-diabetic state or who already have an impaired glucose metabolism.

The study, published in the journal Diabetes, showed a significant link between increase in air pollutant concentrations in a certain area and the increase blood level markers of the people living in it. The findings suggest that air pollution could be a risk factor for type-2 diabetes in the long run.

"Whether the disease becomes manifest and when this occurs are not only due to lifestyle or genetic factors, but also due to traffic-related air pollution," explained Professor Annette Peters, director of the Institute of Epidemiology II at Helmholtz Zentrum München and head of the research area of epidemiology of the DZD, in a press release.

For the study, the researchers analyzed the data of 2,994 participants of the KORA (Cooperative Health Research in the Region Augsburg) F4 study conducted in southern Germany. All participants underwent interviews and physical examinations. The researchers also took fasting blood samples from the participants to measure insulin resistance and inflammation markers. An oral glucose test was given to non-diabetic participants to determine if their glucose metabolism was impaired.

The data gathered from the participants were then compared with the concentrations of air pollutants at their place of residence. The concentrations of air pollutants (particle and nitrogen dioxide) were then estimated using predictive models. About 40 sites within the city and rural ares were examined for nitrogen dioxide measurements while 20 sites were studied for particle measurements.

With their comparison, the researchers were able to find a significant association between increases in blood marker levels and increases in air pollutant concentrations. Additionally, the researchers discovered that people with impaired glucose metabolism were particularly vulnerable to the effects of air pollution.

In the U.S., air pollution remains to be one of the biggest health threats. Environmental Protection Agency listed six pollutants, including carbon monoxide, lead, nitrogen oxides, ground-level ozone, particulate matter and sulfur oxides, as "criteria" air pollutants. The human health-based and/or environmentally-based criteria (science-based guidelines) regulates these pollutants by setting permissible levels.

Exploring Links Between Trees and Air Quality

Date: 13th September, 2016 Source: ideastream



According to the American Lung Association, the Cleveland area has some of the worst air quality from what's called year-round "particle" pollution – things that come from industry and automobiles. An emerging area of research focuses on the role urban forests play in "cleaning the air" and how disappearing tree canopy impacts human health. In the continuing series "Tracking the Trees," Kay Colby takes a look at trees and asthma.

On a hot summer day, 49-year old Vernice Lester points to a little black pack

by her side, describing its role in her life.

"This is my old faithful," Lester says. "Everywhere I go I take it with me."

What could be a purse, is actually a portable oxygen machine helping Lester breathe. She has severe asthma and COPD. She says both are aggravated by heat and humidity. "It's like suffocating, like somebody's choking me", Lester says. "I'm not getting any air in my lungs."

Cleveland Clinic pulmonologist Sumita Khatri, says another issue for her patients like Lester is air quality. In a 2016 report from the American Lung Association, Cleveland-Akron-Canton ranked as the 11th worst out of the top 25 metro areas for people at risk for year-round particle pollution.

Dr. Khatri says, "Particle matter is the small dust and aerosols comprised of various components that are just floating in the air. It comes from cars and trucks, as well as industry."

Using computer mapping and mathematical modeling, U.S. Forest Service scientist David Nowak, PhD, helped develop a tool that quantified the role "trees" played in cleaning the air in 2010. Nowak says, "Overall forests in the U.S. removed 17 million tons of pollution. Pollutants go to the interior of the leaf and are dissolved. In terms of particulate matter, the surface of the plants capture particles so they're directly removed. That's one of the dominant ways trees improve air quality."

Using Nowak's tool, a Northeast Ohio Tree Consortium calculates that Cleveland trees remove just under 830,000 pounds of air pollution per year. But the worry is that the City continues to lose almost 100 acres of tree canopy per year due to things like development, disease, and shrinking budgets for tree maintenance. Colby Sattler, an arborist with the Western Reserve Land Conservancy, says fewer trees may also play a role in higher asthma rates. According to Sattler, "Both locally and nationally we see this trend with many indicators in health and wellness. And specifically with the rates of asthma and upper respiratory disease, those neighborhoods with the lowest tree canopy have the higher rates."

While the causes of diseases like asthma are multi-factorial, Cleveland Clinic's Dr. Khatri sees maintaining and planting trees as an easy rallying point to help underserved communities. She says, "I think what communities will see is that trees mean prosperity, and greenness, and attention. It's a common language – right? Like who doesn't really love a tree?"

In 2016, Cleveland's City Planning Commission approved a "tree plan." One part highlights neighborhoods with low tree canopy in relationship to needs such as the percent of the population with asthma. Authors of the plan say large-growing trees with big leaves like the White Oak or the London planetree are known to be good "air cleaners." A future goal would be to plant those types of trees in neighborhoods with the highest rates of asthma. But the challenge remains coming up with funding and resources to support that kind of "targeted planting."

Air quality index doesn't give you correct picture

Date: 15th September, 2016 Source: The Times of India

NEW DELHI: Lack of calibration of pollution-measuring instruments has been hampering efforts of the country's pollution watchdog to come out with accurate data on air pollution.

When Delhi experimented with car rationing (odd-even) schemes to tackle the problem of air pollution, people wondered why the different agencies showed different figures for emission level of pollutants in the capital.

It had intrigued even policy-makers. But scientists at the National Physical Laboratory (NPL) of the CSIR knew that the answers to many such questions lay with pollution measuring instruments which were not calibrated to standardised form.

There was, in fact, no standardisation of such pollution-measuring instruments in India and therefore there was no calibration as per the standard norms considering different functional parameters of such equipment.

As a result, even the national air quality index, being released everyday by the Central Pollution Control Board (CPCB), does not give an absolutely correct picture of the level of pollution in different cities.

NPL has now asked the country's central pollution watchdog -CPCB -and the pollution control boards of all states to calibrate their instruments with the standard fixed by it.

The NPL director, Dinesh K Aswal, told TOI that the laboratory has recently developed and patented its own PM2.5 sampler - a first of its kind in India to provide accurate and traceable measurement facility - and asked the pollution control boards to go for calibrations.

"Once all the pollution measuring instruments are calibrated to the standard fixed by the NPL, we would be able to get an accurate picture of the level of pollution. We have first developed it for PM2.5. Samplers for other pollutants will also be developed and patented in due course", said Aswal on Wednesday.

The NPL has called the meeting of the CPCB and the State Pollution Control Boards (SPCBs) for sensitisation and training of their officials next month. Thereafter, all the pollution measuring instruments, used by these pollution watchdogs, will be calibrated as per the laboratory's standard which is recognised by the world body.

Once the process is formalised, all pollution measuring instruments used by different private agencies will also be required to be calibrated as per the NPL's standard.

Electric bikes 'can help cut air pollution'

Date: 16th September, 2016 Source: Air Quality News



Bicycles which are assisted by electric power could help towards reducing air pollution and also would help health issues by increasing physical activity according to research explained by the TRL Academy.

The organisation said that "Electrically-assisted bikes, or 'pedelecs', are those where pedalling is required but the rider can choose to switch on battery-powered assistance to reduce the effort required.

It explains that assistance cuts out when the rider stops pedalling or when the bike exceeds specified speed thresholds, as set out by legislation (25 km per hour across Europe).

And, it is noted that while e-bikes are less environmentally friendly and require less physical activity than conventional bikes, "the differences are small when compared with other forms of motorised transport, such as cars, and the activity required is still sufficient to count as at least 'moderate intensity' physical activity."

Trial results were reported from a scheme in Brighton where 80 employees were loaned an electrically-assisted bike for a 6-8 week period. This was accompanied by a review of the European literature available about other trials or surveys of those who have purchased e-bikes. In the Brighton trial, three-quarters of those loaned an e-bike used them at least once a week.

Average use

Across the sample as a whole, said TRL Academy, average usage was 15-20 miles per week and was accompanied by an average reduction in car mileage of 20%.

At the end of the trial, 38% participants expected to cycle more in the future and at least 70% said that they would like to have an e-bike available for future use and would cycle more if this was the case.

This, said TRL, is consistent with the results of a European literature review which showed that when made available, e-bikes get used. The organisation added: "It also indicated that a proportion of e-bike trips typically substitutes for car use and that many people who take part in trials become interested in future e-bike use, or cycling more generally."

This research is based on a project funded by the UK Research Councils Digital Economy and Energy and was led by the University of Brighton, entitled 'Smart e-bikes: understanding how commuters and communities engage with electrically-assisted cycling'

Our air quality won't improve until this one thing happens

Date: 16th September, 2016 Source: South China Morning Post

Cleaning up air pollution will require 'relentless pressure' on leaders in Hong Kong and the Pearl River Delta

A close mainland friend told me recently about his 21-year-old niece in Nanchang. Newly married, and seven months pregnant, she suddenly fell seriously ill. Perplexed doctors quickly discovered she had advanced stage liver cancer. She died before her baby was born, and the baby survived just a few days.

This appalling story provided the starkest of reminders of the undiscussed burden of China's pervasive pollution. Except in the rarest of cases, people aged 21 should not get liver cancer. This comes as a result of years of overwork and wear and tear on your liver – often by drinking too much hard alcohol, but also as a result of someone suffering unrelenting assault from contaminated food and drink. Such deaths are common on the mainland and are a dreadful reminder of the invisible price paid for the industrial pollution that engulfs most of its cities. Being "manufacturer to the world" carries heavy and tragic costs.

A new study from the World Bank brings this awful reality into sharp focus. Focusing only on air pollution – mainly the microscopic particles of carbon, sulphates, nitrates and heavy metals that are pumped out by road vehicles, power stations in city communities, and by cooking fuels like coal, wood and dung in poor rural societies – the World Bank has concluded that one in 10 deaths worldwide are attributable to air pollution exposure – that is more than 5.5 million premature deaths due to pollution, out

of an annual total of around 55 million deaths worldwide. That is six times more deaths than from malaria, and four times more than HIV/Aids. Of these premature deaths, over 1.7 million are in China, and over 1.5 million in India.

Most sobering of all, the welfare losses due to ambient and household air pollution cost our economies more than US$5.1 trillion in 2013. Foregone income from these premature deaths cost the global economy US$225 billion.

Around 70 per cent of the health-ruining pollution is accounted for in East Asia and South Asia, with the worst concentrations in north India and in north and central China, but no-one worldwide can rest easy. The World Bank says 87 per cent of the world's population lives in areas that suffer pollution levels higher than the World Health Organisation's air quality guidelines. Sitting as we do at the heart of the Pearl River Delta, you can be sure that we in Hong Kong sit right in the thick of it.

The World Bank work converges with findings from the University of British Columbia tabled at the American Association for the Advancement of Science earlier this year that found that "despite efforts to limit future emissions, the number of premature deaths linked to air pollution will climb over the next two decades unless more aggressive targets are set."

UBC's Professor Michael Brauer commented: "Air pollution is the fourth highest risk factor for death globally – and by far the leading risk factor for disease. Reducing air pollution is an incredibly efficient way to improve the health of a population."

But this and the World Bank study of course only provide a partial snapshot of the challenges we face. In looking only at air pollution, they leave aside deaths or sickness due to water pollution, poor sanitation or harm done by pesticides and other agricultural chemicals - though the United Nations Environment Programme estimates that these would add boost the World Bank estimates by around 20 per cent, with a heavy concentration on the world's poorest countries.

Both the World Bank and UN are emphasising that these pollution-driven ailments inflict not only social harm and personal tragedy, but carry a very high economic cost too. I recall a World Economic Forum study released almost exactly two years ago that said the six main contributors to premature death and poor health worldwide – cardiovascular disease, strokes, diabetes, respiratory illness, cancer and mental ill-health – would cost the global economy US$47 trillion in the 20 years from 2010 to 2030 – with impacts heavy enough to bankrupt many of Asia's health care systems.

Shocking though these numbers are, the likelihood is that they are significant underestimates of the true price we pay for pollution. If people end up in hospital as a result of harm due to air pollution, or are forced to take sick leave from work, then such costs can eventually be captured. But what of "presenteeism", where people are sick, but not sick enough to be forced to stay at home, but while at worked have a significantly diminished productivity? What about the price we pay for earnings that, instead of being used productively on savings and investment, or in the retail economy creating jobs and incomes, have to be diverted into medical treatment, hospital bills, or care for the chronically sick? I am reminded of the recent APEC work on how so many women are unable to work, or can only work part time, because of responsibilities for care in the home for elderly family members.

This week here in Hong Kong, with a typhoon sweeping near, and heavy rain washing the air clear of the worst of our pollution, it is easy to forget the relentless attritional impact on our health of the air we breathe and the pollutants we consume. If we get sick it is so much easier to blame our problems on some other source. I'm not going to ask people to start wearing those cumbersome and unattractive breathing

masks that exploded across the community in 2003 during SARS, but we really do need to put relentless pressure on our political leaders to tackle the poison in our skies. And that means leaders in the Pearl River Delta as well as here in Hong Kong. We may today be able to boast that Hong Kong is the most long-lived community in the world – but I fear that will not be sustained unless more is done to clear our skies.

New inhaler protects lungs against effects of air pollution

Date: 16th September, 2016 Source: The Guardian



Inexpensive over-the-counter product could help millions of people avoid worst health effects of breathing toxic air, say scientists

An inhaler that protects the lungs against air pollution has been developed by scientists and could help the many millions of people affected by toxic air to avoid its worst effects.

The inhaler delivers a molecule, first found in bacteria in the Egyptian desert, which stabilises water on the surface of the lung cells to form a protective layer. It is expected to be available as an inexpensive, over-the-counter product.

Outdoor air pollution is a global health crisis that kills over 3 million people a year and it has long been linked to lung and heart disease and strokes. But research is also uncovering new impacts on health, including degenerative brain diseases such as Alzheimer's, mental illness and, this week, diabetes.

The impact of air pollution costs $5tn a year, according to a World Bank report published last week. In the UK, at least 40,000 people a year die prematurely from air pollution, with a cross-party committee of MPs calling it a "public health emergency".

But the government's plans to tackle the issue were heavily criticised this week, just as alerts were issued for extreme air pollution across much of northern England. A day later, it was announced that more ambitious plans for London from Mayor Sadiq Khan were overwhelmingly backed by the public.

Vehicles are a key contributor to air pollution but, a year after the VW emissions scandal broke, most new diesel cars still emit far more toxic nitrogen oxides on the road than the official lab-based limit.

Action to clean up air is urgently needed across the world, but cutting emissions for vehicles and other sources will take years, meaning ways to reduce the harm in the meantime could be vital. The new inhaler has been developed by German medical devices company Bitop and is based on a molecule called ectoine, discovered in the 1980s in a desert bacterium which uses the compound to conserve water in 60C heat. "It is quite an inert molecule that does one main thing, which is bind water, which stabilises cell membrane tissues against physical or chemical damage," said Dr Andreas Bilstein, at Bitop. "It supports the natural barrier."

When inhaled, this helps prevent the damage caused by air pollution particles that can lead to asthma, chronic obstructive pulmonary disease (COPD) and lung cancer, Bilstein said: "Damage cannot occur as strongly and there is less inflammatory response, and so disease progression is reduced. The perfect situation is that the patient inhales in the morning and evening at home."

The inhaler has been tested in three small groups of patients particularly at risk from air pollution, due to asthma, COPD and bronchitis, with the positive results due to be published soon, Bilstein said.

Ectoine does not interact with cell receptors, so it is classed as a medical device rather than a drug. This means large clinical trials are not required for official approval and the inhaler could be on sale soon, at an estimated cost of £17 a month, after Bitop selects a marketing partner. A version of the product for use in nebulisers will be available this year in Germany and Poland, while an ectoine-based nasal spray for allergy relief is already available.

Bilstein said the inhaler could be useful around the world, as particulate air pollution is not just a European problem: "Especially in Asia – China in particular – the demand for such a product is even higher. I was in New York last week, and the air was also not very clean." The protective effect of ectoine was discovered by Prof Jean Krutmann and colleagues at the Leibniz Research Institute for Environmental Medicine, while investigating whether the molecule could protect skin against sun damage. Bitop funded a series of studies, now published in prominent scientific journals.

"The point that it can prevent the lung inflammation induced by ultrafine particles is established – there is no more doubt," Krutmann said. Antioxidants can also provide some protection but there has been controversy over the effectiveness of such food supplements, he said: "Personally, I think it is much better to eat lots of vegetables and fruit rather than taking any supplements."

Dr Richard Russell, a consultant respiratory physician in the NHS and medical advisor to the British Lung Foundation, who was not involved in the research, said the inhaler was both credible and promising: "Ectoine is a beautifully elegant molecule and it clearly works by helping water to stabilise, giving you a film of water in times of stress."

"The work that has been published thus far, in credible, internationally recognised journals, show that this stuff has positive properties, protecting against triggered inflammation," he told the Guardian. Russell, who also lectures at Imperial College and Oxford University, said it might also be useful for the treatment of asthma, COPD and other lung diseases, not only prevention. "It could potentially do so much more. It is actually quite exciting and there is clearly a lot more to come from this story."

Krutmann said slashing air pollution remained paramount. "It is very nice to be able to protect people against the detrimental effects, but this should not be used as an argument that we can now stop working on reducing particulate [air pollution]. The best thing is that we have clean air because then we don't need any prophylactic treatment. But on the other hand we have to be realistic and in many countries you cannot just switch traffic overnight to electric cars and do other drastic things."

"It will take many more years, especially in countries like China, and I think there is an ethical need to provide something to the general population to protect them," he said.

Watch: This video warning of rising air pollution is a chilling reminder our future is in danger

Date: 18th September, 2016 Source: DNA

India is sitting on ticking time bomb named pollution and if they delay in reforming fuel use, they are bound to reach a point of no return, said the campaign.



Future of air we breathe is nightmarish. Present stats from WHO report states 1.4 million people in India die pre-maturely deaths due to air pollution, which accounts to one life is given up every 23 seconds.

Come 2030 and fuels we use today would have made air so toxic with pollutants that it would be close to impossible to live and move without oxygen kit as a permanent burden and part of lifestyle. Renewable energy catering to humungous needs in the near future seems far sighted and for now cleaner fuels like natural gas may be the only answer that can avert the impending destruction.

An eye opener video named 'Time Bomb' launched by Hawa Badlo, an independent people's movement spearheaded by a Gurgaon based startup Social Cloud Ventures, offers a reality check of looming pollution induced calamity. It conjures up a specter of people looking pale and joyless despite breathtaking technological advancement at hand, burdened with oxygen kit and seeming a couple of decades older than their actual age.

Hawa Badlo launched 'Time Bomb' video, with GAIL (India) Limited?s active support, to sensitize people about the need to go for the radical fuel alteration. The campaign aims to educate people of the fact that India is sitting on ticking time bomb named pollution and if they delay in reforming fuel use, they are bound to reach a point of no return. The air catastrophe would wreak havoc on coming generation.

Hawa Badlo's video 'Time Bomb' presents the horror that 2030 India might be, if pollution is allowed to pile up unabated. The young little girl concludes video strongly questioning India: 'That if precautionary steps are not taken right away, human beings will fall in the 'endangered species' category soon.

These fuels we use today emit a significant amount of Carbon dioxide, Sulphur dioxide, Nitrogen Oxide and Particulate Matter in the environment which pollute air badly. The problem is use of fuels cannot be stopped as a major chunk of industries are running on them but we can definitely change the usage pattern to cleaner alternatives. As for natural gas, it emit less harmful particulate matter in the atmosphere and is indeed the cleanest burning fossil fuel. Fuels like CNG, PNG are lighter on pocket and on lungs too.

Vandana Chanana, Spokesperson, GAIL (India) Limited says 'Time Bomb' what future India can be like, there is no denying that in coming few years mortality rate will be high because of pollution and the bomb will explode creating havoc for our breathing systems. "Natural Gas are easily available, cheaper and emit less harmful oxides and almost zero particulate matter in air keeping air pollution level low and, most importantly, they do not harm your health."

Dr. Vivek Nangia, Director, Fortis Lung Centre, Fortis Hospital says "Pollution creates respiratory problems like asthma, bronchitis, lung cancer and cardiovascular diseases and the whole breathing system gets affected. Ashes from pollution particulates also lead to many skin disease conditions. Degraded air quality is ultimately leading to health catastrophe."

Nipun Arora, Founder, Hawa Badlo said "Time Bomb is alarming us how 2030 India will look if pollution is not stopped right away. We are becoming selfish and want to lead a luxurious life, big cars, big house and everything big. Owing a big car is not their fault, but no running your car on cleaner alternative is. We are losing our sense of decision and what we assume to be comfort now would soon turn to be a collective regret for the entire humankind in the near future. With this video we are trying to elucidate, that with these selfish decisions we are actually devising a Time Bomb which would blast once

the level of oxygen is overtaken by levels of other harmful particulate matters and there will be no fresh air to breathe in."

Saigon air approaches 'cigarette smoke' as Fall begins

Date: 18th September, 2016 Source: VNExpress



Fall in Ho Chi Minh City means a whole lot of pollution.

The future of southern Vietnam's air quality looks black indeed.

This week, the U.S. Consulate on leafy Le Duan Street reported "unhealthy" levels of particulate pollution, mainly during peak commuting hours.

Director of IQ Air Aron Szabo claims clients in the city's outlying districts report the kinds of particulate pollution one typically finds in a cloud of cigarette smoke.

"You can put out a cigarette," he said. "But this is a developing country."

Szabo has spent the last five years selling high-end filtration systems to everything from hospitals to housewives. He claims Fall always brings the worst air quality to the city, owing to seasonal crop burning and weather patterns.

"Normally summer is really bad," he said. "October and November are really, really bad."

The construction of high-rises, he estimated, would disrupt winds that kept the air over the historically low-rise city of roughly eight million people on the clear side.

The city government doesn't publish air quality data and recently announced plans to replace damaged air monitors while intimating that their stock of nine air monitors broke four years ago.

Thanh Nien reported that the system would cost $3.5 million.

Dang Van Dung of the Southern Meteorological Forecast Center said there's no way to know, yet, whether the haze will return.Last October, wanton slash and burn agriculture in Indonesia added an acrid haze to Saigon's considerable pollution problems. Officials in southern Vietnam initially described the problem as "fog" before admitting it was likely caused by the fires.

"If there are [Indonesian] forest fires and seasonal winds from the south west, we may have the same problem," he told VnExpress. "There's no way we can know for sure from here in Saigon."

During the height of last year's crisis, Indonesian President Joko Widodo told the BBC it would take three years to bring the problem to heel.

The Indonesian embassy in Hanoi didn't respond to a list of questions about the problem and analyzing existing data proves difficult to do. Channel News Asia reported that the agency tasked with beating back the fires proudly announced that six affected provinces had already declared a state of emergency (double the previous year) allowing for a more rapid response to fires. Earlier this month, the Wall Street Journal reported that slash and burn fires had spread to a previously untouched province.

Haze or no, however, Vietnam's national energy plan calls for the construction of coal-fired plants throughout the power-starved south—a plan Greenpeace warned could claim 25,000 lives by 2030.

This month, officials announced that they would scale up the use of costly diesel-fired plants to prevent power outages in the meantime.

Study paints grim pollution picture

Date: 19th September, 2016 Source: The Times of India

Kolkata: Abnormally high PM2.5 (particulate matter measuring less than 2.5 micron in diameter) levels in Kolkata's air nearly all through the year, except monsoon, is a major killer and may assume epidemic proportions if not contained immediately, a study by the World Bank and Institute for Health Metrics and Evaluation (IHME) has warned.

The study also reiterated the findings of the Indian Council of medical Research (ICMR), conducted as part of the National Cancer Registry Programme 2009 and 2011, which showed that Kolkata has the highest number of new lung cancer cases.

The study also points out that India is not only one of the worst polluters in the world, but also loses 7.96% GDP because of air pollution. In 2013, air pollution was associated with 5.5 million deaths - that translates to 1 in 10 deaths globally, an increase from 4.8 million in 1990.

In particular, the report has shown how the tiny PM2.5 plays havoc with lives, more so in Kolkata, where this pollutant is a major concern. "Kolkata, like the national capital Delhi, has a very high percentage of PM2.5 in its ambient air, making the city the lung cancer capital," said auto emission expert Somendramohan Ghosh. The ICMR study had found that Kolkata has the highest number of new lung cancer cases among men - 20.5 per every lakh - followed by Delhi (13.9) and Chennai (12.6).

An earlier study, conducted in 2006-'07, 14.9 cases per a lakh of Kolkata's population. But the study shows India now has 90 deaths per every lakh people due to PM2.5 alone. The PM2.5 pollution is a major public health risk and an economic burden, especially in low- and middle-income countries. Pollution, the report says, is the fourth-most important health risk in terms of attributable deaths and premature mortalities since 1990, despite the fact that nearly all countries have reduced the number of deaths caused by air pollution through improved health services.

PM2.5 invades the innermost recesses of the lungs. Kolkata air has not only well above the national standard of the pollutant, but the count has also been increasing steadily and rapidly. Except monsoon, the PM2.5 count taken by the US Consulate in Kolkata remains highly hazardous. Often, the count overtakes that of Delhi.

Data available with the state pollution control board show that the average concentration of PM2.5 was 190 micrograms per cubic metre in December and January. This is more than triple the national standard of 60 micrograms. "It has been proved that all particulate matter less than 2.5 microns in size are sucked into the deepest parts of the lungs and are mainly responsible for inducing permanent changes in cellular life cycles," said preventive health care specialist Dr Debasish Basu.

NASA approved top six magical houseplants that improve indoor air quality- Photo feature!

Date: 19th September, 2016 Source: Zee News



New Delhi: There is one similarity between your house and NASA spaceship. Do you know what's that?

Don't get so excited because the answer is the poor indoor air quality.

Luckily, years ago in 1989, NASA conducted a Clean Air Study to figure-out some of the best air-filtering houseplants. The stagnant indoor environments traps air pollutants and harmful chemicals like benzene, formaldehyde, and ammonia. All thanks to NASA's glorious research that provided us some effective weapons to stave off indoor air pollution.

Here is a list of seven houseplants that filter the air the best:

Peace Lily:

This beautiful plant can alone removes three of the worst indoor chemicals- formaldehyde, benzene and trichloroethylene. The researched showed that Peace Lily can improve air quality by as much as 60%.

Snake Plant:

Being very hardy, Snake Plants can survive in almost any location and condition. The reason one should must grow this plant in your home because it prevents formaldehyde and benzene from sticking around in air.

English Ivy:

This plant is a must-have for a smoking family as it sucks carcinogens and helps to purify small areas. English Ivy needs low lightening conditions and also removes the amount of air borne fecal matter.

Boston Fern:

These are excellent natural air humidifier and are perfect for eliminating traces formaldehyde present in air. Its large feathered fern can grow as long as 5 feet and requires regular watering.

Spider Plant:

This popular indoor plants removes carbon monoxide. Spider plants need moist environment and grow at impressive speed.

Aloe Vera:

Apart from cleaning your skin, this plant also filters out formaldehyde and benzene from your house.

Air pollution levels about 3.5 times higher at bus stops: Study

Date: 20th September, 2016 Source: Channel NewsAsia

SINGAPORE: Commuters waiting at bus stops in Singapore could be breathing in three-and-a-half times more toxic gases and particles than at ambient levels, and with prolonged exposure this may lead to health problems.

These are the findings of a research team led by Dr Erik Velasco, an air pollution expert from the Singapore-MIT Alliance for Research and Technology. The team also comprises students from the National University of Singapore.

After the measurements of their study were validated and the findings published in August, they found that bus stops are hotspots of exposure to tiny particles from vehicle exhaust fumes. These particles permeate the bloodstream and can cause or exacerbate existing pulmonary and cardiovascular diseases such as lung cancer and asthma, the researchers said.

The study started in 2011 and measurements were taken using state-of-the-art portable sensors over a period of two years at five bus stops across VivoCity, Little India, Bugis, One Raffles Quay and the National University of Singapore.

While all five were found to be polluted, the frequency of pollutant spikes were highest at the Bugis bus stop, followed by the one at VivoCity as there were more commuters and traffic in those areas.

According to the Land Transport Authority, about 63 per cent of all journeys in Singapore during peak hours are undertaken on public transport and of the 7.7 million daily trips, 49 per cent are by bus.

To reduce commuters' exposure to the pollutants, the research team suggests installing fans at bus stops to disperse the toxic particles and fumes. It also advises commuters to reduce waiting times at bus stops by checking bus arrival schedules.

In the long term, having electric trams and buses could also help to reduce the level of air pollution, researchers said.

- CNA/am

Bike emission norms to cut air pollution

Date: 21st September, 2016 Source: The Times of India

PUNE: The Union government's decision to enforce particulate matter emission standards and on-board diagnostic system for bikes and three-wheelers for the first time might improve the air quality in the city choked with over 22 lakh two-wheelers.

Union ministry of road transport and highways has notified implementation of the Bharat Stage VI (BSVI) emissions standards for all vehicles nationwide in 2020. Along with modifying emission norms for four-wheelers, the government will enforce particulate matter emissions standards and on-board diagnostic systems for two- and three-wheelers.

Hydrocarbon and nitrogen oxide emissions norms for two- and three-wheelers would also be regulated separately for the first time. At present, these are combined for regulations, creating a margin to cushion

higher NOx emissions from two-wheelers. Two-wheelers will also come equipped with on-board diagnostic systems to alert about engine malfunction and wayward emissions.

According to rating agency ICRA, prices of two-wheelers will go up by Rs5,000-6,000 when the emission standards are implemented because the automobile industry will have to go for electronic fuel injection (EFI) system and make changes in the exhaust system. At present, two-wheelers plying on roads in India follow BS-III emission norms. New Delhi's Centre for Science and Environment (CSE) welcomed the notification, saying it was a significant move forward because given the sheer numbers of two-wheelers, their contribution to particulate load in cities tend to be high. This can now be controlled.

Last year, automobiles in the city released an estimated 12.6 thousand tonnes of particulate matter - as much as was 35.71% increase from the levels in 2010. The emission is certain to multiply this year. Pune, having high density of two-wheelers, figures among the top cities in vehicular pollution chart.

According to CSE, Euro VI standards will nearly close the gap between diesel and petrol emissions. Under the current BSIV emissions standards, diesel cars are legally allowed to emit three times more NOx than petrol cars. This difference will reduce to 1.3 times under BSVI emission standards. This will also reduce the cancer-causing potential of the new diesel fleet. For the first time, clean diesel fuel with 10 ppm sulphur will come to India. It will enable adoption of advanced emission control systems needed for Euro VI standards.

"Emission benefits from this move will be significant," said CSE executive director Anumita Roychowdhury. In case of cars, the particulate matter norm will reduce by 82 per cent and nitrogen oxide (NOx) by 68 per cent; particulate matter and NOx emissions from two-wheelers will reduce by 89 per cent and 76 per cent, respectively; and particulate matter and NOx emissions from trucks and buses will drop by 50 per cent and 89 per cent, respectively.

Roychowdhury added, "This is a game-changer decision and will help India leapfrog to much cleaner emissions. The number of vehicles that India will add in the next decade is more than twice the current vehicle stock in the country. This is a much needed step to cut the toxic risk in all our cities and towns."

The United Nations' environment section documents state that diesel vehicles and two-stroke motorcycles without emission control technologies tend to emit more particles. Moreover, particles are formed by the transformation of gaseous emissions like oxides of sulphur and nitrogen and VOCs, into secondary pollutants.

"I am not sure if this step will help. The best way to curb vehicular pollution is to take steps to stop personal vehicles coming on road. Instead of setting new emission norms of two-wheelers, it is best to stop two-wheelers hitting the streets. This would be possible only when personal use of vehicles is discouraged by imposing congestion charges and charging heavy parking fee. Public transport services must be improved so that people stop using their own vehicles," said Sujit Patwardhan of Parisar organization.

Air-quality study throws spotlight on bus stops

Date: 21st September, 2016 Source: StraitsTimes

Even without the haze shrouding Singapore, commuters waiting for a bus could be polluting their lungs.



The tiny particles from vehicle emissions are smaller - and more toxic - than the PM2.5 pollutants dominant during periods of haze, a new study has shown.

"Waiting at the bus stop for only 10 minutes each time may seem innocuous. But these short exposures all add up," said researcher Erik Velasco, who led the research.

"A commuter who takes a two-way trip by bus to work for five days per week is actually exposed to these participles for nearly seven hours per month and over three full days per year. This exposure can affect people with existing pulmonary and cardiovascular diseases, among others."

PM2.5 are pollutant particles measuring less than 2.5 microns in diameter - about a 30th the diameter of a human hair. They are hazardous because they are small enough to be breathed into the lungs and absorbed into the bloodstream.

Dr Velasco, a research scientist from the Singapore-MIT Alliance for Research and Technology (Smart), has found that the particles commuters breathe in while waiting at a bus stop are even smaller - by about 100 times.

At a media briefing yesterday, he said a two-way bus journey five days a week could lead to a commuter inhaling about 3.5 times more tiny pollutant particles than at ambient level, which researchers measured at Fort Canning Park.

The findings were significant considering that travel on buses made up almost half of the 7.7 million public transport trips every day in 2014, said Dr Velasco, citing Land Transport Authority (LTA) data.

Dr Steve Yang, specialist in respiratory medicine and consultant at the Raffles Internal Medicine Centre at Raffles Hospital said the human body has no efficient way to remove particles smaller than 2.5 microns in diameter.

"Humans have developed ways to filter out particles 10 microns and above, which get trapped in the nose and throat and do not enter the lungs, but not the smaller particles," said Dr Yang, adding that people should not stand near idling buses.

Toxic ultrafine particles are formed when gases and particles from vehicle exhaust pipes react with each other in the air after they are discharged. Catalytic converters and filters in vehicles, while vastly improved over the years, are still unable to remove all the toxic particles and gases produced.

For the study, Dr Velasco worked with Ms Tan Sok Huang, a former National University of Singapore geography master's student to quantify pollution at five well-used bus stops in Singapore - Vivo City, Little India, Bugis, One Raffles Quay and NUS.

The researchers collected data in 2011 and 2012 using portable, state-of-the-art instruments to measure variables such as the number of ultrafine particles per unit of volume.

The study was funded by the National Research Foundation and published in science journal Atmospheric Environment last month.

In June, the LTA embarked on a six-month pilot scheme to install electric fans at five crowded bus stops in places such as Tampines and Ang Mo Kio to improve ventilation. Dr Velasco suggested that such fans,

which can disperse pollutant particles and make waiting in the heat bearable, could be installed at more bus stops. He also suggested scheduling buses to arrive at specific times, to minimise waiting by commuters.

Post-graduate student Jeremy Heng, 28, who takes the MRT and bus from his home in Bukit Timah to Changi every day for a work stint, said: "I am somewhat surprised by the findings, especially about how these particles are more harmful than those in the haze.

"The broader implications of the findings emphasise that clean energy for vehicles, or a car-lite economy, is the way to go."

Cardiff holds first 'car-free day' to cut air pollution

Date: 22nd September, 2016 Source: BBC News



Concerns over air pollution in the city centre means Cardiff will hold its first car-free day on Thursday.

But only Park Place in Cathays will be closed to all traffic until 00:00 BST on Friday.

It will become a street market and host a transport exhibition giving information on sustainable travel.

While all commuters will be encouraged to leave their cars at home in a move designed to combat air pollution, no other areas will be closed off.

Gwenda Owen from Cycling UK said the atmosphere in the city centre was "buzzing".

"It's lovely, Cardiff is so busy, there are people all around getting their bikes fixed - all very exciting," she said.

Jane Lorimer, director of cycle charity Sustrans Cymru said it was a "positive first step".

Councillors backed plans to ban cars in the city centre for one day each year, to cut air pollution, last October.

'Grossly irresponsible'

But cabinet member Ramesh Patel said it would be "grossly irresponsible" to widen the area before the first plan had been reviewed.

He added: "With the new bus interchange developing, a cycling strategy being produced, planned investment in our railways and future plans for the metro, sustainable transport is a major priority for the council.

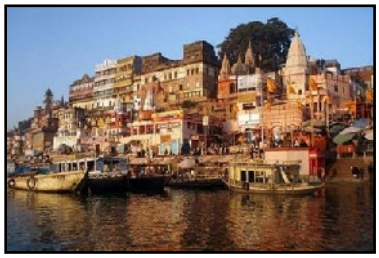
"Making walking, cycling and public transport more attractive and viable options for commuters and residents are integral to Cardiff's continued development and achieving our aspiration to become Europe's most liveable capital city."

Car-free days already take place in Delhi, Paris and London.

It is claimed air pollution is linked to tens of thousands of deaths in the UK annually.

Varanasi, Allahabad air over WHO pollution limits on most days in August

Date: 24th September, 2016 Source: The Financial Express



The most likely reason for this could be vehicular pollution. Both Varanasi and Allahabad were badly hit by flooding in August, 2016, leading to traffic congestion.

On more than 90 per cent of the days in August this year, pollution levels in Varanasi and Allahabad exceeded World Health Organisation (WHO) guidelines for acceptable levels, an IndiaSpend analysis of data recorded by #Breathe, our 12-city network of air-quality monitoring stations, shows.

This can be a lethal situation because a day with a high concentration of airborne particulate matter (PM) can lead to short-term mortality, according to a WHO report. This is when an ill person dies within 30 days of a visit to a hospital, or during the visit, according to a Journal of Epidemiology article in 2003.

The WHO guideline for 24-hour average for PM 2.5 is 25 per cubic metre, and it reflects "the concentrations at which increased mortality responses… are expected based on current scientific findings".

PM 2.5 are particles measuring less than 2.5 µm (micrometre, one millionth of a metre), a fifth of the size of a fog or cloud water droplet. The main source of these is vehicles, boilers and power plants.

People with breathing difficulties such as asthma, and lung and heart diseases are most at risk to PM 2.5.

A WHO report suggested that a country regularly exceeding the 24-hour limit "undertake immediate action to achieve these levels in the shortest possible time". And Varanasi exceeded the limit 96 per cent of the time this August — 27 out of the 28 days monitored.

The most likely reason for this could be vehicular pollution. Both Varanasi and Allahabad were badly hit by flooding in August, 2016, leading to traffic congestion.

On 26 days — 93 per cent of the days examined — Varanasi's PM 2.5 levels averaged over 30 per m^3. A reading between 30 and 60 is regarded as "satisfactory" under the Indian government's Air Quality Index (AQI) guidelines. This assessment suggests that only a sensitive few will feel its effects, and then too only breathing difficulties.

But the WHO warns that a level of 37.5 is associated with approximately a 1.2 per cent increase in short-term mortality. Of the days monitored in Varanasi, 64 per cent (18 days) had an average level of over 40, and 54 per cent (15 days) had an average PM 2.5 level of over 50 — associated with an approximated 2.5 per cent increase in short-term mortality, according to the WHO report.

On 11 days out of the 28 examined (39 per cent), the level in Varanasi was over 60, classified as "moderately polluted" under the Indian government's guidelines, and "may cause problems for people with asthma, heart problems, or children and the elderly".

In Allahabad, 28 days in August (90.3 per cent) were over the WHO guideline, on an average. PM 2.5 levels were over 30 per m^3 on 24 days — 77 per cent of the time. On four days of the month, the level was over 60.

On August 25, 2016, when Varanasi was celebrating Krishna Janmashtami, the city suffered its worst 24-hour average of 118.6 –274 per cent higher than the WHO's recommended limit. By WHO estimates, this would translate to about a 9.4 per cent increase in short-term mortality.

The day began with an average level of 151.8 between 1 am and 6 am — six times the WHO limit. The levels then dipped, but spiked again in the evening, ending at an average of 136.7.

The Indian government classifies this as "very poor" conditions, which, if endured too long, can lead to breathing problems, particularly for people with lung and heart ailments.

In Allahabad, August 29, 2016, was the worst day, where the 24-hour average for PM 2.5 concentration stood at 93.4 — associated with roughly a 6.8 per cent increase in short-term mortality. In the early morning — 12 am to 4 am — the average reading was 107.4.

Severe health warning for young and old as serious levels of air pollution chokes Hong Kong

Date: 26th September, 2016 Source: South China Morning Post

Bad air said to be caused by passage of tropical cyclone Megi, which is disrupting air traffic between Hong Kong and Taiwan.

There was something in the air on Monday as parts of the city saw a return to "serious" levels of air pollution, particularly to the west, with the haze expected to remain until Wednesday.

The Environmental Protection Department said the condition was caused by a nearby tropical cyclone which created favourable conditions for the formation of air pollutants.

The department warned the pollution levels would remain high on Tuesday but said cloudier weather and a few showers -on Wednesday may see it ease.

At 4pm on Monday, the air quality health index in Yuen Long and Tuen Mun soared to 10+, the most severe warning on the scale, meaning a "serious" health risk.

During a serious health risk, children, the elderly and people suffering from heart or respiratory illnesses are advised to stay indoors as much as possible.

Tung Chung, also to the west of the city, recorded an index of 10, bearing a "very high" health risk.

On Monday morning, the air pollution level hovered between three and five on the index, meaning a low to moderate health risk, at all air monitoring stations, but turned worse in the afternoon.

The high levels started to drop at around 6pm.

The department said the hot weather and afternoon haze was caused by the outer subsiding air of the Taiwan-bound tropical cyclone Megi, which created favourable conditions for the formation of

photochemical smog activity and ozone – leading to high pollution in the region. Light winds hindered the dispersion of pollutants.

Meanwhile, the passage of the storm disrupted air traffic between Hong Kong and Taiwan.

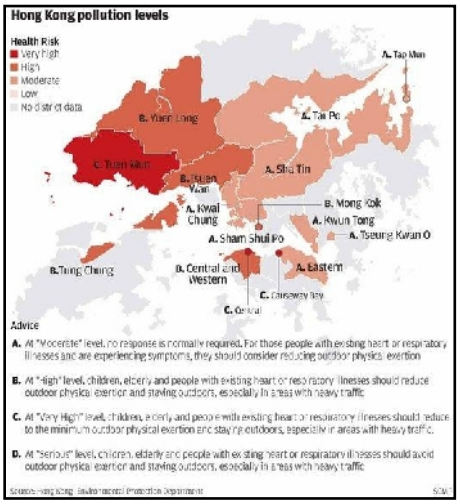
Cathay Pacific and Dragonair cancelled nine flights to and from Taipei and four flights to and from Kaohsiung on Tuesday.

They also announced a number of delays on Tuesday and Wednesday involving four flights between Hong Kong and Kaohsiung and three between Hong Kong and Taichung,

Dozens of China Airlines, Mandarin Airlines and Eva Air flights between Hong Kong and Taiwan were also suspended.

Hong Kong records hottest September day in 50 years, air pollution levels 'serious' for second day

Date: 27th September, 2016 Source: SOTT



Hong Kong recorded its hottest September day in more than half a century on Tuesday as the influence of Typhoon Megi brought -"serious" levels of air pollution to the city for a second day.

Temperatures hit a high of 36 degrees Celsius in Happy Valley as -Taiwan felt the full force of the tropical cyclone, which is forecast to bring gloomy weather to Hong Kong over the next six days.

The Environmental Protection Department issued a warning after the Air Quality Health Index in Tuen Mun and Tung Chung hit 10+ on Tuesday afternoon, its highest level. That indicates a serious health risk.

It was the second day the city recorded such severe levels of air pollution.

The index in Central reached 10, and it climbed to nine in Yuen Long and Causeway Bay, indicating a "very high" health risk.

The department advised children, the elderly and people suffering from heart or respiratory illnesses to stay indoors as much as possible.

Typhoon Megi, named after the Korean word for catfish, made landfall in Taiwan but was -forecast to spare Hong Kong. The storm however created stifling conditions in the city on Tuesday, with low visibility and a max-imum temperature at the Observatory's headquarters of 34.9 degrees, constituting the hottest September day since 1963, when September 5 saw the same -location record 35.2 degrees.

Ahead of the heat the Hong Kong Observatory issued a very hot weather warning at 7.17am.

"Tropical cyclone Megi will cross Taiwan today and make landfall over the vicinity of Fujian tomorrow morning. It will then move inland and weaken rapidly," the Observatory said.

It said its subsidence airstream was affecting the Guangdong area and bringing heat and haze to the city. Visibility in places fell to below 3,000 metres on Tuesday morning.

The weather will turn cloudy with showers in the coming six days. The city will see some sun on Wednesday morning at first, but it will become cloudy in the afternoon with a few showers. Temperatures will be between 27 and 32 degrees Celsius.

Thursday is forecast to see cloud and rain, with the sun not returning until next Tuesday.

Megi also disrupted air traffic between Hong Kong and Taiwan on Tuesday.

At least 37 flights between Hong Kong and Taipei were cancelled, while 12 flights to and from Kaohsiung were suspended.

Cathay Pacific and Dragonair alone cancelled 17 flights to and from Taipei and four flights to and from Kaohsiung.

The storm will also disrupt air traffic between Hong Kong, Taiwan and Fujian province on Wednesday.

Cathay Pacific and Dragonair will cancel one flight from Xiamen, while a flight from Kaohsiung and one from Taichung will be delayed.

China Airlines and Mandarin Airlines will cancel four flights between Hong Kong and Kaohsiung and five flights between Hong Kong and Taichung.

The Hong Kong Airport Authority advised passengers to contact their airlines and check the airport website or flight information display screens for the latest updates.

Delhi: Kejriwal to launch awarness campaign against use of crackers to curb air pollution

Date: 29th September, 2016 Source: India Today

After World Health Organization rated Delhi as the second most polluted city, Chief Minister Arvind Kejriwal directed Environment Department and the Delhi Pollution Control Committee to review the situation.<b/>

Delhi Government today decided to launch an awareness campaign to highlight the adverse impact of fire crackers on the air quality during the Diwali season, and will take action against the sale and use of Chinese crackers.

After World Health Organization rated Delhi as the second most polluted city, Chief Minister Arvind Kejriwal directed Environment Department and the Delhi Pollution Control Committee to review the situation.

Consequently, a review meeting was chaired by Environment minister Imran Hussain along with the senior officers of Environment, Forest Department and the Delhi Pollution Control Committee (DPCC).

CRACKER-LESS DIWALI

During the meeting, Imran Hussain directed the Environment Department to take all necessary measures for launching the campaign drive to emphasize on the need to control air and noise pollution during the Diwali season.

Hussain stated that Chinese crackers are a health and safety hazard and their use is also a major source of air and noise pollution.

"Chinese crackers are a health and safety hazard. The use of Chinese crackers increases manifold in the festive season and is a major source of air and noise pollution, causing respiratory problems particularly among the elderly and children," Hussain said.

The minister directed the department to hold regular meetings with land-owning agencies, including municipal bodies, for review of action taken against those indulged in burning of dry leaves, waste and plastic material in open.

He said the violators of dust control norms -- the owners, builders and vehicles -- should be effectively punished so that the air quality can be improved.

During the meeting it was also pointed out that as lower layers of atmosphere get cooler during the winters, one sees rise in air pollution in the city. The situation gets further aggravated on the eve of Diwali festival with the bursting of fire crackers.

Air Pollution Is Making Office Workers Less Productive

Date: 29th September, 2016 Source: Harvard Business Review



Businesses invest a great deal of time and money in interventions that claim to increase workers' productivity through on-the-job training, new protocols, advice from consultants, and so on. Recent research suggests that there's a surprising input into productivity that no one ever thinks about: clean air.

We all know that air pollution is bad for our health, and researchers continue to find evidence of pollution's negative effects. But recent research has gone further, starting to catalog how pollution might affect our productivity. Several studies have demonstrated that pollution reduces the output of both farm workers and factory workers. When pollution levels — namely outdoor ozone and indoor particulate matter — increase, physical laborers can't help but slow down.

But what about the productivity of indoor workers who sit in front of a computer all day? We wanted to know whether those workers were hurt by pollution too. To find out, we investigated the effect of air pollution on call-center workers at Ctrip, China's largest travel agency. Workers at Ctrip are knowledge workers; they spend their day not in a factory or on a farm, but handling customers' phone calls. If they're affected by pollution, then we might all be vulnerable.

Several aspects of the firm's operations allowed us to credibly isolate the effect of pollution on productivity. First, the firm keeps detailed records on the productivity of each worker: completed calls each day, length of breaks, time logged in. Ctrip has multiple call centers, and all calls are routed through a central system, so overall workflow is not determined by local pollution. And since Ctrip's clients call them from locations throughout China, we were able to separate out the effects of pollution on worker productivity from the effects of local pollution on the demand for travel services.

In analyzing Ctrip's personnel records, we found a surprisingly robust relationship between daily air pollution levels and worker productivity. On average, a 10-unit increase in the Air Quality Index (AQI) led to a 0.35% decline in the number of calls handled by a Ctrip worker. That finding suggests that workers are 5%–6% more productive when air pollution levels are rated as good by the Environmental Protection Agency (AQI of 0–50) versus when they are rated as unhealthy (AQI of 150–200). To our knowledge, our study is the first to document the impact of air pollution on white-collar work.

What's more, we found that pollution affected Ctrip workers' productivity even when pollution levels were relatively low. We found significant productivity effects at pollution levels commonly seen in major metropolitan areas across the United States (100–150 AQI). For example, in 2014 Los Angeles experienced 13 days with AQI greater than 150, and Phoenix experienced 33 such days, with nearly half those days exceeding an AQI of 200. These levels are even more common throughout Europe, where air quality standards are generally more lenient.

While more work needs to be done to pin down the mechanism at play here, we do know something about how pollution diminishes cognitive function. Particulate matter is small enough to be absorbed into the bloodstream, and even travels along the axons of the olfactory and trigeminal nerves into the central nervous system (CNS), where it can become embedded deep within the brain stem. This, in turn, can cause inflammation of the CNS, cortical stress, and cerebrovascular damage. Greater exposure to fine particles is associated with lower intelligence and diminished performance over a range of cognitive domains. If the negative impact on productivity that we found in our research are the result of diminished cognitive function, it could mean that the negative impact of pollution on productivity may be greatest in higher-skilled jobs.

All of this might really matter for the economy as a whole. For policy makers, the evidence changes the cost-benefit analysis of environmental regulation and suggests that prioritizing industrial expansion over environmental protection may actually undermine economic growth. Indeed, a quick back-of-the-envelope calculation suggests that for Shanghai, air pollution is costing its service sector billions of dollars each year in lost productivity.

For businesses, this suggests that installing air filters may bring surprising benefits; HEPA air filters can remove much of the pollution that, we've shown, hampers productivity. That said, it's not clear that air filters can completely remove these pollutants. Moreover, while businesses can invest in a good air filtration system, they can't lower the pollution levels their workers face when they go home. The fact that there is only so much an individual firm can do should not be surprising. The air we breathe is the epitome of a shared resource, and air pollution recognizes no corporate or political boundaries. Therefore, air pollution can only be efficiently controlled by policy that extends beyond the borders of a single firm.

For everyone else, our findings are a reminder that our own productivity isn't completely in our control. Instead, it hinges partly on complicated environmental factors like pollution. If your productivity seems a little off one day, the answer might be partly in the air.

How local Greens are fighting air pollution

Date: 29th September, 2016 Source: Bright Green

To a lot of people, Northampton will mean little more than a stopping off point on the way to London. Over the past 30 years, local and national politicians of various hues, have used the close proximity of the M1 to justify expansion based on the assumption that 4 wheels good, 2 legs bad.



As a result, Northampton now finds itself in a position similar to many towns up and down the country. The town centre is suffering at the hands of out of town retail parks; provision of public transport has been steadily declining and the infrastructure is inadequate for the amount of traffic using it. The endgame is that the air pollution in the town is frequently above the legally permitted levels and it's not going to get any better.

In 2010, the Conservative Party swept to power in Northampton Borough, promising that they were going to revitalise the town centre. One of their earliest moves was to allow free parking in the town centre car parks, and they continue to proclaim the success of this. At the most recent Council meeting, the Cabinet member for Regeneration reported that the numbers in June 2016 were 15% up on those in June 2015, using this as evidence of success.

In addition to this, they have de-pedestrianised an area of the town centre, opening it up to cars for the first time in over 20 years, and oversaw the demolition of an admittedly aging bus station with a replacement that doesn't have enough room for all of the buses serving the town centre.

It is little surprise that there are 6 Air Quality Management Areas in the town centre, and that the Borough Council has to have a plan for tackling the air pollution in those areas.

This 62 page document outlines how they intend to manage the AQMAs. At the front of the document, it admits "Current projections indicate that concentrations of NO2 may not fall below the limit value in some parts of the Borough until after 2020," and it doesn't get much better as the document continues.

Multiple suggestions for dealing with emissions are offered up. None of them are suitable for Northampton. There isn't funding for Low Emission Zones nor the demand for Park & Ride and although assisting bus companies to retrofit low emissions technologies and including Electric Vehicle Charging Points in all new developments are both good, the overall strategy is very piecemeal and there's no big idea.

Northampton Borough Council makes little information available regarding the levels of pollution in those AQMAs. An FOI request that we made earlier in the year saw the Council release data to us that was 18 months out of date. Following the example set of other Green Parties in England, the Northampton Green Party started measuring the air quality across the town ourselves 6 months ago.

We did this with three initial aims;

1. To get more up to date and accurate figures
2. To make these figures available to communities in Northampton
3. To highlight the public consultation

The campaign has been well received. It's been featured in local newspapers and on the BBC, and a Crowdfunding campaign was met with support from both Party members and Residents Associations.

This week, our latest measurements show that the levels of Air Pollution around the new Bus Station are as high as anywhere else in the town, 25% above the legal limits. This is a direct result from the inadequacy of that bus station and will be affecting the health of thousands of people every day. We are challenging the Council to fast-track this area as an AQMA and give it the attention it merits.

But, back to that public consultation. It hasn't been wide ranging. There's a document online, and an online survey to complete. If past consultations are anything to go by, we'd expect a couple of hundred responses at most, and the council will just adopt the draft strategy without modification.

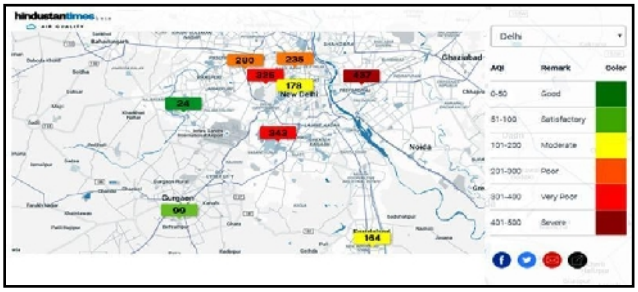
So how can you help?. I'm highlighting the public consultation, and I'd like you to help. You can complete the survey as either a resident of Northampton, or as a visitor of Northampton. Please spare 10 minutes – take a look at the draft strategy, and then complete the survey. Mention the lack of a low emission zone, ask about a park & ride, or improved public transportation. Let them know that you'd like more cycle lanes and for the council to stop favouring the car above all other forms of transport.

Every response will make a difference and we have until 21st October to remind Northampton Borough Council that this is a public health emergency that they should be taking seriously.

OCTOBER 2016

Hindustan Times to provide air quality data for Xiaomi's weather app

Date: 1st October, 2016 Source: Hindustan Times



At a time when 10 out of 20 most polluted cities are in India, the Hindustan Times has come out with a new air quality map that helps you track pollution in your city in real time.

What's more is that the real-time data will soon be accessible via all handsets manufactured and marketed by Chinese electronics firm Xiaomi. The handset-maker will provide the data via its weather app.

A recent World Bank report on South Asian development has announced that Delhi is the world's most polluted city," with recorded air pollution levels three times higher than those in Beijing. A World Health Organization report last week listed ten Indian cities among the 20 most polluted ones.

The air quality map, which went public in beta mode on April 20, gets its data from Central Pollution Control Board (CPCB) which comes under the Ministry of Environment & Forests, Government of India. CPCB has installed approximately 60 automated air quality monitoring stations across India, with 9 stations in Delhi.

There are also the State Pollution Control Boards like Delhi Pollution Control Committee, Karnataka State Pollution Control Board, which monitors the data in their respective states and all come under the purview of CPCB.

Data is also being pulled from the United States Embassy. The embassies are also monitoring air quality at its offices and their data is easily accessible. Aslo, inexpensive but accurate devices that both HT and citizen groups have deployed, are being added to the platform and will be contributing data in the coming weeks.

The app developers in the company are also working with non-governmental organisations to increase the number of cities from 40 to 160. Xiaomi phones, which will go public with the update that will feature the air quality data, are fed the number via an API.

Beijing city issues first air pollution alert

Date: 2nd October, 2016 Source: The Times of India



HIGHLIGHTS

1- Beijing city on Sunday issued its first yellow alert for air pollution in the second half of this year

2- The reading of Air Quality Index in Beijing was between 200 and 300 on Saturday

3- The alert puts restrictions on work at construction sites, outdoor barbecues

BEIJING: Beijing city on Sunday issued its first yellow alert for air pollution in the second half of this year with Met department forecasting that smog will continue to engulf+ the Chinese capital till Monday.

The alert puts restrictions on work at construction sites, outdoor barbecues and straw burning by farmers.

The reading of Air Quality Index (AQI) in Beijing was between 200 and 300 on Saturday, meaning heavy pollution.

The smog began to envelop the capital and surrounding areas yesterday, just as a week of national holidays began.

The National Meteorological Center issued a yellow alert for smog that will be dispersed by a cold snap on Tuesday.

Wang Zifa, a researcher with the Institute of Atmospheric Physics of the Chinese Academy of Sciences, expects north China to face more bouts of smog in autumn and winter this year.

China has a four-tier colour-coded system for severe weather, with red being the most serious, followed by orange, yellow and blue.

Air pollution could be to blame for hundreds of traffic accidents, warn researchers

Date: 3rd October, 2016 Source: The Telegraph



Air pollution could be responsible for hundreds of car accidents a year, according to the London School of Economics.

A study looking a five years of data showed that when levels of nitrogen dioxide (NO2) rise just one microgramme per cubic metre, the number of collisions rises by two per cent.

Although it might seem that effect could be explained by more traffic on the roads, and therefore more pollution and more accidents, the researchers found that the increase remained even when adjusting for the extra traffic.

Instead, they believe that the toxic air impairs driver fitness, while watery eyes and an itchy nose could also be distracting for motorists.

A recent study found that air pollution inside a car can be more than double that on the outside because the NO2 builds up in a small space.

Lead researcher Lutz Sager of the Grantham Research Institute on Climate Change and the Environment at the LSE said: “Although it has already been shown that air pollution adversely affects human health and the ability to carry out mental tasks, this is the first published study that assesses the impact on road safety.

“The analysis identifies a causal effect of air pollution on road accidents, but I can only speculate about the cause of the link.

“My main theory is that air pollution impairs drivers’ fitness. However, other explanations are possible such as air pollution causing physical distractions, perhaps an itching nose, or limiting visibility.”

Air pollution can result from many different toxins, including carbon monoxide, nitrogen dioxide, sulphur dioxide, small particulate matter and ozone. But it was NO2 which was found to have the biggest impact.

Mr Sager, a postdoctoral candidate, divided the UK into a grid of 32 areas each covering about 4784 square miles (7700 sq km) and mapped accidents to the level of air pollution between 2009 and 2014 provided by the Department for the Environment (Defra)

He found a rise in the concentration of nitrogen dioxide of just one microgramme per cubic metre above the daily average is sufficient to increase the average number of accidents each day by two per cent, with the biggest effect occurring in cities.

Mr Sager calculated that in the area containing west London, which suffers from some of the highest levels of air pollution, a cut of about 30 per cent in the concentration of NO2 could reduce the number of road accidents every day by almost 5 per cent.

Levels of NO2 in polluted areas of London can reach beyond 97 microgrammes per cubic metre on average. There are around 150,000 collisions in which someone is injured in Britain every year so preventing just two per cent of crashes could avert thousands of accidents.

Mr Sager added: “Whatever the exact mechanisms responsible, the robust finding of a significant effect of air quality on road safety is important given the high cost of road traffic accidents through damage to vehicles and deaths and injuries to people every day.

“Although this analysis has used data for the United Kingdom, I think my findings are relevant to other parts of the world. These additional costs from traffic accidents strengthen the case for reducing air pollution, particularly in congested cities.

“My analysis suggests that the causal effect of air pollution on road traffic accidents measured in this study more likely stems from nitrogen dioxide or other pollutant gases rather than particulate matter.”

However other experts were more sceptical about the link between air pollution and accidents.

AA president Edmund King said: “If you think about areas which are high in air pollution they are a lot busier, with taxis and buses and lorries and where you have a greater mix of traffic you tend to have more accidents.

“It would be hard to tease apart whether a crash is caused by a driver wiping his eyes because of pollution or the type of traffic which is to blame.

“If you look at Mumbai and New Delhi where you have some of the worst air pollution, yes you have far more accidents, but it is also far more chaotic.

“So I think this research may be far-fetched as I think it would be very difficult to prove that a driver’s fitness is impaired by pollution.”

The results of the study are published today as a working paper, and will be submitted for peer review in the coming weeks.

This Is What Happens When You Turn Air Pollution Into Ink

Date: 4th October, 2016 Source: Visual News



Air pollution is basically everywhere. It clogs up the skies, damages the environment, and causes bad health in many heavy polluted cities around the world. But what if you could take that pollution and turn it into something useful? That's exactly what Tiger Beer decided to do. Working with Marcel Sydney and MIT spinoff Graviky Labs, they created the very first collection of inks made entirely from air pollution.

The brand produced a series of Tiger Air-Ink pens, markers, and spray cans out of 150 liters of pollution-made ink. They distributed the products to different rising street artists in Asia, a region rife with large-scale pollution problems, and asked them to create air-pollution-ink masterpieces.

"The streets are not only a great place to drink Tiger, they're also the place where creativity, ideas and passions are born," said the director of international brands at Tiger Beer, Heineken Asia Pacific, Mie-Leng Wong, in a statement. "By using our entrepreneurial spirit to repurpose pollution into ink, the lifeblood of creativity, we're giving creative people the tools to enhance their streets, and empowering inventors like Anirudh to take small but impactful actions against air pollution."

Anirudh Sharma is the founder of Graviky Labs and, working with a team of fellow inventors, produced a series of gadgets that attach to pollution emitters, like tailpipes, to capture raw carbon and soot. The pollutants are then pur through a purification process to produce a product that is safe for users.

Although the assortment of Air-Ink products are not for sale yet, Tiger Beer is continually working with Graviky Labs to generate more products for the future.

Delhi appeals to Centre, neighbours on curbing air pollution

Date: 4th October, 2016 Source: The Times of India

New Delhi, Oct 4 () Delhi government today appealed to the Centre and governments of three neighbouring states to take effective steps for prevention of burning of agriculture residue so as to reduce air pollution level in the national capital.

Delhi Environment Minister Imran Hussain has written to the Union Environment Minister Anil Madhav Dave and also to governments of Haryana, Punjab and Rajasthan in this regard.

"With the onset of winter season, Delhi faces a critical phase of air pollution due to meteorological conditions like wind pattern, low temperature etc., which aggravate the pollution level, especially concentration of particulates PM 2.5 and PM 10 in Delhi's air," the letter says.

The air pollution level spikes during October and November and gaseous pollutants from neighbouring state further contribute to its rise.

In the letter, the minister has claimed that "events of major fires were reported by NASA Aqua Satellite natural colour image with Moderate Resolution Imaging Spectoradiometer (MODIS) in the previous years and the same is available in public domain."

"I therefore request you to kindly issue necessary instructions for preventing burning of agricultural residue," it said.

A recent WHO report has ranked Delhi among the most polluted cities globally. Based on data collected between 2008 and 2013, New Delhi was the 11th most-polluted city in the world.

AAP government had decided to initiate steps, including awareness drives against burning Chinese fire crackers, dry leaves and waste in open to check air and noise pollution ahead of Diwali season.

Air pollution is killing nearly eight lakh people annually in the South East Asian Region with India alone accounting for over 75 per cent of the casualties caused by cardiovascular diseases and lung cancer, according to the WHO report. KND RT

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15 air quality monitoring stations to be run across country

Date: 6th October, 2016 Source: The Himalayan

If everything goes according to plan, the government will operate 15 air quality monitoring stations across the country by the end of the current fiscal.

The Department of Environment had revived the air quality monitoring process in Kathmandu valley after establishing a station in Ratnapark. The station resumed operation from August 9 this year.

According to the department, the country currently has three monitoring stations — one each in Ratnapark of Kathmandu, Bhairahawa of Rupandehi and Sauraha of Chitwan — whereas another station in Ichchhyakamana of Chitwan is not in operation.

Ganesh Kumar Shrestha, Director General at the department, said Nepal will have 15 running air quality stations in and outside Kathmandu Valley by the end of the current fiscal.

“Though we have only three running stations so far, we will run 12 more stations by the end of this fiscal to make the public aware about air quality,” he told The Himalayan Times.

He said the department, with the help of International Centre for Integrated Mountain Development and Kathmandu Sustainable Urban Transport Project, has already allocated nine locations in and around Kathmandu Valley to establish the stations.

Among them, the department has installed one station each in Ratnapark, Dhulikhel and Patan while only the Ratnapark-based station is currently in operation. Besides, ICIMOD and KSUTP have yet to establish their stations.

Kalimati, Machchhegaun, Bhaktapur, Khumaltar, Chandragiri and Shankhapark are six of the nine locations that have been identified for tinstalling stations. According to the agreement, the department has pledged to establish three stations, KSUTP has pledged four and two stations will be built by ICIMOD.

Shrestha added that besides the nine already proposed locations, three more stations will be established in Pokhara and the one in Ichchhyakamana will be repaired. The country will have altogether 15 stations, including two in Sauraha and Bhairahawa.

The government had resumed air quality monitoring operation in Kathmandu Valley this year seven years after closing the previous stations in 2009. The stations monitor levels of carbon monoxide, sulfur dioxide, nitrogen oxide and ozone in the atmosphere.

Although the practice of monitoring air pollution began in Nepal in 2002 with the installation of seven air quality stations in the Valley by the Danish government, all stations were shut down by 2009.

After the stations were handed over to the government in 2008, the government entrusted the Environment and Public Health Organisation with management of the stations. However, a misunderstanding between the government and the ENPHO led to closure of the stations in 2009.

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9 out of 10 People Breathe Polluted Air

Date: 6th October, 2016 Source: World Health



According to WHO, 92% of the world's population is exposed to unsafe levels of air pollution. The World Health Organization (WHO) has developed a new air quality model in collaboration with the United Kingdom's University of Bath, regarding where air quality levels exceed the limits set by WHO. The heat map shows the highest and lowest levels of air pollution throughout the world, the countries having the air pollution danger spots, and provides a baseline for the monitoring of progress in combating the pollution.

The model also represents the most detailed data on outdoor (ambient) air pollution health data, by country, ever reported by WHO. The model is based on carefully calibrated data derived from ground station monitors, measurements by satellite, and air transport models for over 3,000 rural and urban locations.

Air pollution's major sources are coal-fired power plants, inefficient transport modes, household waste and fuel burning, and various industrial activities. Human activity is not responsible for all air pollution; another influence can be something like dust storms in areas close to deserts.

Approximately three million deaths every year are linked to exposure to outdoor and indoor air pollution. In the year 2012, it was estimated that 6.5 million deaths, which were 11.6% of all deaths globally, were found to be associated with outdoor and indoor air pollution.

Almost 90% of deaths related to air pollution occur in countries with low to middle incomes, with almost two out of three in the Western Pacific, South-East Asia, and eastern Mediterranean regions. A similar May WHO report stated that 98% of residents that live in those large cities face excessively high air pollution.

It was noted that 94% of the deaths were due to non-communicable diseases such as stroke, cardiovascular diseases, lung cancer, and chronic obstructive pulmonary disease. Also increased, were the risks for acute respiratory infections. Air pollution takes a toll on the health of the most vulnerable populations, those being children, women, and older adults.

Pollutants such as nitrates, sulfate, and black carbon pose the highest risks to human health. They penetrate deep into the cardiovascular system and the lungs. Smog, for example, which is the mixture of

smoke and fog in the air, is the result of large amounts of coal burning in an area caused by the mixture of sulfur dioxide and smoke.

Indoor air can often be more polluted and a greater health hazard than outdoor air. The air quality can be compromised by bacteria, mold, chemicals such as radon and carbon monoxide, allergens, or any energy stressor that can induce health effects. The primary methods for improving indoor air quality are source control, filtration, and ventilation to dilute contaminants.

Unfortunately, there is no evidence that the popular idea of wearing a face mask offers much protection against air pollutants.

Dr. Carlos Dora, WHO coordinator for social and environmental determinants of health, says that rich countries are getting better at improving the quality of their air, but poorer countries are becoming worse. North America is doing well compared to Europe. This is mostly because of Europe's greater dependence on diesel fuel and partially due to farm policies generating agricultural methane and ammonia.

Air pollution represents a huge global burden, and quick action to tackle this major problem cannot come soon enough. Solutions could exist with industrial emissions reductions, solid waste management, the use of renewable energies, sustainable transport in cities, clean household cook-stoves and fuels, and other measures.

'Bulk of Delhi's pollution comes from neighbouring States'

Date: 6th October, 2016 Source: The Hindu



The findings were part of a study conducted by the National Environmental Engineering Research Institute.

An analysis of Delhi's air pollution and future trends says that 60% of Delhi's particulate matter pollution comes from neighbouring Haryana and Uttar Pradesh. Moreover, even if Delhi were to adopt the cleanest-grade fuel available, ensure that power plants in the vicinity adopt stringent emissions and ensure tidy pavements, pollution would persist well above globally-recommended safe levels, unless neighbouring states too adopted similarly stringent policies. Even if Delhi's neighbours were to cooperate, it would at best halve Delhi's pollution and still be short of the government-ideal of 40 microgram/cubic metre. This is because Delhi's geographical location and land-use patterns are such that a fixed mass of particulate matter will persist. Delhi's particulate matter pollution hovers between 300 and 900 microgram/cubic metre, depending on the weather.

The findings were part of a study conducted by the National Environmental Engineering Research Institute (NEERI), a CSIR body, along with researchers the Austria-based International Institute for Applied Systems Analysis (IIAS). Though these findings are yet to be peer-reviewed or published in a journal, they were discussed with officials at the Central Pollution Control Board at meeting on Wednesday. The researchers based their analysis on measurements of a range of sources of pollution — from burning biomass, vehicles, road-dust, cook-stoves — in Delhi. In their assessment, transport sector contributed nearly a fifth of the PM 2.5 — the ubiquitous residual particulate matter resulting from incomplete burning of matter — in Delhi. PM 2.5 is linked to respiratory diseases and cancer.

However, the scientists didn't disaggregate the relative role of big diesel cars and transport vehicles in pollution cause by 'transport.' Other key sources, in Delhi include the burning of biomass in cooking stoves, secondary inorganic aerosols from power plants and ammonia from agriculture. Attributing the sources of pollution in Delhi has been a controversial exercise with different experts, over the years, disputing the relative role of agriculture waste, vehicles, industry and road dust in exacerbating air pollution. "The research identifies a range of measures...including road paving to reduce road dust emission, a rapid transition to clean cooking fuels in Delhi and neighbouring states and managing agriculture and municipal waste," said Padma Rao, senior scientist at NEERI and a co-author of the report.

"Majority of Delhi's pollution comes from outside with half from the surrounding states of Haryana and Uttar Pradesh, a quarter from sources even further away and a quarter from natural sources," the authors said a in a press statement. "Even Pakistan is a contributor though there's also pollution going out from India. We haven't specifically modelled that," Markus Amann of the IIAS, who led the study, told The Hindu.

The study finds that nearly a fourth of the 15,000 tonnes of PM2.5 emitted annually is due to road dust and about 40% due to power plants and residual and commercial combustion. Road transport, in this estimate, contributes about 16%. If Delhi were to continue on its growth trajectory, road dust and burning waste would together become the biggest sources of pollution—about half put- together-- by 2030, the NEERI analysis adds. The team arrived at their results through a modelling study—funded by the Department of Science and Technology—that accounted for the local meteorological conditions around Delhi, projected weather patterns into 2030, recorded traffic movement, as well as gauged emission patterns from commercial and private establishments. "Tackling the multiple sources of air pollution in Delhi…will not only reduce the estimated 8,900 premature deaths a year from air pollution in Delhi, but also cut the city's greenhouse gas emissions," said Amann.

Delhi is among the world's most polluted cities. In 2014, it was ranked the most polluted globally in terms of PM 2.5, by the World Health Organisation (WHO). In a May-update by the WHO, Delhi was toppled by Zabol, in Iran. Gwalior and Allahabad, meanwhile, came a close second and third in terms of PM 2.5, while Patna and Raipur are ranked 6th and 7th.

New Study Discovers Link Between Air Pollution And Road Accidents

Date: 7th October, 2016 Source: NDTV



A study by the Grantham Research Institute on Climate Change and the Environment at the London School of Economics and Political Science found that air pollution may be responsible for a large number of car accidents every year. The research, which comprised 32 areas each covering nearly 7,700 square kilometres, found that toxic air may diminish driver fitness.

The researchers charted accidents to the level of air pollution between 2009 and 2014 and found a rise in the concentration of nitrogen dioxide (NO_2) of just one microgramme per cubic metre above the daily average is sufficient to increase the average number of accidents each day by two per cent.

While toxic air was found to possibly impair driver fitness, watery eyes and an itchy nose were also deemed distractions for motorists. Lutz Sager, PhD candidate in Environmental Economics, London School of Economics, said, "Although it has already been shown that air pollution adversely affects human health and the ability to carry out mental tasks, this is the first published study that assesses the impact on road safety. The analysis identifies a causal effect of air pollution on road accidents, but I can only speculate about the cause of the link. My main theory is that air pollution impairs drivers' fitness. However, other explanations are possible such as air pollution causing physical distractions, perhaps an itching nose, or limiting visibility."

Air pollution can result from several pollutants, including carbon monoxide, nitrogen dioxide, sulphur dioxide, small particulate matter, and ozone.

Sager added, "Although this analysis has used data for the United Kingdom, I think my findings are relevant to other parts of the world. These additional costs from traffic accidents strengthen the case for reducing air pollution, particularly in congested cities."

The establishment of a possible link between air pollution and traffic accidents may be significant for India, which doesn't hold impressive records in either department. The World Health Organisation (WHO) recently confirmed that Delhi's air is the worst among the world's megacities. And as far as traffic accidents go, nearly 5 lakh accidents occured on the country's roads last year.

Air Pollution Blown Out Of Proportion

Date: 7th October, 2016 Source: Canada Free Press

The forest fires and haze disaster in Southeast Asia last year may have led to the deaths of more than 100,000 people according to a study by researchers from two United States universities. A vast majority of the cases were in Indonesia, where fires were deliberately set to clear land for agriculture. (1)

In response, Indonesian, Malaysian and Singaporean authorities have dismissed this research that smoky haze from catastrophic forest fires caused multiple deaths. Some even contend the haze caused no health problems. (2)

Singapore's Ministry of Health said short-term exposure to haze will generally not cause serious health problems. They claim the study was not reflective of the actual situation, and the overall death rate hadn't changed last year. Folks are still studying the research which was 'computer' generated and not based on hard data. "People have died but to what extent the haze contributed to it, it's hard to say. If an 80 year old fellow with high blood pressure, diabetes, heart problems and exposure to haze died, what did he die of? This is a difficult question to answer." (2)

The research is obviously based on the EPA claim that particulate matter kills. (3) The particles, known as PM2.5 because they are 2.5 micrometers in diameter or smaller, are also typical in diesel emissions, among other things.

Despite the Indonesia forest fires, the ambient PM levels are very low. In contrast, ambient PM levels in Beijing have hit levels 40+ times greater, or more, but with no deaths attributable to PM particles. (3)

Chinese cities have some of the worst air pollution in the world. Two are Xi'an and Shanghai, yet reports claim life expectancy in both cities is higher than in the US.

According to a 2012 report, even though air in Xi'an is, on average, 9-10 times more polluted in terms of PM2.5 particles than the median PM2.5 levels of the two most polluted cities in a 112 US city study (Rubidoux, CA and Los Angeles, CA), it is safer than US air by a factor of five. (4)

Then there's Shanghai. On Decemberr 6, 2013, Shanghai's PM2.5 level exceeded 600 micrograms per cubic meter—about 60 times the average level of PM2.5 in US air. (5) So Shanghai's death rate should be quite high, e.g., 60 times higher. But no such deaths rate were reported. In fact, no increase in deaths at all was reported. And, like with Xi'an it's worth noting that the life expectancy in shaghai (82.47 years) is higher than that in the US. (6)

Yet, EPA claims that natural and man-made PM2.5 causes as many as 500,000 deaths annually. (7) Think about this statistic for a moment. In the US this figure would represent 25% of all US annual deaths. How many people do you know who died from air pollution?

And it's not just the EPA making these claims. The World Health Organization recently claimed that poor air quality killed 6.5 million in 2012. (8) There were about 50 million deaths worldwide in 2012 so this means that about 1 of every 7.5 deaths was due to air pollution. Another statistic that challenges the imagination!

A study by UCLA's Dr. James Enstron of the long-term relationship between PM2.5 air pollution followed nearly 50,000 elderly Californians over a 30-year period from 1973 through 2002. It concluded that there was no death effect from current atmospheric levels of PM2.5 in California. (9)

Scientific reality: PM2.5 does not kill anyone. The EPA's claims of PM2.5 lethality rank among the most nonsensical, fraudulent and readily disprovable scientific claims ever.

As one pundit has noted,"If smoke from fires was lethal, there would be no humans alive."

Air pollution is no longer monitored in 'dirtiest part of Bristol'

Date: 8th October, 2016 Source: Bristol Post



A road in Bristol where people breathe 'the dirtiest air in the city' will no longer have its pollution levels checked.

Campaigners are demanding an air pollution monitor in Rupert Street, in the city centre, is put back, after the city council removed due to MetroBus road works.

It is claimed 'children's health is put at risk' because of the pollution on the road, where unsafe and illegal levels have been monitored.

But the council will no longer keep tabs on air quality while road works take place.

The leader of Bristol's group of Green Party councillors, Charlie Bolton, said: "It is shocking that this administration sees the monitoring of air-quality in the dirtiest part of our city as so unimportant that they could just stop for months while they dig up the city centre.

"Air pollution is a silent killer which must be taken seriously. Every day the health of children and elderly people is put at risk as they breathe dirty air."

Studies have shown about 200 people die in Bristol every year as a result of air pollution, which can cause respiratory diseases, cancer and heart disease.

Molly Scott Cato, Bristol's Green MEP, said: "Thousands of Bristol's children are having their health put at risk due to high levels of air pollution in the city according to the council's own data.

"Rupert Street experiences the highest levels of air pollution in Bristol, well above the legal and safe European limits.

"It is alarming that the council would just turn off this monitoring without sufficient warning."

The Bristol Green Part has now launched a public survey on air quality in Bristol.

Ashley's Green councillor Jude English added: "We want to hear what people think. We are asking as many people as possible to please complete the survey and give us your views.

"We want to know whether residents are personally affected by air pollution, whether they would support a Clean Air Zone and whether they want more cycling and walking."

Bristol City Council has been contacted for a comment.

How can we know when the air we are breathing is harmful?

Date: 9th October, 2016 Source: The Guardian



A concerned Chinese father uses a handheld sensor to check the air quality before taking his small daughter out into the streets of Beijing.

If only we could see the air pollution around us we could identify the culprits and avoid exposure. From an early age we are taught not to drink dirty water or eat mouldy food but we have less opportunity to avoid harmful air.

In a re-run of autumn 2010, this September's warm weather caused unusually late summertime smog. Air pollution over most of England reached six on the UK government's ten point scale. These incidents go largely un-noticed but they have a health impact; 10 days of high particle pollution in spring 2014 caused an estimated 600 extra deaths.

Start-up businesses are now selling small sensors so that we can measure the air pollution around us. These cost hundreds of pounds rather than the tens of thousands required for instruments in official networks, but do they work? Many people measure the temperature in their garden where a precision of one or two degrees is fine, but an inaccurate pollution sensor could falsely reassure or alarm. Tests by Allister Lewis and Peter Edwards at the University of York found small nitrogen dioxide sensors that mostly measured carbon dioxide, and in tests on 20 ozone sensors there was a difference of six times between the highest and lowest results.

One alternative is real-time pollution mapping. This is provided by the air quality networks in London and Paris so that you can see the hotspots on your phone and avoid them. Instead of driving along a main

road, walking or cycling along a quiet street or through the park significantly reduces your air pollution exposure.

Openly Burning Garbage Around Agra is Discolouring the Taj Mahal

Date: 9th October, 2016 Source: The Wire



The findings should shake Agra out of its complacency, especially if it prides itself as being home to an iconic monument that draws millions every year.

Burning city garbage in the open is increasingly discolouring India's iconic Taj Mahal – a problem that does not require technological fixes as much as more efficient waste management, new research shows.

The white marble of the Taj Mahal keeps getting bombarded by polluting emissions. The 262nd Report on Effects of Pollution on Taj, submitted to the Rajya Sabha in 2015, noted that despite previous interventions to reduce pollution in Agra's vicinity, the haze and darkening persist. Previous measures to curb the impact of local air pollution around the Taj Mahal included restricting vehicles near the complex, closing over 200 enterprises in Agra, requiring iron foundries to install scrubbers and filters on their smokestacks, prohibiting new polluting enterprises from being built within a defined buffer zone around the mausoleum and, most recently, banning cow dung cake burning as cooking fuel.

An ignored aspect is the practice of burning garbage, or municipal solid waste (MSW), openly – a practice rampant across Indian cities. Its role as well as that of large-scale burning of crop wastes in north India in winter is increasingly coming under the scanner for their contributing to air pollution.

Moreover, the rapid growth of the city of Agra together with limited MSW management infrastructure has resulted in less effective waste management that leaves large volumes of trash accumulating in the streets. This is from a report by an Indo-American team of scientists, published in the latest issue of the journal Environmental Research Letters.

MSW is openly and frequently burned on roadsides and in residential and commercial areas in Agra – as it is done across India. Burning garbage openly leads to the emission and deposition of small, polluting particles, technically called particulate matter (PM), all over the place – from monuments and buildings to deep inside people's lungs. The Central Pollution Control Board of India estimates that MSW-burning contributes between 5% and 11% of primary particulate emissions from sources within cities.

The study looked at emissions from burning of MSW and dung-cakes. "MSW burning was found to be the main contributor," Sachchida Tripathi, a professor at the department of civil engineering and Centre for Environmental Science and Engineering, IIT-Kanpur, and one of the study authors, told The Wire.

Openly burning MSW and dung cakes tends to be more concentrated in areas of poorer populations, which worsens exposures to those more economically vulnerable. "By just managing garbage better, one can save hundreds of lives every year. It is not a technological problem; it is a purely managerial problem," Tripathi said.

India lacks a precise quantification of emissions from specific sources – also known as source apportionment studies. The latest research builds on previous studies on the discolouration of the Taj by

Tripathi's team as well as those by Michael Bergin, affiliated with the school of civil and environmental engineering at Duke University, North Carolina.

The studies analysed ambient PM samples collected over a one-year period from Agra, from November 2011 to end-June 2012. They found relatively high concentrations of light-absorbing particles that could potentially discolour the Taj Mahal's marble surfaces, including black carbon, the light-absorbing organic carbon (brown carbon) and dust.

The studies found deposition of fine PM, also called PM 2.5 because these particles are less than 2.5 microns in size, at the Taj Mahal – and that burning MSW was a major contributor. Analyses of particles deposited on surrogate marble surfaces at the Taj Mahal also indicated that a large fraction of the outer Taj Mahal's surfaces were covered with particles that contain both carbon-containing components and dust. The results indicate that deposited light absorbing dust and carbonaceous particles, both black and brown carbon from the burning of fossil fuels and biomass, were responsible for surface discolouration.

"This new study shows that the burning of solid waste was contributing 12 times more to the Taj Mahal discolouration than dung cakes before the recent ban on burning cow dung cakes for cooking," says Prakash Bhave, scientist at International Centre for Integrated Mountain Development (ICIMOD), Kathmandu. Major efforts to slow down the discolouration began in 1996, with the closure of a nearby coal-fired power plant, the local coke industries and the forced relocation of 450 brick kilns, points out Bhave. Recent efforts by the Agra administration included a crackdown on petha-makers as well as a local ban on the burning of cow-dung cakes for cooking.

Recent research conducted by ICIMOD in collaboration with a team of US scientists also indicated that the open burning of solid waste is one of the most potent sources of PM 2.5 in the region. "On a per kilogram basis, waste-burning emits far more PM 2.5 than diesel engines, motorcycles, brick kilns, crop-residue burning or cooking with inefficient stoves and fuels," said Bhave. Having recognised that waste-burning is a difficult habit to change, ICIMOD is focusing on spreading awareness, too, using short films and videos.

The latest findings should shake the Agra administration out of its complacency, especially if it prides itself as being home to an iconic World Heritage Monument that draws millions of tourists every year. The worsening air pollution and haze in the Indo-Gangetic plain spread across the Himalayas and have far-reaching consequences, including health and impact on tourism-dependent economies such as Nepal, say experts from ICIMOD.

Poor air quality chokes Ggn, situation may worsen in days to come

Date: 12th October, 2016 Source: Millennium Post

The poor quality of air due to rising air pollution is not only being felt by residents of the national Capital but also by those living or working in the neighbouring Gurgaon.

The setting in of dry winter conditions, which cause low wind speed and prevent dissipation of harmful particulate matters, adds to the air pollution level, which reaches the peak in the National Capital Region (NCR) during winters.

During Diwali, which is due later this month, the bursting of crackers will worsen the city's air quality, warn experts.

Like Delhi, crop residue burning deteriorates the air quality of Gurgaon, too. High traffic volume add to the pollution levels.

According to the data shared by the Haryana State Pollution Control Board (HSPCB) on its website, while the levels of Particulate Matter (PM) of 10 micrograms per cubic meter does not figure, the more severe PM 2.5 levels hovered between 70 and 90 micrograms per cubic meter.

According to sources, the first week of October has witnessed PM 2.5, crossing 100 micrograms per cubic meter.

As per the air quality standards, exceeding of PM 2.5 levels beyond the range of 60 micrograms per cubic meter is harmful. Long exposure to PM 2.5 levels can cause lung impairment and aggravate the respiratory ailments, inform experts. The PM 10 levels can also cause incessant cough, irritation and affect the respiratory health.

Complaining that there is not enough sincerity in tackling poor air quality in Gurgaon, city-based environmentalist Chetan Aggarwal says, "There are various factors which are involved in poor air quality in Gurgaon apart from the usual factors of high vehicular traffic and smoke from burning of paddy remnants in Punjab and Haryana. Non-adherence to standards in high scale construction activities, usage of diesel gen-sets due to erratic power supply, poor public transportation facility and a large number of diesel autos present in the city add to the pollution woes of the city."

Maintaining that there has to be transparency in sharing the pollution level in the city, Aggarwal says HSPCB does not have enough monitoring stations in the city, which prevents it from sharing data daily on the real-time basis.

WHO Warns 9 in 10 Live in High Air Pollution Areas

Date: 13th October, 2016 Source: VOA News

The World Health Organization says that 92 percent of the world's population lives in areas of high air pollution.

Experts say much of that pollution comes from vehicles fueled by diesel. Many cities in Europe have called for ending the production of diesel cars. They hope to replace them with electric vehicles as battery life for those vehicles improves.

London is one of the most heavily polluted cities in Europe. Levels of harmful gases in the city are regularly higher than limits set by the European Union.

Martin Williams, with King’s College London, says pedestrians often do not realize how close they are to air pollution sources because they cannot see them.

"One of the difficulties of getting the message across to the public at large these days is that air pollution, although it's a major public health problem, is actually invisible. Not like the smogs of the 1950s and 60s when not only could you see it, you could barely see anything else."

Williams adds that toxic gases from diesel cars have led to public health concerns. He says people across Great Britain have died too early because of the pollution.

"The main problem that you are breathing in are the particulates, the soot largely from diesel exhausts, which is the primary problem as far as public health is concerned. And that's responsible for maybe up to around 30,000 premature deaths across Britain. The other pollutant that's more recently become an issue is nitrogen dioxide, again largely from diesel."

Last year, officials discovered that German carmaker Volkswagen attempted to cheat on emissions tests on its vehicles. The incident became known as 'diesel-gate.'

Areeba Hamid is with the environmental group Greenpeace. She says that incident is why many in the automobile industry want to produce electric cars.

It's quite clear that the car industry is feeling the pressure of a public health crisis owing to air pollution in big cities in particular and the aftermath of the diesel-gate' scandal, which is the reason why it's looking to produce new electric models."

At the Paris Motor Show in September, many of the vehicles on display were electric cars. Volkswagen announced it aims to sell two to three million electric vehicles each year by 2025.

Experts say electric cars could offer the answer to air pollution in major cities. They add, however, that the electricity should be created using renewable energy.

I'm Jonathan Evans.

VOA's Henry Ridgwell reported this story from London. Jonathan Evans adapted it for Learning English. Mario Ritter was the editor.

Words in this Story

emissions – n. harmful substances released into the air by automobiles

pedestrian – n. a person who is walking in a city, along a road, etc.

renewable – adj. restored or replaced by natural processes; able to be replaced by nature

premature –adj. too early, before its usual time

smog –n. fog mixed with smoke; a cloud of dirty air from cars, factories, etc. that is usually found in cities

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Electric vehicles could go first at traffic lights under UK clean air zone plans

Date: 13th October, 2016 Source: The Guardian



Drivers of electric vehicles could be allowed to use bus lanes in five UK cities and even go first at traffic lights, to tackle illegal levels of air pollution, the government has suggested.

Launching its consultation on clean air zones to be introduced in Birmingham, Leeds, Nottingham, Derby and Southampton, the environment department said air pollution killed 50,000 people each year at an annual cost to society of £27.5bn.

Electric vehicles, which emit no pollution directly, are seen as a key way for local authorities to bring down levels of nitrogen dioxide (NO2) in the five cities, which are in breach of EU limits.

Local authorities should consider incentives to encourage people to switch to electric vehicles, said the draft clean air zone framework, published on Thursday.

These could include cheaper parking and "allowing access to bus lanes, exemptions from other restrictions such as one way systems, and priority at traffic lights for Ulevs [ultra low-emission vehicles]." But local authorities will be encouraged to consult with residents on such ideas first, an environment department spokeswoman said.

The government said it wants each city to have a mandatory charge by 2020 for dirty buses, coaches, taxis and lorries, but not private cars. Birmingham and Leeds will tackle older vans too.

Next week the environment secretary, Andrea Leadsom, faces a legal challenge from environmental law group ClientEarth in the high court over the government's NO2 clean-up plans.

The mayor of London, Sadiq Khan, this week called the capital's toxic air a "health emergency" as he launched proposals for a bigger and earlier clean air zone than the one planned by his predecessor, Boris Johnson. Unlike the other schemes, London's does cover cars.

The details and workings of the zones in the five other cities, chosen by the government last December because of their NO2 levels, will be published next year.

Environment minister Thérèse Coffey said: "We need to tackle air pollution and creating clean air zones will improve the quality of life for people who live and work in our towns and cities, both now and in the future."

The Department for Transport also announced £35m on Thursday for more electric car charging points for taxi ranks and workplaces, and a scheme to encourage uptake of electric scooters.

"While any government action on pollution is welcome, it's no coincidence that it comes just five days before ClientEarth returns to court because of the government's inaction on this public health crisis," said Alan Andrews, a lawyer at the firm.

"Requiring just five cities in the UK to introduce clean air zones doesn't solve a national problem which causes thousands of premature deaths. Other local authorities won't introduce voluntary clean air zones unless they are made to, or paid to."

The environment department said other local authorities could introduce clean air zones if they wished.

But Friends of the Earth said the government should financially support the zones in other towns and cities blighted by illegal levels of NO2.

Jenny Bates, a campaigner at the green group, said: "Everyone, no matter where they live, should have the right to breathe clean air. Local authorities should be supported – including financially – to introduce clean air zones across the country."

Pollution watchdog calls for Diwali without crackers

Date: 14th October, 2016 Source: Hindustan Times



State pollution control board will launch an awareness campaign in the city to sensitise people about the sound and air pollution caused by firecrackers.

As the city prepares for Diwali, the Haryana State Pollution Control Board has appealed to the residents not to burst crackers, with a view to reduce air pollution in the region.

The board will also organise a workshop next week to sensitise students to give up crackers and celebrate Diwali the traditional way.

Every year, the air pollution levels rise because of cracker bursting on Diwali. Also the sound decibel recorded on this day is mush higher than prescribed levels, the officials said.

Officials said sulphur dioxide and suspended particulate matter such as PM10 are released in the air when crackers are burst.

According to the environmentalists, that local weather conditions also affect the level of pollution. This is also substantiated by the pollution board officials.

On Thursday, the PM2.5 level was 249 g/m3 which caused breathing discomfort to most people on prolonged exposure. The safe threshold for PM 2.5 is 60 g/m3.

Meanwhile, the officials said this year the air quality is better than last year. "At present, the pollution level has not increased much, however, if the pollutants are trapped in the atmosphere for a longer period, smog will occur. This year, the air quality is much better as we have not yet experienced any smog yet. Last year, the PM2.5 was more than 300 g/m3. Toxic smoke mixed with fog causes smog and it persisted last October and November," said Ranbir Rathi, senior officer, HSPCB.

Vijay Chowdhary, environmental engineer, HSPCB, said, "Every year, the PM10 and PM2.5 levels are higher during Diwali, because the pollutants remain trapped in the atmosphere for longer periods because of moisture and low pressure."

"We started the awareness campaign last year and we have witnessed a huge response, especially in new Gurgaon areas. The awareness level seemed to have increased a lot and people are turning away from crackers," Chowdhary said.

These campaigns will help youngsters understand that noise and air pollution resulting from the use of firecrackers affects the entire environment and not just human beings, the pollution department officials said.

"We are not against tradition; we are encouraging people to celebrate Diwali as the festival of lights. It is not a festival of crackers. Diwali should be celebrated with rangoli, lamps and lights," a pollution officer said.

Dementia Risk May Be Triggered By Air Pollution, Lack Of Vitamin D

Date: 14th October, 2016 Source: Science World Report



Experts have recently created a list of environmental factors that could possibly contribute to your risk of developing dementia. Experts claim that air pollution, impure water, and vitamin D deficiency can all heighten the risk of developing the neurodegenerative disease.

According to Indian Express, high blood pressure in mid-life, smoking, diabetes, obesity, depression and low educational attainment are some of the factors identified to be associated with dementia. However, experts are still finding it hard to explain how dementia-causing factors such as genetic, medical and lifestyle contribute to the risk of developing dementia. Researchers from the University of Edinburgh have gone through several past studies to determine if there are other factors are at play.

Researchers of the study, published in the journal BMC Geriatrics, found insufficient vitamin D, which the body usually produces through sunlight exposure, and exposure to air pollution is what's causing the problem. They have also identified some types of pesticides, and excessive levels of minerals found in water may also be linked to the neurodegenerative disease. However, the journal presented mixed evidence linking excessive minerals in water and risk of dementia.

Dementia is already considered a major global public health crisis that is expected to increase as people live longer. About 47 million people suffer from dementia worldwide and the number is expected to increase to more than 131 million by 2050. The numbers show that the brain disorder costs the United Kingdom over £26billion a year while worldwide dementia care costs more than the market value of Google or Apple, reported Business Standard.

Meanwhile, doctors have started to agree on the fact that dementia can be delayed or prevented by addressing environmental problems related to the disease. The team responsible for the latest study stressed the importance of short listing environmental risk factors in future studies. Dr. Tom Russ, from the university, said: "Our ultimate goal is to prevent or delay the onset of dementia. Environmental risk factors are an important new area to consider here, particularly since we might be able to do something about them."

The Sun also reported Dr. Russ also adding, "We found that the evidence is particularly strong for air pollution and vitamin D deficiency. But we really need more research to find out whether these factors are actually causing dementia and how, and if so, what we can do to prevent this."

Other experts involved in the study also expressed their opinion on how to address certain problems to identify environmental factors that may cause the growing number of people suffering from dementia.

Post Dasehra, pollution control board for eco-friendly Diwali

Date: 14th October, 2016 Source: The Tribune

PPCB video on ill-effects of firecrackers to be screened in cinema halls.



City residents can brace up for pre-Diwali advisories at cinema halls for going easy on crackers this Diwali. In a special video being released regarding the ill effects of firecrackers on animals and birds, the Punjab Pollution Control Board (PPCB) will ask the residents to observe an eco-friendly Diwali.

To spread awareness among the citizens of the country regarding noise pollution and air pollution levels sky rocketing in the district before and during Diwali, the Punjab Pollution Control Board will be disbursing the video on the issue to all cinema halls and multiplexes. The video shall be played in all theatres from a week before Diwali. A meeting of PPCB officials was also held with the cinema hall and multiplex owners here today in this regard.

While as per the PPCB stats, the 'before burning' levels in noise pollution this year have registered a one decibel increase and the during burning levels have seen a two decibel decrease as compared to last year. The 'After burning' noise pollution levels on Dusehra this year have undergone a six decibel decrease.

While 65 is the prescribed limit for ambient noise levels in commercial areas in the district by the CPCB – the ambient noise levels witnessed on Dusehra this year were 77 (before burning), 99 (during burning) and 76 (after burning). Whereas the ambient noise levels witnessed on Dusehra in 2015 were 76 (before burning), 101 (during burning) and 82 (after burning).

While the city witnessed an almost grey sky right after effigies of Ravan were burnt on the Dusehra evening, the PPCB officials said the air pollution reading weren't taken on Dusehra as per a countrywide protocol on Dusehra day but ambient air readings shall begin to be taken a week before Diwali, as is done every year.

The PPCB will be taking ambient air readings from October 25, on Diwali day and following it. A detailed schedule regarding this shall also be released by the PPCB within days.

Sandeep Bahl, Senior Environmental Engineer, PPCB, said, "We are making all efforts to ensure both noise and air pollution levels are not allowed to skyrocket this Diwali, for which videos are being disseminated and we are also in conversation with the MC and the district administration that firecrackers aren't sold anywhere except the stipulated area. For the purpose of spreading awareness among residents, a meeting with all cinema hall owners has also been conducted today. The video shall run across cinema theatres in the zone a starting a week before Diwali, before every movie. On Dusehra Day also, the ambient noise has come down two decibels compared to previous years. So things are certainly better than previous years."

Comparative ambient noise levels on Dussehra for three years:

Year Before Burning

Leq db (A) During Burning

Leq db (A) After Burning

Leq db (A)

2014 76 97.5 84

2015 76 101 82

2016 77 99 76

Monsoon exit sends air pollution levels up by 30% in lake city

Date: 16th October, 2016 Source: The Times of India

THANE: Bidding goodbye to the monsoon season equates bidding goodbye to clean and breathable air in the lake-city revealed the air quality index recorded on a daily basis by the municipal corporation.

While the abundant rain showers had cleared the air pollution levels by over 70 per cent this year, the toxic fumes emitted by the vehicular traffic and other pollutants are bringing this level of air contamination up once again.

The air pollution level, which is gauged by the levels of respirable suspended particulate matter (RSPM), ozone (O3), nitrogen dioxide (NO2) and sulphur dioxide (SO2), has gone up by over 30 per cent now when compared with the full-fledged onset of the monsoon in July, according to the data collected by the civic body's new Continuous Ambient Air Quality Monitoring Station (CAAQM) at Teen Hath Naka.

While the ceiling permissable limit of the RSPM is 100 grams per metric cube (g/m3), the months of September and October have shown an average of 135 and 128 g/m3 RSPM. Meanwhile, the sulphur dioxide, nitrogen dioxide and ozone levels have risen from 9g/m3, 62g/m3 and 58g/m3 respectively to 13g/m3, 79g/m3 and 66 g/m3 respectively.

City environmentalists believe that in addition to the issue of vehicular pollution, the fact that many of the festivals involve burning of effigies and firecrackers has added to the issue of air pollution.

Prasad Karnik, president of city-based environmental NGO Paryavaran Dakshata Manch, said, "Nature has its way of restoring balance to itself and thus controls the pollution we create through rain showers that wash down particulate matter and the pollution absorbing feature of trees, especially mangroves. Now that the rains have stopped, there are many construction activities beginning and thus more destruction of greenery."

"Additionally, during festivals like Navrati and Diwali, burning effigies and fireworks become a huge part of the festivities. They, however, are major contributing factors to the pollution levels. While the rains have gone and with that there is lesser control on these toxic levels, the situation may get worse by month end, leading to a number of breathing related ailments," he added.

Smoke from Bhalswa adds to Delhi's pollution woes

Date: 16th October, 2016 Source: The Hindu



Toxic smoke from agricultural fires in neighbouring States aggravates problem

Delhiites are in for another rough winter when it comes to air pollution, said experts as the air quality in the Capital started dipping this past week.

Toxic smoke from agricultural fires in neighbouring States added to the sources of pollution within Delhi on Saturday, when pollution ranged from severe to

moderate as per the National Air Quality Index (NAQI).

Crossing safe limits?

As of 6 p.m. on Saturday, the NAQI showed that the level of PM 2.5 peaked at more than six times the safe level of 60 micrograms per cubic metre at Anand Vihar with 382 mg/cubic metre.

The level of PM10 at Anand Vihar peaked at five times the standard of 100 mg/cubic metre, reaching 500 mg/cubic metre as of 6 p.m. Of the seven monitoring stations that are part of the NAQI, one had an AQI of severe, two of very poor, three of poor and one of moderate as of 5 p.m.

The burning of biomass in the region, and the fact that sources of pollution - including industries, had remained the same since last winter contributed to the poor air quality, said Sunil Dahiya, a campaigner with Greenpeace India.

“Pollution will spike as the temperature goes down and the wind slows. Delhi is headed for a bad spell again,” said Mr. Dahiya.

Engulfing residential area

One of the pollution sources in Delhi was on full display on Saturday. As the wind picked up, smoke from the landfill fires at Bhalswa engulfed the residential areas near the garbage dump in north-west Delhi. While the fires have been raging on and off for years, locals said the frequency of the blaze has increased in the past few months, making it difficult to breathe.

‘Fire never stops’

“The fire never stops, it only becomes less when it rains. The problem is worse during the summer as the methane gets ignited. Right now, the situation is so bad that people in a 3-km radius can’t stand outside,” said Ajeet Singh Yadav, Bhalswa ward councillor.

‘Civic body is trying’

According to Mr. Yadav, the North Delhi Municipal Corporation, which operates the overflowing landfill, “did not have any permanent solutions”, but was trying to prevent the methane gas from catching fire by dumping construction debris on the garbage.

The 40-acre landfill surpassed its capacity years ago, but the corporation has been unable to shut it for lack of an alternative.

Central Pollution Control Board warns that Delhi’s air pollution levels are higher after monsoon

Date: 16th October, 2016 Source: The Health Site



The air quality in Delhi continues to have high pollution level even after this year's good monsoon.

The air quality in Delhi continues to have high pollution level even after the monsoon, said Central Pollution Control Board (CPCB). According to a CPCB study, though the air quality in places such as Varanasi in Uttar

Pradesh and Faridabad city in Haryana has improved after the monsoon, it did not reach the level that can be considered safe for humans in Delhi. Read: Why air pollution is an urgent cause for concern.

'During the survey it was found that while Varanasi and Faridabad were recorded to have higher level of pollution during winter, quite contrary to Delhi, it improved during and after the monsoon,' the study said. The survey was conducted after a similar report published by the US embassy this year examining pollution level during monsoon. It was found that there was an increase in the concentration of air pollution in many cities, including Delhi, even during monsoon which is considered the best season in terms of air quality.

'Level of air pollution often improves after monsoon as rains help wash out dust particles. However, smoke and automobile fumes are hardly affected by rainwater. This explains why Delhi's air quality does not improve even after the monsoon as compared to tier II cities such as Varanasi,' said S.P. Byotra, head of the Department of Internal Medicine at Sir Ganga Ram Hospital.

According to him, there has been a rise in the number of patients with respiratory allergy. 'Breathing in poor quality of air has already taken a toll on the health of the Delhi people. While there has always been a rise in patients with respiratory problems and allergic reactions during winters, with increasing pollution we are now getting such patients almost round the year, including post monsoon,' said Byotra.

The World Health Organization (WHO) had already declared Delhi as the world's most polluted city in 2014, and the new data suggest that Delhiites would not be getting any respite from the toxic air, even after the monsoon season. According to a new WHO report on ambient air pollution level, Delhi is the most polluted city in the world following Riyadh in Saudi Arabia. Surveys have also indicated that considering the rising pollution, people have started opting for air purifiers as a solution. Read: Air pollution leading cause of stroke worldwide.

'The pollution level in Delhi is at its worst, and even monsoon has failed to clean the air. Due to the continuous rise in dangerously high levels of air pollution even after monsoon, it is giving no respite from respiratory problems. We recorded a high demand of indoor purifiers even during this season,' said Vijay Kannan, India Head of Blueair air purifiers.

Chembur, Deonar bear the brunt of city's air-pollution problems: Survey

Date: 16th October, 2016 Source: Hindustan Times



Almost half the population of Chembur and Deonar suffers from air pollution-induced health ailments, a survey found.

The study stated that of the 406 residents surveyed at Mahulgaon in Chembur, 46.7% were unhealthy. At Bainganwadi in Deonar, more than four of 10 respondents had respiratory problems.

As a part of the Environment Status Report from the Brihanmumbai Municipal Corporation (BMC), the Environmental Pollution Research Centre (EPRC) of KEM Hospital carried out a respiratory morbidity survey of 2,483 patients across the city between 2015 -16, mostly focusing on workplaces and residential areas.

Pollution levels in the city soared during the Deonar dumping ground fires in February and March. “The study published is the beginning of a comprehensive research. We will monitor vulnerable areas from now on,” said Athavle.

The EPRC team conducted the survey in February, a month after the fire. The study found that more than one-fourth respondents at Neelkanth Gardens complained of choking, 26.2% were coughing and 17.8% had breathlessness, 57.9% people had eye-irritation and 73.8% were perturbed by the strong smell in the area.

At Kamla Raman Nagar and Rafiq Nagar in Bainganwadi, residents had repeated complaints of choking. While 33.7% suffered from cough, 23.3% complained of breathlessness and 48.8% had eye -irritation.

The report highlighted a number of preventive measures for residents living close to dumping grounds. “There is an immediate requirement for environmental engineering control measures to prevent landfill site-related pollution exposure. This, combined with health education and awareness regarding prevention and early diagnosis of asthma is needed,” the report recommended.

HT had reported on March 23 that doctors from areas near the Deonar landfill had witnessed a 25% rise in respiratory ailments after the fire.

Swami Kandaswami, 55, a labourer and odd job technician from Ghatkopar, on his visit to Deonar to repair a water tanker earlier this year, fell unconscious, allegedly due to inhaling toxic fumes emanating from the dump. “The fumes made me extremely nauseous. People in the area told me they face this issue all the time. It was a bad experience,” he said.

Doctors from Sion Hospital treating Kandaswami said that while they could not conclusively establish whether his condition was entirely caused by a gas, his prevailing heart condition was certainly aggravated after inhaling toxic fumes. “He was suffering from a heart condition, in which the blood supply to the brain is not normal and it differs depending upon the exertion of the body,” said a doctor from the hospital.

Doctors said pollutants from the dumping ground, especially particulate matter — small pollutants that can easily enter our lungs, leading to ailments — is one of the major issues that reduces the ability of the lungs to protect itself from microorganisms.

“Cilia (hair-like projections) move microorganisms and harmful particles up and out of the airways to protect the lungs. However, they are killed due to particulate matter. Once this defence mechanism collapses, the particles enter the lungs and result in multiple pulmonary issues such as chronic bronchitis — the most common disorder — respiratory tract disorders, tuberculosis, cardiac issues and other chronic diseases,” said Dr Rajendra Nanaware, senior pulmonologist and medical superintendent, Sewri TB Hospital.

Case Studies

Impact of Deonar fire: Did not leave his house for four days.

Chembur resident Atul Deshpande, 76, said he had not left his house for four days during the Deonar dumping ground fire, as he suffers from allergic rhinitis. “Whenever there is still excess smoke in the air, I start coughing and sneezing. I am forced to take medicines and use a nebuliser twice a day. While it has been better during the monsoon, the air around Deonar still makes it difficult for me to take long walks during the evenings,” he said.

RCF colony chokes on toxic fumes

Residents of RCF colony in Chembur said that over the past year, they have been waking up to the nauseating smell of toxic gases daily. “Chemical waste dumped in the nearby nullahs is also burnt twice a day opposite our colony, near the Eastern Freeway. However, no action has been taken by the authorities,” a resident said.

Delhi's Pollution Level Stays High even after Monsoon

Date: 17th October, 2016 Source: Smart Cooky NDTV



The air quality in Delhi continues to have high pollution level even after monsoon, said Central Pollution Control Board (CPCB).

According to a CPCB study, though the air quality in places such as Varanasi in Uttar Pradesh and Faridabad city in Haryana has improved after the monsoon, it did not reach the level that can be considered safe for humans in Delhi.

"During the survey it was found that while Varanasi and Faridabad were recorded to have higher level of pollution during winter, quite contrary to Delhi, it improved during and after the monsoon," the study said.

The survey was conducted after a similar report published by the US embassy this year examining pollution level during monsoon.

It was found that there was an increase in the concentration of air pollution in many cities, including Delhi, even during monsoon which is considered the best season in terms of air quality.

"Level of air pollution often improves after monsoon as rains help wash out dust particles. However, smoke and automobile fumes are hardly affected by rainwater. This explains why Delhi's air quality does not improve even after the monsoon as compared to tier II cities such as Varanasi," said S.P. Byotra, head of the Department of Internal Medicine at Sir Ganga Ram Hospital.

According to him, there has been a rise in the number of patients with respiratory allergy.

"Breathing in poor quality of air has already taken a toll on the health of the Delhi people. While there has always been a rise in patients with respiratory problems and allergic reactions during winters, with increasing pollution we are now getting such patients almost round the year, including post monsoon," said Byotra.

The World Health Organization (WHO) had already declared Delhi as the world's most polluted city in 2014, and the new data suggest that Delhiites would not be getting any respite from the toxic air, even after the monsoon season.

According to a new WHO report on ambient air pollution level, Delhi is the most polluted city in the world following Riyadh in Saudi Arabia.

Surveys have also indicated that considering the rising pollution, people have started opting for air purifiers as a solution.

"The pollution level in Delhi is at its worst, and even monsoon has failed to clean the air. Due to continuous rise in dangerously high levels of air pollution even after monsoon, it is giving no respite from respiratory problems. We recorded a high demand of indoor purifiers even during this season," said Vijay Kannan, India Head of Blueair air purifiers.

Nagpur air quality bad due to thermal power stations'

Date: 18th October, 2016 Source: The Times of India

While industries, power plants, mines and vehicles are blamed for increasing exposure to air pollution, there are many lesser-known sources which are significantly poisoning the quality of air. Virendra Sethi, professor at Centre for Environmental Science and Engineering, Indian Institute of Technology, Bombay, whose 40 research papers have been published in various international journals, talks about what really is adding to rural and urban air pollution.

Q. Which are the unaddressed factors that cause urban air pollution?

A. It is easy to blame industries or vehicles because we see those releasing pollutants. But there are other unseen sources too. Pollution caused due to smoke emitted from a truck is less than that caused when it raises suspended dust particles on road. In a movie theatre, the air-conditioner keeps recirculating the same air, shooting up the carbon dioxide levels. Same happens in case of split ACs. Suspended dust particles, burning of agricultural waste, burning garbage at landfill sites, use of solid fuels are contributing immensely in urban air pollution.

Q. Are practices like Delhi's odd-even plan or diesel-free vehicles useful?

A. Odd-even formula did help in reducing air pollution. When number of vehicles is decreased, it will naturally bring down the carbon footprints. Switch over from diesel to Compressed Natural Gas (CNG) has also helped in improving air quality. But before taking decisions like banning diesel vehicles, it is important to scientifically study their contribution to air pollution. Not much research is being done on these lines.

Q. Is indoor air pollution more worrisome? How is it taking a toll on rural health?

A. By the time smoke released from chimneys reach us, it gets diluted with clean air. But in a typical rural household where women use stoves in closed kitchens, the situation is far more serious as they are directly exposed to high emissions. The smoke remains suspended in the small rooms and people actually sleep in highly polluted air. This is why a large percentage of rural population suffers from respiratory problems and other diseases.

Q. Are agencies like state pollution control board doing enough to curb pollution?

A. Their intention is good but they don't have the capacity and resources to deal with problems. Rigorous and detailed studies are need of the hour.

Q. Despite having less population density, some two-tier cities are highly polluted. Nagpur too was ranked as the sixth most polluted city of the state and 49th in the country by WHO.

A. It is a myth that pollution is completely dependent on population or number of vehicles in a city. There are various other factors that degrade a city's ambient quality of air. In case of Nagpur, it is surrounded by thermal power stations in Koradi, Khaparkheda, Butibori, Mauda and industries in Hingna and Butibori. Depending on the wind direction, pollutants from all these sources come in the city, this increasing it pollution levels

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UK government taken to court over failure to cut air pollution

Date: 18th October, 2016 Source: New Scientist



By Michael Le Page

The UK government is being hauled back before the courts over its failure to tackle air pollution. In a case beginning today, a group called ClientEarth is asking the High Court to order ministers to come up with a better plan for improving air quality.

The case concerns levels of nitrogen dioxide, an invisible gas produced mainly by road traffic. High levels of nitrogen dioxide shorten lives, by increasing the risk of heart attacks, strokes and respiratory disorders.

A 1999 European Union directive set legal limits for nitrogen dioxide levels, which came into force in 2010. Six years later, these limits are still being exceeded in many places across Europe. Europe's cities have some of the highest NO2 levels in the world, because a much higher proportion of cars run on diesel than in most other countries.

In the UK, 37 out of 43 zones breach the limits. ClientEarth, a group of lawyers focused on using existing laws to protect the environment, first took the UK to court in 2011.

The case was referred to the European Court of Justice, which ruled in 2014 that national courts can and should ensure that governments act to get air pollution below legal limits. What's more, it ruled that governments must do this "as soon as possible".

Failure to act

The case then went back to the UK's Supreme Court, which in April 2015 ordered the UK's environment minister to take "immediate action" by preparing and consulting the public on an air quality action plan in the shortest possible time.

But very little has been done. The government announced it would begin a public consultation on its plan only last week – just days before the court case began. Its plan consists of clean air zones in just five cities, and these zones will not restrict the main source of pollution: diesel cars.

"It's taken 18 months for ministers to even begin a consultation," says James Thornton, head of ClientEarth. "This is a woefully inadequate response to the air pollution crisis."

Campaigners think the government has been deliberately dragging its feet, based on modelling suggesting that as older diesel vehicles are replaced, levels of air pollution will fall without the government having to

do much. The flaw in this is that, as the Volkswagen scandal revealed, newer diesel cars emit far more NO2 and particulates when driving than lab tests suggest.

Phasing out diesel

Getting nitrogen dioxide down below legal limits will require more stringent action, such as clean air zones that restrict all highly-polluting vehicles including cars, retrofitting bus and trucks to reduce their emissions and a scrappage scheme to get diesel cars off the roads altogether.

The case should not be affected by Brexit. The UK government has said it will pass a "Great Repeal Act" incorporating EU directives such as the 1999 one into UK law. In theory it could then alter the legal limits for pollutants but this will not happen for several years at the earliest.

ClientEarth is not just suing the UK government. Based on the precedent set by the European Court ruling, it has launched or helped launch actions in the Czech Republic, Belgium, Poland and Germany.

While we've yet to see much in the way of concrete action as a result of these legal battles, the ClientEarth court cases have already helped raise public awareness of the issue and put air pollution on the political agenda.

"Their role has been transformational," says Laurie Laybourn-Langton of the Institute for Public Policy Research in London, co-author of a recent report that concluded that diesel cars will have to be phased out in London if the city is to meet legal limits.

British doctors and health professionals call for rapid coal phase-out

Date: 19th October, 2016 Source: The Guardian



Groups representing Britain's 600,000 doctors and health professionals say it is "imperative" to phase out coal rapidly to improve health and reduce NHS costs.

The doctors and nurses say tackling outdoor air pollution from traffic and power stations would cut climate emissions, reduce air pollution, and deliver a powerful boost to the nation's health.

"Climate change and air pollution are both major health threats," says the UK Health Alliance on Climate Change in a report. "They share a common driver: the combustion of fossil fuels. Pollution from coal plants alone costs the UK as much as £3.1bn each year in human health impacts."

The group of 15 health bodies includes seven royal colleges of medicine and the British Medical Association.

Pollution from coal plants causes many serious health conditions including stroke, coronary heart disease and lung cancer. It disproportionally affects children and kills more people than road accidents , says the report.

The government has said it intends to phase out coal power plants by 2025 but the doctors say they are alarmed that no consultation papers looking at how this could be achieved have been published in more than a year.

"Ending the use of coal is a simple, no-regrets public health intervention. The rapid phase-out of coal fired stations is an imperative first step. Coal is the most carbon-intensive source of power generation, and is a key focus for reducing the risks of climate change.

"In the UK, burning coal is linked to 1,600 premature deaths, 68,000 additional days of medication, 363,266 working days lost and more than 1m incidents of lower respiratory symptoms," says the report.

It urges politicians not to tackle air pollution and climate individually, as has been done in the past. "The UK has witnessed ... policies that encouraged the use of diesel cars which inadvertently worsened air quality. Considering air pollution and climate change together can limit adverse health effects.

"Some strategies can be good for both air quality and climate change, for instance wind, solar and tidal energy. Acting on ones that are beneficial to both is advantageous to health. Indeed, joining up policies on health, air pollution and climate change can offset the costs of climate mitigation policies through the health benefits that they bring."

Air pollution is the second biggest public health threat in the UK after smoking and kills 40,000 people a year in Britain, said Prof John Middleton, president of the Faculty of Public Health. "Coal-fired energy is particularly damaging through its invisible particulates and because it is a driver of climate change," he said.

"The phase-out of coal use is an essential step towards creating a sustainable energy policy for the UK," said Dr Richard Horton, editor-in-chief of the Lancet medical journal. "It is also a vital co-benefit for health - ending coal use will deliver long-lasting health and dividends for the British population. Life expectancies will be prolonged, disease and disabilities reduced, and future risks to health diminished. This is an opportunity to be seized."

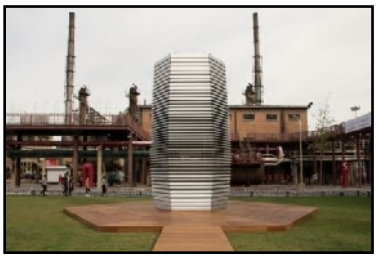
Jonathan Griggs, professor of paediatric respiratory and environmental medicine and fellow of the Royal College of Paediatrics and Child Health said that children were particularly vulnerable to burning coal.

"Air pollution from burning coal has been linked to low birth weight and pre-term delivery as a result of maternal exposure during pregnancy," he said. "The phase-out of coal is a double win for tackling the twin health threats of air pollution and climate change."

"Tackling air pollution and climate change will have numerous health benefits but it requires a joined-up approach from government to ensure the health impacts are better recognised and fully realised," said Janet Davies, the Royal College of Nursing's chief executive and general secretary.

Can This Tower Solve China's Air Pollution Problem?

Date: 20th October, 2016 Source: Forbes



After years of battling with pollution, China is banking on a seven-meter tall tower made of aluminum and powered by electricity to clean up its toxic air.

Daan Roosegaarde, an artist based in Rotterdam, the Netherlands, has introduced in Beijing a seven-meter tall tower that he claims can suck pollutants from filthy air through a process called positive ionization. The tower, which acts like a giant vacuum cleaner, cleans the air by sending out positive ions which will

attach themselves to dust particles. A negatively charged surface inside the tower will then attract the positive ions along with the small dust particles. The device, which runs on just 1,400 watts, requires no more energy than a water boiler, according to Roosegaarde. It is capable of cleaning 30,000 cubic meters of air an hour, he said by phone yesterday. Roosegaarde is also working on installing the technology on bicycles, so people can have portable clean air. He declined to comment on the cost of the tower.

What's more, Roosegaarde and his team also figured out how to make jewelry out of air pollutants by condensing dust collected through the tower under high pressure, forming tiny black stones, which are later sealed into resin cubes and can be mounted onto rings and cufflinks as accessory. It takes 1,000 cubic meters of air to make each stone, according to Roosegaarde, who is selling them for 250 euros apiece. Dust collected from the tower is enough to make 300 rings if it runs for about ten hours a day, he said.

But the public won't know if the tower is effective in cleaning Beijing's polluted air because the results are not going to be released, according to Liu Guozheng, secretary general of the China Forum of Environmental Journalists, an association under China's Ministry of Environmental Protection, when contacted by phone yesterday.

China, which has set aside 17 trillion yuan for environmental protection between 2016 and 2020, faces the world's worst air pollution problems. In Beijing, annual measurement of PM2.5, a tiny particle associated with increased risks of blood clot as well as tissue and systemic inflammation, is about nine times more than the recommended levels, according to the World Health Organization.

"Two to three years ago I was in Beijing," Roosegaarde said. "On Tuesday I could see the cars and people, but on Wednesday I could see nothing. So I was inspired by the smog."

Roosegaarde said he hoped to eventually place hundreds of smog-cleaning towers across China. He is meeting with local manufacturers to produce the device in the country. Financing of the project will come from ring sales, the Chinese government and hopefully future sponsors, he said.

"The Chinese government is investing a lot in this [fighting air pollution]," he said. "We want to make something that works now."

China isn't the first country to have the tower. Last year, there was an exhibition of the same design in Rotterdam, following a campaign on fundraising platform Kickstarter that raised 113,153 euros for the project.

In outdoor tests, the tower has cleaned the air by about 60%, measured by the number of pollution particles removed, according to Bob Ursem, a researcher at the Delft University of Technology who has worked with Roosegaarde on the project.

Protecting people and planet from 'invisible killer' is focus of UN health campaign to tackle air pollution

Date: 20th October, 2016 Source: UN News Centre

The United Nations World Health Organization (WHO) in partnership with the Coalition for Climate and Clean Air (CCAC) and the Government of Norway has launched a global awareness campaign on the

dangers of air pollution – especially 'invisible killers' such as black carbon, ground-level ozone and methane – for the health of individuals and the planet.



Titled BreatheLife: Clean air. A healthy future, the campaign aims to mobilize cities and their inhabitants on issues of health and protecting the planet from the effects of air pollution. Moreover, By WHO and CCAC joining forces, 'BreatheLife' brings together expertise and partners that can tackle both the climate and health impacts of air pollution.

According to WHO, air pollution kills nearly seven million people each year, nearly 12 per cent of deaths worldwide. It is responsible for 35 per cent of deaths due to lung disease, 27 per cent of deaths from heart disease, 34 per cent of deaths from stroke, and 36 per cent of deaths from lung cancer.

Urban air pollution levels also tend to be higher in many low and middle-income cities and in poor neighbourhoods of high-income cities. This means reductions in pollutants can have particularly large health benefits for lower income groups as well as for children, elderly, and women, the agency explains.

The campaign seeks to cut in half the number of deaths from air pollution by 2030 – the target year for the achievement of the UN Sustainable Development Goals (SDGs), adopted by the UN General Assembly in September 2015.

'Breathe Life' highlights the practical policies that cities can implement to improve the air quality through better housing, transport infrastructure, managements of waste and energy systems. It also educates individuals and communities about the measures they can take daily to achieve cleaner air, such as stopping the incineration of waste, development of green spaces and the choice of walking or cycling.

Nine in ten people breathe air that is not safe. Air pollution is an invisible killer that we may face on a simple walk home or even in our homes.

Improved vehicle standards, prioritization of clean public transport, and the adoption of stoves and more efficient alternative fuel for cooking, lighting and heating are also part of the actions put forward by the campaign the goal of saving more lives and protect the environment.

For WHO and its partners, this series of measures to achieve a reduction of pollutants could significantly reduce the number of annual deaths from air pollution.

Charvester - An Idea That Could Help Cut Air Pollution

Date: 22nd October, 2016 Source: NDTV



BENGALURU/KARNAL: With air pollution across north India a major problem in the harvesting season when fields are set on fire, ideas that could help clean things up are always welcome. The 'Charvester' is one such innovation. This idea for a smoke-free way to deal with the straw has won an award for the Charvester UChicago Urban Labs competition, which aims to deal with the twin challenges of pollution and agrarian

productivity.

In many places in Punjab and Haryana, fields are set on fire - and this is a major source of pollution for nearby cities like Delhi. But there are some places where villagers avoid this - like Beernarayana in Haryana's Karnal which calls itself a 'Climate Smart Village'.

The sarpanch of the village told NDTV, "In our village nobody is burning the crop, even if that means an additional expenditure."

In September this year, members of the Climate Foundation visited Beernarayana. Hitesh, from the foundation said, "We visited villages to understand the complete process; how crop is sowed; how it is harvested."

The Charvester is an idea being developed by the Climate Foundation and Tide Technologies Pvt Ltd in faraway Dodaballapur taluk in Karnataka. The aim is to help the farmers deal with the paddy straw - the type of paddy grown in these villages is not edible for livestock and has been considered waste and burnt. With the Charvester, the straw would be gathered and fed into this machine.

Ajay Chandran, who oversees the working of the actual charvester prototype told NDTV, "The paddy is fed into one end of the machine. It is burnt in a smoke free manner inside and the result is biochar."

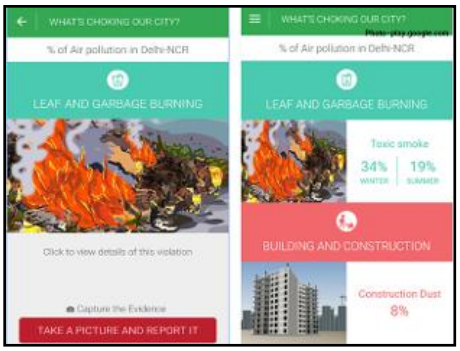
The biochar has benefits of its own and can be sold by farmers as it actually improves the quality of the soil.

Sampath Kumar, who has worked on developing the Charvester, said, "Biochar has certain characteristics through which it retains moisture, nitrogen and other components and improves the soil texture." Farmers could actually sell biochar and earn some extra income.

And back in Beernarayana, farmers believe that the Charvester will not only enable them to fertilise their soil naturally but also provide a sustainable source of livelihood with maximum utilisation of biomass.

Mobile app 'Hawa Badlo' launched to fight air pollution in Delhi

Date: 22nd October, 2016 Source: The Economics Times



NEW DELHI: Residents of the national capital can help fight air pollution by reporting incidences of leaf and garbage burning, and dust generated by construction activities through a new mobile application.

The "Hawa Badlo App" introduced by Environmental Pollution (Prevention and Control) Authority (EPCA), appointed by the Supreme Court to improve the air quality in Delhi and NCR, allows people to report incidences of air pollution through it.

"The app aims at inclusive participation of citizens in reporting incidences of leaf and garbage burning, building and construction dust and unpaved road dust, and thereby makes them part of the city's fight to curb air pollution," Bhure Lal, chairperson of EPCA said.

The mobile application designed by EPCA, along with the municipal corporations and departments concerned of Delhi, Haryana and Uttar Pradesh governments, also include a section for officials, to resolve cases and upload evidence about what has been done, including a copy of the challan.

The app is currently focused on incidences of pollution through construction activities, garbage burning and maintenance of roads, but has the scope to include other pollution-linked violations.

The application will generate weekly reports on the status of the cases and action taken, which will be sent to the officials of the Central and state pollution control boards and municipalities. Also, EPCA will analyse this information to submit its report to the Supreme Court on actions taken in compliance with its orders.

"The app is expected to act as an accountability, public information dissemination and public engagement mechanism," said Sunita Narain, member, EPCA and director general CSE.

The mobile application is also designed to filter out false complaints by creating a reputation system - similar to what is used in online product ratings.

Each complaint is geo-referenced and will provide the time and location where the evidence of violation has been collected and submitted.

EPCA will forward the complaint to the official in-charge, identified through the location and also type of violation.

The app has been made publicly available on iOS and Android application stores, and is expected to play an active role in increasing public engagement and accountability in reducing pollution during the winter season this year.

Delhi May Solve Its Air Pollution Problem With 'Vertical Gardens'

Date: 22nd October, 2016 Source: NDTV



A team from Kolkata has proposed that Delhi can reduce air pollution with vertical gardens.

In a city with some of the world's most poisonous air, a lack of space for greenery makes an alarming problem only worse for many of Delhi's 10 million residents.

But this could soon change if the proposal from a team of innovators from Kolkata comes through.

Shortlisted as one of the finalists in the Urban Labs Innovation Projects competition organized by the University of Chicago in collaboration with the Delhi Dialogue Commission, Capacloud Technologies has pitched the idea of vertical gardens - an innovation described by them as growing plants without soil.

"Slums of Delhi caught our attention due to rising air pollution," said Jayabrato Bhaduri, the founder of Capacloud Technologies.

"Wherever we have vertical spaces whether we look at walls, pillars, billboards, we could put vertical gardens," said a member of his team.

The vertical gardens developed by him and his team will also have special sensors to monitor pollution and absorb harmful gasses like methane and carbon monoxide. They will also have a special mechanism for automated capillary action allowing plants to absorb nutrients even in the absence of soil.

The plan could help check the impact of city's toxic air where it is felt most - the slums where several other challenges overlap for the residents.

"Wherever you look, everywhere there is dirt and pollution," said a resident of a slum in North Delhi's Jahangirpuri area.

"Who doesn't want greenery? We all do, for our area and for our country," said another resident.

Rising air pollution taking a toll on tourism in Haridwar

Date: 23rd October, 2016 Source: The Times of India

HARIDWAR: The rising air pollution in the city which is attributed to several factors like vehicular smoke, emissions from industries and the most rampant -- open burning of garbage and dry leaves in many parts of the city -- is steadily taking a toll on the tourism business in the holy city. Hotels, restaurants and other tourism industry stakeholders admit that during the past few years, pilgrims and tourists visiting the city have been affected by the rising air pollution. "I estimate that in the last 5-6 years, there has been a 30-35 per cent fall in tourist numbers in Haridwar. Many tourists now spend only a limited time in Haridwar and then turn towards Rishikesh or other places where the air is a little better and the areas more clean," says Sumit Srikunj, a travel agent.

Those who have lived in Haridwar for many years say the situation is worrisome because the city is regarded as one of the holiest in the country and had been known for its serene and peaceful atmosphere. "Earlier, it was possible to sit for hours near the Har-ki-Pauri and enjoy the serenity of the Ganga ghats, but now it is simply not possible to do so. There are heaps of open garbage lying at several places and with winters approaching, these heaps are often lit causing unwarranted pollution," says Shiv Sharma who has lived in the city since the last three decades.

Open burning of garbage is not an uncommon sight in Haridwar. In the absence of a proper system of garbage disposal, many people and institutions find it the easiest way to dispose of trash. A resident near the Har-ki-Pauri who did not wish to be named said that clothes left at the ghats by pilgrims in great quantity are often burnt in the open. Dharamshalas, hotels and ashram also resort to this practice at times, she alleged.

Purushottam Sharma Gandhivadi, president of the Ganga Sabha, which is responsible for the upkeep of the Har-ki-Pauri denied that clothes left at the ghats as "per tradition" are burnt in the open. He said that they are "collected in drums by our employees and then handed over to the nagar nigam sweepers." However, he acknowledged that "the Ganga Sabha can play a more active role in creating awareness about air pollution."

With the general consensus being that the occupancy in hotels has seen a dip in numbers primarily due to the pollution problem, it's time that other stakeholders also come forward to take the initiative to put an end to the most visible forms of air pollution like the open burning of waste -- which can be easily curbed -- and also put pressure on district officials to ensure that this practice is put to an end in the city.

Ill-effects of air pollution may be transgenerational, says international expert

Date: 23rd October, 2016 Source: The Indian Express



Air pollution is killing nearly eight lakh people annually in the South East Asian Region with India alone accounting for over 75 per cent of the casualties, according to WHO.

Adverse effects of air pollution, described as the world's biggest environmental risk by WHO, may linger on in Delhi for generations to come, experts warn. New studies in this area, indicating that its impact may be 'transgenerational', have unsettled pollution experts and doctors in New Delhi.

T K Joshi, Director, Centre for Occupational and Environmental Health, told PTI that a study by the US-based National Institute of Environmental Health Sciences (NIEHS) has uncovered this fact.

"New research that has shaken all of us says that if a fetus is exposed to air pollution, she has change in her genes, and these changes are such that they don't remain confined to her only.

"The impact is transgenerational. That means her children, her grand children will be affected. And you cannot undo a change in gene. If we don't control this then we are creating lot of diseases to which we do not have any cure, like asthma, cancer, stroke," Joshi said.

While the phenomenon holds true for people cutting across the world, it will be more so for residents of cities like Delhi, known for notoriously high levels of pollution.

It also turn on its head the conventional wisdom that pollution affects only certain vulnerable categories such as children, the elderly, people with respiratory diseases and expecting mothers.

Joshi rued that indoor air pollution was an area that has seen the "least amount" of work. Its potential impact on health is a riddle that needs to solved.

"That is what is sorely needed, to find its short and long term impact, serious or mild effects. Itching of eyes, sneezing are mild effects, but if you say cancer it's very serious. So the riddle is yet to be solved," Joshi said.

Echoing these views, Prof Mukesh Khare of IIT Delhi said the latest findings make indoor air pollution more significant, as people, especially expecting mothers, spend more time inside.

"Urban indoor air quality is an area that is not well-researched. The Central Pollution Control Board had put a draft of indoor air quality monitoring guidelines on its website in 2014 but there has no forward movement since. We need to have prescribed standards like for outdoor air," he said.

Air pollution is killing nearly eight lakh people annually in the South East Asian Region with India alone accounting for over 75 per cent of the casualties caused by cardiovascular diseases and lung cancer, according to WHO.

Delhi also happens to be the 11th most polluted city in the world (based on data collected between 2008-13), according to the latest rankings released by the UN agency, while four other Indian cities – Gwalior (2), Allahabad (3), Patna (6) and Raipur (7) – figure in the top seven.

Vehicle smoke, road dust add to winter air pollution in Delhi

Date: 24th October, 2016 Source: Hindustan Times



In winter, vehicles contribute 25% to PM2.5 which could be above 35% at some places, according to a study conducted by IIT Kanpur

Apart from stubble burning by neighbouring states, the Capital has to battle pollution from millions of vehicles, construction and road dust.

The problem becomes graver during winters. "With winter approaching, Delhi and other parts of north India show a noticeable spike in air pollution," said Centre for Science and Environment (CSE) executive director Anumita Roychowdhury.

She said Delhi also suffers from the lacklustre attitude of its own authorities and people. "Others (contributors of pollution) are industrial waste and diesel trucks and interstate buses entering the city."

A study conducted by IIT Kanpur on Delhi's pollution levels says that emissions from vehicles are the second largest source of particulate matter, especially PM2.5. Construction dust and stubble burning are the other sources.

Vehicular pollution grew from 64% to 72% between 1990 and 2000, the report says. In winter, vehicles contribute 25% to PM2.5. At places, it could be above 35%. It also says that diesel vehicles contribute significantly to PM10 and PM2.5.

Delhi has over 8.9 million registered vehicles. In addition, 570,000 personal and passenger vehicles enter Delhi every day, shows a CSE study in June.

In comparison, a total of 569,000 vehicles were registered in the city in 2014-15, according to the Economic Survey of Delhi. This shows that the number of vehicles coming into Delhi daily is almost equal to the number registered in the city in a year.

"The number of vehicles on the roads is increasing every day, but the space is the same. So, vehicles crawl on the road. With lower speed, engine efficiency reduces and emission levels increase," said senior principal scientist at CSIR-Central Road Research Institute (CRRI), Dr S Velmurugan.

The city's average speed has gone down from 20 kilometres an hour to 5 kilometres an hour over five years, he said quoting studies by CSIR-CRRI. ROAD AND CONSTRUCTION DUST

The daily PM10 and PM2.5 emissions from road dust are 79,626 kilos and 22,165 kilos, respectively. Broken and poorly maintained roads, a regular sight in Delhi, also cause significant non-exhaust road dust emissions.

Also, construction dust contributes to 40% of the city's total waste generated.

"The most harmful element in construction matter is silica which often escapes the human body's filter mechanism. Over a period of time, it shrinks lung capacity and makes the person vulnerable to all kinds of infections," said Dr Neeraj Jain, chest specialist at Ganga Ram Hospital.

Junta tracks Bengaluru's traffic and air-quality

Date: 25th October, 2016 Source: The New Indian Express



BENGALURU: With "no comments" on city's present state of traffic and air pollution, a group of five individuals and several volunteers from technology, health and management backgrounds are piloting a community-driven project to monitor air pollution in the city.

It was the 2012-World Health Organization report stating that 6,00,000 people died in the country because of air pollution that prompted the team to come up with this project, after learning basics from various different organizations.

Sensors without Borders, a non-profit initiative based in the city, has collaborated with Sensing Local, an urban planning and architectural firm, to check the quality of air the city breathes with their project titled Breathe Bengaluru.

The pilot project is ongoing and the final result will be published on a public forum by the end of this year. The result will be an evaluation of the city's air-quality monitored since October 18 in the two major traffic intersections near BTM Circle. Open waste-burning areas and construction sites are also being tracked as sources for Particulate Matter (PM) count.

The screening for PM 2.5 and PM 10 is on going in BTM as of now.

Besides the data, interactions of the members with Bengalureans indicate a significant shrinking of tree cover in the city. The data processed has shown that 'green islands' in the city such as IISc, Cubbon Park and Lalbagh experience less air pollution besides having cooler temperature.

Even small parks cause significant difference in air quality. In fact the members thought that something was wrong with the device when it registered a "huge difference" in PM count at BTM traffic intersection and BTM park.

The device being used for pollution screening is a low-cost, handy, LCD-driven Optical Particle Counter (OPC), Dylos 1700, imported from the US and different air quality censor companies. The device is said to be effective but, while it will register the size of the particles, it cannot identify them.

Along with the device, the group is using publicly available readings from the Central Pollution Control Board and a privately funded device, which they do not want to name. This small-scale pilot project will help "understand rising air pollution and study its impact on public health, urban environment, and its causality," said Adithya Pasupuleti, project coordinator of Sensors Without Borders.

"Researchers and experts working on traffic patterns, air quality, technology, urban planning and transport planning, along with local communities will be roped in for suggestions, guidance and analysis of potential linkages between traffic emissions, air quality and health outcomes," Adithya added.

The larger goal of the experiment, however, is to understand how data from air quality sensors, traffic patterns, and weather can be gathered using IoT technology and analysed for public benefit.

They will hold an orientation programme on November 6.

What's the solution to air pollution?

Date: 25th October, 2016 Source: Bird Life



Recently, the World Health Organization (WHO) announced the shocking news: 92% of the world's population is now breathing polluted air. Like the canary in the coal mine, wild birds are always the first to notice.

The World Health Organisation recently released its most detailed study on global pollution to date and the results are, no pun intended, breath taking: over 90% of the population lives in places where air pollution exceeds safe limits. Three million people are reportedly dying every year as a result of tiny particulates in the air – solid and liquid matter that is suspended in the air we breathe, and arrives there from a wide range of human-made sources, from car fumes and power plants. Long term exposure to these particulates is linked to a number of respiratory illnesses. Given the demonstrable effect on humans, how, we might ask, does it affect birds?

In 2013, birds started falling from the skies in Singapore because of smog that had formed as a result of forest fires. Multiple studies have shown that birds respond to environmental change before humans can even notice it. This is why birds are invaluable indicators of the health of our environment. Everyone who is familiar with the story of the canary in the coal mine will know that when birds begin to disappear there's something nasty in the air.

Pollution of many types has been reported to impact negatively on birds. We are all familiar with the effects of oil spills, plastic litter, pesticides and other water-borne pollutants that can easily wreak havoc in wetlands and coastal habitats. However when it comes to invisible airborne pollutants, the effects are more difficult to trace back.

But what can be easily traced back is rainfall and its effect on the environment. Air pollution is not only about the air we breathe. Toxic fumes coming from cars, domestic heating, power plants, factories and agriculture all pollute the atmosphere with sulphur and nitrogen compounds. After travelling for long distances, these compounds fall as acid rain, which has been implicated in population declines of several bird species in industrialised countries like the USA and UK. Even when clean air laws are in place, as in the eastern regions of North America, acid rain is still an issue that has been linked to population declines of threatened species such as Bicknell's Thrush Catharus bicknelli.

Of particular concern are "persistent organic pollutants": industrial chemicals, residues of pesticides like DDT and unwanted by-products such as dioxins. These compounds seep into both air and water, then to accumulate in the fatty tissues of wild animals and cause reproductive dysfunctions, deformities and birth defects, among other health concerns. Ultimately these have been the cause of numerous population declines, from cormorant species in the USA to the African Fish-eagle Haliaeetus vocife in Zimbabwe.

In its conclusions, WHO proposes a range of solutions to tackle the air pollution crisis: sustainable transport, improved waste management and increasing use of renewable energies. This new study reminds us that most of the sources that cause air pollution happen also to be drivers of climate change – a threat identified as a priority by BirdLife International. This is where our solutions for nature come in handy. Our top recommendation to tackle climate change also happens to improve air quality for people and for birds; keep fossil fuels in the ground and ensure the transition to renewable sources happens as quickly as possible.

Following the UK Clean Air Act of 1956, several species of birds that had disappeared from the city of London were reported to have returned, from Common Hoopoe Upupa epops to Bohemian Waxwing Bombycilla garrulus. This goes to show that it's never too late to clean up the mess: when the air is fit to breathe again, birds will be the first to let us know.

Air pollution may cause blood vessel damage: study

Date: 26th October, 2016 Source: Hindustan Times



Exposure to fine particulate matter may cause blood vessel damage and inflammation among young, healthy adults, according to scientists including one of Indian origin, who have found how air pollution contributes to cardiovascular disease and related deaths.

Diwali is here. And so is the air pollution scare.

A new study has found that exposure to fine particulate matter may cause blood vessel damage and inflammation among young, healthy adults. This is according to scientists including one of Indian origin, who have found how air pollution contributes to cardiovascular disease and related deaths.

For the study, researchers studied the component of air pollution known as fine particulate matter (PM2.5) - the tiny pieces of solid or liquid pollution emitted from motor vehicles, factories, power plants, fires and smoking.

They found that periodic exposure to fine particulate matter was associated with several abnormal changes in the blood that are markers for cardiovascular disease.

As air pollution rose, they found small, micro-particles indicating cell injury and death significantly increased in number; levels of proteins that inhibit blood vessel growth increased; and proteins that signify blood-vessel inflammation also showed significant increased.

"These results substantially expand our understanding about how air pollution contributes to cardiovascular disease by showing that exposure is associated with a cascade of adverse effects," said study lead author C Arden Pope professor at Brigham Young University in the US.

"These findings suggest that living in a polluted environment could promote the development of high blood pressure, heart disease, and stroke more pervasively and at an earlier stage than previously thought," said Aruni Bhatnagar, professor at the University of Louisville in the US.

"Although we have known for some time that air pollution can trigger heart attacks or strokes in susceptible, high-risk individuals, the finding that it could also affect even seemingly healthy individuals suggests that increased levels of air pollution are of concern to all of us, not just the sick or the elderly," Bhatnagar said.

Study participants included 72 healthy, non-smoking, adults. Their average age was 23, most were white, and more than half were male.

During the winters of 2013, 2014, and 2015, participants provided blood samples, which researchers then tested for markers of cardiovascular disease.

Researchers were able to evaluate these informative blood markers with various levels of air pollution.

However, they noted that the third study year, 2015, was relatively unpolluted, which could have affected the results.

The study was published in the journal Circulation Research.

How to beat air pollution during Diwali in five simple steps

Date: 26th October, 2016 Source: Hindustan Times



The simplest thing to do is leave town and head for the cleaner air of the hills or the coast, but for those who are stuck in the city, here are some doable tips on surviving air and noise pollution without wrecking your lungs or damaging your hearing.

1. Check daily air pollution levels in your neighbourhood before stepping out using Hindustan Times' Air Quality Index and avoid highly-polluted areas.

2. Don't exercise (walk, cycle or run) or play outdoors when pollution levels are high, which is usually in the morning. Instead, walk indoors in a shopping mall or head for a gym . Limit the time your child spends playing outdoors during hours when the air quality is poor and for at least three days after Diwali, which is roughly the time the bad air takes to dissipate.

3. Even in areas with low to moderate pollution, vehicular exhaust pushes up air pollution levels up to one km on either side of the road during peak hours. Drive with your windows rolled up or cover your mouth and nostrils with a facemask (N95 respirators are the most effective) or a cloth while cycling or riding two wheelers.

4. Don't light crackers or burn the trash generated the day after. Copper, cadmium, sulphur, aluminium and barium, among others, are added to crackers to produce the vibrant colours and sparkle, and the particulate matter and gases such as nitrogen oxides and sulphur dioxide that hang low in the atmosphere for hours, stinging our eyes and choking lungs.

5. Use ear plugs! Firecrackers produce between 90dB to 130dB of sound, depending on their potency. The sound range is between the noise produced by a subway train (90dB) and jet plane (140 dB). Sound at 85 dB or below is safe. If you have to speak in a loud voice to be understood, background sound is probably in excess of 90 dB. Sustained exposure to sounds greater than 90 dB without hearing protection can damage hearing. Sounds above 140 dB cause some permanent damage almost immediately.

Delhi: Air pollution is 'severe' three days before Diwali

Date: 27th October, 2016 Source: Scroll



The state government started the process of installing Radio Frequency Identification Devices and Weigh-in-Motion machines to curb pollution.

The Air Quality Index indicated that pollution levels in Delhi were

"severe" at many places on Thursday and prompted the government to issue an alert, reported PTI. The pollution level is categorised as severe if the AQI ranges between 401 and 500.

The System of Air Quality and Weather Forecasting and Research data showed that the overall AQI crossed 300. However, the worst air quality levels were at Anand Vihar, Mandir Marg and RK Puram, where it touched the maximum limit of 500 three days before Diwali, reported Hindustan Times.

Simultaneously, the Delhi government started the process of installing Radio Frequency Identification Devices and Weigh-in-Motion machines for regulation of commercial vehicles to curb air pollution. These machines will be installed at 13 entry points to the Capital. The step comes six days after the Supreme Court had asked the authorities concerned to come up with a concrete plan for garbage disposal. The environment department has already said that Rs 5,000 will be charged if one is caught burning garbage and dry leaves in the open, reported India Today.

Plans are also afoot to introduce other steps to check pollution in the coming months. However, no announcement has been made in this regard so far.

According to reports, the quality of air worsens in the Capital because of a spike in vehicular traffic, while decreasing temperatures and lack of winds also invite more pollution. Experts have warned Delhiites to brace for worse air quality, with Diwali around the corner. For the past few years, Delhi pollution has multiplied up to five times on the day of Diwali, and experts believe that this year will not be any different.

Delhi government plans to install air purifiers, mist fountain to curb air pollution

Date: 28th October, 2016 Source: The Times of India

NEW DELHI: In a first, the Delhi government on Friday announced a three-tier air treatment system which includes setting up of wind purification units, mist fountains and virtual chimney at five major traffic intersections on trial basis to deal with rising air pollution level.

The air treatment system has potential to reduce carbon monoxide and particulate emission by 40%-60% in 20-30 metre radius during peak hours of traffic, government sources claimed.

Delhi Minister Satyendar Jain, who is also the head of Delhi Task Force formed to formulate policy to curb air pollution, said the government in collaboration with National Environmental Engineering Research Institute (NEERI) and IIT (Bombay) can set up the entire system within 45 days.

He said that air purifiers will be installed at five major traffic intersections - Anand Vihar, ITO, Sarai Kalen Khan, Kashmere Gate and IIT (Delhi) or AIIMS.

Besides, government will also install a mist fountain at one traffic intersection which is yet to identified as a pilot project to curb air pollution.

This is for the first time that the city administration has taken such steps to bring down rising air pollution in the city.

The announcement comes after Jain held a meeting with NEERI Director Rakesh Kumar. IIT (Bombay) has also been engaged by NEERI for design and solutions.

Pollutant-loaded air continued to hang heavy in the national capital ahead of Diwali, when pollution is likely to peak, prompting authorities to urge residents to refrain from bursting firecrackers which they said emit cancer-causing smoke.

"We also plan to install a mist fountain at one intersection. We can bring down PM 2.5 and PM 10 in the air by using mist fountain," Jain told reporters.

He said that in Pune, air purifiers have been installed where there have been good results and they can be set up at the central verge of the roads.

"Air treatment system will in place one-and-a-half months. The system will help bring down air pollution in Delhi in winter months as pollution is at its peak in December and January," said a senior government official.

The minister has appealed the residents of Delhi not to burst firecrackers in Delhi to make the city's air clean.

Nearly all the monitoring stations active in the city, cutting across agencies, had PM 2.5 and PM 10 (ultrafine pollutants) several times above the safe limit of 60 and 100 micrograms per cubic metre, keeping the air in the very poor category.

For the second consecutive day, pollutants (PM 10) in Anand Vihar shot up nine times above the safe limit when checked in real-time around 12 PM as per the Delhi Pollution Control Committee (DPCC).

Central Pollution Control Board's (CPCB) Punjabi Bagh, RK Puram stations had AQI in the severe category which affects healthy people and seriously impacts those with existing diseases.

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3 days to Diwali, city air quality at season lowest

Date: 28th October, 2016 Source: The Times of India

NEW DELHI: Delhi was shrouded in dense smog as pollution levels spiked massively in different parts of the city on Thursday morning, making it the most polluted day of the season so far.

Anand Vihar recorded PM 2.5 (fine, respirable pollution particles) levels of over 500 micrograms per cubic metre between 5am and 11.30am, more than eight ti mes the safe limit. Both R K Puram and Mandir Marg recorded PM 2.5 levels at more than 250 micrograms during the same hours.

Delhi's air quality index, released by the Central Pollution Control Board (CPCB), stood at 355, which is in the "very poor" range and inching closer to the poorest "severe" category (400 and above). The AQI at different hours of the day touched the danger mark of 500 or 'severe' at several locations such as Anand Vihar, R K Puram and Punjabi Bagh.

The current 'very poor' levels of air quality in the city could cause respiratory illness on prolonged exposure while `severe' levels could affect healthy people and seriously impact those with existing health conditions, says the health advisory associated with these categories.

One of the reasons for the spike in pollution was the calm wind condition as the horizontal and vertical wind speed at most locations ranged from 2 metres per second to 0.2 metres per second. Air quality

experts said local sources such as heavy Diwali traffic and waste burning are also contributing to poor air quality in a big way.

Meanwhile, an analysis of crop fires in north India -especially Punjab and Haryana -showed massive fires all through last week. DPCC's analysis of air pollution levels (24hour average) between October 17 and October 25 showed PM 10 (coarse pollution particles) to be over 250 micrograms per cubic metres on most days which is more than twice the safe standard. PM 2.5 levels also remained well over 120 micrograms per cubic metres.

This severe build-up of air pollution will only mean very toxic air quality during Diwali and later. "It's not that only Delhi is affected. Look at other cities in the Indo-Gangetic plains. The entire region is suffering. The conditions in Delhi are becoming calm which means we are going to have a heavily polluted Diwali," said a senior official from the Delhi Pollution Control Committee.

On Thursday, Agra and Faridabad also reported `very poor' air quality while Kanpur reported 'severe' levels, according to CPCB. TOI had reported on October 25 that the wind pattern is likely to change just before Diwali making it very calm and conducive for accumulation of pollution particles closer to the surface. Emission sources within the city are also to blame."This traffic intensity is absolutely insane, it's visible to everyone. CPCB is beginning to see a spike in nitrogen dioxide levels which is clearly linked to traffic emissions. Most complaints coming to the hawa badlo app are related to waste burning. What is the government doing about it?" said Anumita Roy Chowdhury, head of Centre for Science and Environment (CSE's) clean air campaign. "There are also industrial sources and the Badarpur power plant which are both pollution sources within the city. The personal exposure of Delhiites is huge because we are close to several emission sources," Chowdhury said.

In such conditions, several global cities issue emergency directions to shut down certain sources of pollution.

Neither Delhi or the Centre has a policy in place to issue health warnings despite deliberations on the subject for a couple of years now.

Delhi's air quality at season’s worst, staying indoors advised

Date: 30th October, 2016 Source: The Times of India



NEW DELHI: Delhi's air quality recorded "severe" levels on Saturday, a day before Diwali. A pall of smog was hanging over the city since morning.

As forecast by IMD and SAFAR, the wind speed was very low, touching zero at times, which caused pollutants to accumulate very close to the surface. The Delhi government, meanwhile, blamed the high pollution levels on the farm stubble burning in Punjab and Haryana. On Saturday, it shared a NASA image from October 26 showing crop fires in these states.

"Agricultural fires in the fields of neighbouring states, particularly Punjab and Haryana, are a major contributor in the deterioration of ambient air quality, which will accentuate due to inversion and calm meteorological conditions currently prevailing," a Delhi government statement said. Environment minister Imran Hussain reiterated his appeal to the residents to stay away from crackers on

Diwali. The government had seized illegally-imported crackers at Qutab Roa, Moti Nagar, Rajouri Garden and Patel Nagar recently.

This is the first time this season that the overall AQI (Air Quality Index) for the city recorded severe. A pollution emergency occurs when AQI is severe—even healthy people can be affected by such high levels of PM 2.5 (fine, respirable pollution particles). It can seriously affect those with existing health conditions.

A 24-hour average pre-Diwali monitoring for three residential areas—RK Puram, Mandir Marg and Punjabi Bagh between 6am on October 28 and 6 am on October 29—showed the PM 2.5 average to be higher than 250 micrograms per cubic metres at RK Puram and Punjabi Bagh, more than four times the national safe standard and 10 times the WHO benchmark. The PM 10 average was 543 at RK Puram, which is five times the national safe standard and about 10 times the WHO cut-off mark.

"IMD had forecast that wind speed is going to drop and SAFAR had predicted air quality will be severe. The government should have issued a health advisory, urging people not to burn any crackers. Soft messages don't work," said Anumita Roy Chowdhury, head of CSE's clean air campaign. "There is enough evidence now that such high levels of pollution aggravate existing conditions and trigger heart attacks, strokes and other respiratory issues. In fact, pollution is responsible for more than 50% of heart attack cases."

SAFAR advised people to avoid all outdoor physical activity. People with heart or lung disease, older adults, and children should remain indoors and keep activity levels low, it said.

"There is health warning for emergency conditions and serious risk of respiratory effects in general public," it said.

The health ministry's steering committee report on air pollution lists mortality due to cardiovascular and respiratory disease, chronic respiratory disease incidence (asthma, COPD, etc), lung cancer, chronic cardiovascular disease, among others as a result of long-term exposure to high levels of pollution.

If AQI continues to be severe for the next couple of days, it would fall below Beijing's red alert category when the Chinese capital shuts schools and industries, reduces power plant emissions and restricts car usage.

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300 million children live in areas with extreme air pollution, data reveals

Date: 31st October, 2016 Source: The Guardian



Global study reveals huge number of children breathing toxic fumes more than six times over safe limits, while billions are affected by air pollution that exceeds guidelines

Three hundred million of the world's children live in areas with extreme air pollution, where toxic fumes are more than six times international guidelines, according to new research by Unicef.

The study, using satellite data, is the first to make a global estimate of exposure and indicates that almost 90% of the world's children - 2 billion - live in places where outdoor air pollution exceeds World Health Organisation (WHO) limits.

Unicef warned the levels of global air pollution contributed to 600,000 child deaths a year – more than are caused by malaria and HIV/Aids combined. Children are far more vulnerable to air pollution, Unicef warned, pointing to enduring damage to health and the development of children's brain and urging nations attending a global climate summit next month to cut fossil fuel burning rapidly.

"The magnitude of the danger air pollution poses is enormous," said Anthony Lake, Unicef's executive director. "No society can afford to ignore air pollution. We protect our children when we protect the quality of our air. Both are central to our future."

Air pollution is world's single biggest environmental health risk, according to the World Health Organisation (WHO), and is getting worse, with levels of toxic air rising 8% in the last five years. More than 3 million people a year die as a result of outdoor air pollution – six every minute on average – and this is set to double by 2050 as fast growing cities expand. Indoor air pollution, mainly from wood or dung stoves, causes another 3 million deaths a year.

Children are especially at risk, the Unicef report says, because they breathe more rapidly than adults and the cell layer in their lungs is more permeable to pollutant particles. The tiny particles can also cross the blood-brain barrier, which is less resistant in children, permanently harming cognitive development and their future prospects. Even the unborn are affected, as the particles inhaled by pregnant women can cross the placental barrier, injuring fetuses.

Prof Jos Lelieveld, at the Max Planck Institute in Mainz, Germany, said the report was excellent: "Air pollution is typically a problem in developing countries, where infants have little resistance due to poor nutrition and where health care is insufficient."

The Unicef study combined particle pollution data from a range of satellites with ground-level monitors to estimate the number of children in polluted areas. Of the 300 million exposed to levels of pollution six times over WHO limits, 220 million live in south Asia, where India hosts many of the world's most polluted cities.

Another 70 million children living with very toxic air live in east Asia, mainly in China. But more children are exposed to air pollution levels above the WHO limit in Africa - 520 million - than in east Asia.

The air pollution crisis is worst in low and middle income nations, where 98% of cities do not meet WHO guidelines, but over half the cities in rich countries also fail to meet the guidelines. In Europe, 120 million children live in areas where outdoor air pollution exceeds international limits, and 20 million suffer levels over double the limit.

Dr Penny Woods, chief executive of the British Lung Foundation, said: "In the UK, we know that children's health is being put at risk every day by unsafe levels of pollution in many of our towns and cities. At least 3,000 schools are located within illegal levels of pollution. Yet very few of these schools have monitors around them. It's time for the government to enact a new clean air act to tackle this modern pollution problem and protect all our health."

In the report, Unicef urges all countries to cut air pollution by reducing fossil fuel burning in power plants and vehicles, which also helps tackle climate change. This double benefit has led to significant action in China in recent years. Tackling air pollution is also cost-effective: the World Bank estimates that the welfare losses from air pollution are more than $5tn a year.

Unicef also recommends minimising children's exposure by ensuring sources of pollution such as busy roads and factories are not sited near schools and playgrounds and by the roll-out of cleaner cooking stoves.

NOVEMBER 2016

High court rules UK government plans to tackle air pollution are illegal

Date: 2nd November, 2016 Source: The Guardian



Court rules for second time in 18 months that the government is not doing enough to combat the national air pollution crisis

The government's plan for tackling the UK's air pollution crisis has been judged illegally poor at the high court, marking the second time in 18 months that ministers have lost in court on the issue.

The defeat is a humiliation for ministers who by law must cut the illegal levels of nitrogen dioxide suffered by dozens of towns and cities in the "shortest possible time".

Legal NGO ClientEarth, which brought the case, argued that current plans ignore many measures that could help achieve this, placing too much weight on costs. On Wednesday Mr Justice Garnham agreed. He also said ministers knew that over-optimistic pollution modelling was being used, based on flawed lab tests of diesel vehicles rather than actual emissions on the road.

The government said it would not appeal against the decision and agreed in court to discuss with ClientEarth a new timetable for more realistic pollution modelling and the steps needed to bring pollution levels down to legal levels. The parties will return to court in a week but if agreement cannot be reached, the judge could impose a timetable upon the government.

At prime minister's questions, Theresa May indicated that the government would respond positively, with new proposals: "We now recognise that Defra [the Department of Environment, Food and Rural Affairs] has to look at the judgement made by the courts and we now have to look again at the proposals we will bring forward. Nobody in this house doubts the importance of the issue of air quality. We have taken action, there is more to do and we will do it."

Air pollution causes 50,000 early deaths and £27.5bn in costs every year, according to the government's own estimates, and was called a "public health emergency" by MPs in April.

James Thornton, CEO of ClientEarth, said: "The time for legal action is over. I challenge Theresa May to take immediate action now to deal with illegal levels of pollution and prevent tens of thousands of additional early deaths in the UK. The high court has ruled that more urgent action must be taken. Britain is watching and waiting, prime minister."

He said the increased action required would very likely include bigger and tougher clean air zones in more cities and other measure such as scrappage schemes for the dirtiest vehicles: "The government will have to be tougher on diesel."

The mayor of London, Sadiq Khan, who took part in the case against the government, said: "Today's ruling lays the blame at the door of the government for its complacency in failing to tackle the problem quickly and credibly. In so doing they have let down millions of people the length and breadth of the country."

A spokeswoman for Defra said: "Improving air quality is a priority for this government and we are determined to cut harmful emissions. Our plans have always followed the best available evidence - we have always been clear that we are ready to update them if necessary. Whilst our huge investment in green transport initiatives and plans to introduce clean air zones [in six cities] around the country will help tackle this problem, we accept the court's judgment. We will now carefully consider this ruling, and our next steps, in detail."

ClientEarth defeated the government on the same issue at the supreme court in April 2015. Ministers were then ordered to draw up a new action plan, but now that new plan has also been found to be illegal.

Documents revealed during the latest case showed the Treasury had blocked plans to charge diesel cars to enter towns and cities blighted by air pollution, concerned about the political impact of angering motorists. Both the environment and transport departments recommended changes to vehicle excise duty rates to encourage the purchase of low-pollution vehicles, but the Treasury also rejected that idea.

Documents further showed that the government's plan to bring air pollution down to legal levels by 2020 for some cities and 2025 for London had been chosen because that was the date ministers thought they would face European commission fines, not which they considered "as soon as possible".

There had been a draft government plan for 16 low emission zones, which polluting vehicles are charged to enter, in cities outside London but the number was cut to just five on cost grounds.

All these proposals will now be revisited. Thornton said a national network of clean air zones needed to be in place by 2018. "If you put in clean air zones, it works overnight."

Dr Penny Woods, chief executive of the British Lung Foundation, said: "We urgently need a new clean air act that restricts the most polluting vehicles from our urban areas and protects everyone's lung health – air pollution affects all of us."

Sam Hall, at conservative thinktank Bright Blue, said there should be more power and funding devolved to local authorities to enable all English cities to set up clean air zones and more support for electric cars.

Keith Taylor, Green party MEP, said: "The failure highlighted by the judge today is as much moral as it is legal: ministers have displayed an extremely concerning attitude of indifference towards their duty to safeguard the health of British citizens."

As pollution soars in Gurgaon, you need to stay indoors

Date: 3rd November, 2016 Source: Hindustan Times



Thick smog covered the city on November 2, affecting visibility, and the Central Pollution Control Board (CPCB) marked the air quality as 'severe' as its data showed PM2.5 level reaching 727 micrograms per cubic metre (µg/m³) by 2pm, up 12 times from the permissible limit of 60 µg/m³..

However, the average concentration of PM2.5 over 24 hours was 427.5 µg/m³, according to the CPCB that is provided data by the Haryana State Pollution Control Board (HSPCB).

PM2.5 is suspended particulate matter 2.5 micrometres or less in diameter and is a major component of what constitutes air pollution. As it is very fine, it can settle in the lungs and worsen asthma and other respiratory problems.

The Hindustan Times had on October 31 reported that PM2.5 was at 785µg/m³ on the night of Diwali a day before, 13 times above the permissible limit. At present it still persists around the same level even as smog covers the city and impacts both visibility and health. .

According to Anumita Roychowdhury, executive director of research and advocacy at the Centre for Science and Environment (CSE), "This happens every year during this time as several factors combine to contribute to the growing air pollution level in the region. The low temperature and calm air cause 'inversion', which leads to polluted particles remaining trapped near the ground. The toxic smoke mixed with fog causes smog that persists in the atmosphere. .

"Also, smoke from paddy burning and emissions from vehicles add to the pollution level," she said. .

Roychowdhury, also the head of the air pollution and clean transportation programme at CSE, added that this situation will remain unchanged for a few days as the temperature will reduce further and the pollutants already trapped in the atmosphere will not be able to move up and disperse as the air is thicker.

Vijay Chowdhary, senior environmental engineer, HSPCB, said, "We are not expecting the air to clear up soon. The sky is covered with smog and visibility will be affected in the region." .

He added that apart from the suspended particulate matter, gases such as carbon dioxide, carbon monoxide and nitrogen compounds comprise most pollutants in the air.

There is no silver bullet to fight air pollution

Date: 4th November, 2016 Source: The Economics Times



As people inhale pollution rather than air in the national capital region, it is time to revisit the sufficiency and efficacy of administrative mechanisms and pollution abatement interventions. While it is important to impress on people the need to drastically cut down on Diwali firecrackers, there is a need to move away from an approach that focuses on a single polluting source. Satellite pictures reveal that crop burning in adjoining states is the major driver of the drastic drop in air quality in the national capital region. Large-scale trash-burning across the city is another factor. .

Firecrackers burst during Diwali tipped the scale. Yet, the focus of the pre-Diwali anti-pollution drive was solely on firecrackers. This approach has to change. Pollution is not a single-source problem. Nor is the contribution of each source to pollution the same through the year. Institutionalising seasonal and regular pollution apportionment studies, conducted by qualified institutions, should become a priority. More data will enable designing better solutions and result in innovation and policies that would minimise the production of pollutants. Improving air quality cannot be the responsibility of any single government or authority, nor can efforts to address air pollution be limited to one geographical or administrative jurisdiction. .

The central government together with states, local authorities and all relevant agencies have to work together. The citizenry must mobilise itself to spot and check the burning of trash, for example. Improving air quality cannot be a sporadic activity, triggered by a spike in the level of pollutants. Combating pollution calls for continuous effort, backed with strong environment regulation and adoption of practices that curb pollution at source. Conscious citizen action is a must.

Odd-even missing in Delhi govt's latest plan to combat air pollution

Date: 4th November, 2016 Source: Hindustan Times



The Delhi government unveiled on Tuesday a raft of measures to control an alarming spike in pollution, shifting attention from vehicular emissions to other sources that impact air quality such as crematoriums and construction and waste disposal sites in the capital.

Deputy chief minister Manish Sisodia said there is no plan to reintroduce the odd-even scheme, a twice-experimented vehicle rationing project which, experts said, failed to bring down pollution levels earlier this year.

Sisodia's announcement came after he spoke to officials from several departments amid a surge in post-Diwali pollution that has left the city-state blanketed by a thick layer of toxic smog, triggering warnings that even healthy people were at risk of respiratory problems.

Multiple monitoring agencies put the air quality index at "severe", a level at which there is a dense concentration of particulate matter (PM 2.5), tiny particles that can pass through the body's filters and penetrate the lungs. The level of PM 10, slightly larger in size, also remained alarming. Experts blame PM 2.5 for a host of ailments, ranging from minor respiratory problems to reduced lung function and even cancer.

Sisodia said the government has also asked the public works department (PWD) to re-introduce within two weeks vacuum cleaning and sprinkling of water on 1,250 km of roads. "By doing this, we can control dust particles. In several countries, such technology is being used to curb dust pollution," he said two days after the city recorded the worst Diwali night pollution in three years.

He added that the Delhi Pollution Control Committee (DPCC) has been asked to carry out regular inspections at construction sites with more than 20,000-square metre area.

"Over 90% of dust pollution comes from the construction, sites which need to be regulated. There are 61 major construction sites in Delhi, there are several small such sites and most of them violate laid down rules," he said. Sisodia said the government will install chimney smoke-tappers to control emission at 75 cremation grounds where wood is used as the fuel.

Apart from this, the government also decided to introduce controlled burning at garbage dumps, identified as major sources of harmful air pollutants. The new measures were announced a few days after government said it will install giant air purifiers and mist sprayers at busy road junctions in the metropolis of 16 million people, identified as among the most polluted cities in the world.

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5 interesting inventions to curb air pollution

Date: 5th November, 2016 Source: The Times of India

As we are grappling with toxic air, here are a few interesting inventions from across the globe aimed at curbing the air pollution:

1. Smog-free towers

Dutch artist Daan Roosegaarde has proposed an innovative plan to tackle air pollution. The smog is first sucked up by a 7m tall tower, which cleans the polluted air at a nano-level. While clean air is released into open spaces like parks, the carbon collected is put under pressure for 30 minutes, converting it into diamonds. The money raised by selling these diamonds can then be used to create more such towers.

2. Giant sprinklers

Yu Shaocai, a Chinese scientist, came up with the idea of installing giant sprinklers to clear the air. The recently proposed idea can be a radical new solution that could help clear the toxicity of air. The giant sprinklers will spray water into the atmosphere of heavily-polluted cities.

3. Photosynthesis bike

This idea was developed by Bangkok-based Lightfog Creative & Design Company. This could actually purify polluted air as one pedals around the city. This bike's aluminum frame is designed in such a way that generates oxygen through a "photosynthesis system". The oxygen released then initiates a reaction between water and electric power from a lithium-ion battery. A filter placed between the handlebars would strip particulate matter from the air and release clean air toward the rider.

4. Air-purifying billboard

This billboard developed by the University of Engineering and Technology of Peru (UTEC) sucks pollution from the sky and returns purified air to the surrounding areas. UTEC claims the billboard is very effective in removing dust, metal and stone particles" that contaminate air spaces around construction zones.

5. Clean air bubble

This air bubble developed by a Chinese company called the Orproject consists of a very large sealed canopy that would contain plenty of fresh air. The bubble would cover certain parks or other public areas within the metropolis and would ensure a comfortable temperature and humidity within.

Panic in the air: Pollution masks, purifiers fly off shelves in Delhi

Date: 5th November, 2016 Source: The Economics Times

NEW DELHI: Severe pollution has brought along fear and panic in Delhi's air: schools are cancelling outdoor activities, parents are mulling relocating or sending children away to boarding schools, and air purifiers and pollution masks are flying off the shelves like never before.

Popular websites and chemists have either run out of masks or are loaded with orders for masks and air purifiers even as air quality in the national capital has plunged to hazardous levels since the start of

Diwali celebrations and scientists have predicted no significant improvement for at least a couple of more days.

Medicine.com, a popular chemist shop in Greater Kailash in south Delhi, ran out of stock of Vog masks priced Rs 2,200 apiece in just one day after Diwali. "This is not a season for air masks. This is the first time we are seeing a demand in November itself. We were not prepared for this surge in demand," said Rajesh Kumar, owner of the shop.

Amazon.in said sales of pollution masks have jumped six times in the last few days with customer demand being 13 times more than last year, with demand coming mostly from northern India led by Delhi. The highest number of orders for pollution masks were placed by customers on November 1, a day after Diwali, a company spokesperson said. Dettol Air Protect mask is the bestseller on Amazon followed by Atlanta Healthcare Cambridge N99 mask.

Air purifier sales on Amazon last month was three times more than in September and four times the sales in October 2015. "About 50% of our orders are coming from customers belonging to cities like Delhi, Gurgaon and Bengaluru apart from other metros.With the onset of winters and the growing smog/fog situation in cities during this time of the year, we expect the customer demand for air purifiers to peak over the next three months," Amazon spokesperson said. Bursting of crackers during Diwali worsened the capital's already poor air quality impacted by construction activities, road traffic and burning of crops in neighbouring states among other causes.

According to System of Air Quality and Weather Forecasting and Research (Safar) under Indian Institute of Tropical Meteorology, Pune, levels of particulate matter 2.5—or fine particles smaller than 2.5 micrometres—over Delhi was 449 microgram per cubic metre on Thursday. This number is significantly higher than the worst 'severe' category listed on Safar website at 251-350. Levels of PM10 particles was at 564 on Thursday while Safar's worst 'severe' category is 450-550.This has prompted doctors to warn people, particularly children, elderly and those with lungs and heart conditions, to stay indoors.

"Children are easy victims of the pollution as their lungs are growing and they have higher cell division, so pollutants find more space in them," said Dr Vivek Jain, head of department of neonatology at Fortis Hospital. Sanskriti School in Chanakyapuri has cancelled outdoor trips organised for its students due to the high air pollution levels.

Ritu Singh Deo, mother of Sankriti student Jaivardhan, said she is seriously looking at putting her 10-year-old in a boarding school away from the city due to air pollution. Another parent, Pooja Sabharwal, and her husband are planning to relocate out of Delhi, because their daughter is allergic to dust.

Ameeta Mulla Wattal, principal of Springdales School in New Delhi, said, "We are telling parents that if their children are asthmatic or have allergies, they children can stay at home for the time being."

Air pollution touches alarming level in Rajasthan

Date: 6th November, 2016 Source: The Times of India

JAIPUR: Sriganganagar, Kota and Bundi districts have the highest density of air pollutants in the state as per the latest satellite data released by the Central Pollution Control Board (CPCB) in Delhi at a meeting with state pollution control boards on Friday. .

According to Rajasthan Pollution Control Board (RPCB) officials, the burning of crops in Punjab and Sriganganagar district has made the situation alarming in northern Rajasthan. In fact, the air quality has touched to the scale of 'alarming.' This means it's dangerous for those having breathing problems. .

"The thick layer of smog is likely to continue in the northern districts till the situation turns normal in Delhi and Punjab. The burning of crops is banned in Rajasthan. There's need to take firm action elsewhere as the smoke spreads to other areas in the state," said a RPCB official requesting anonymity. .

The impact of Punjab is evident on the air quality of Jodhpur which shows 360 on the air quality index (AQI). An AQI of 100 is considered normal. .

After Diwali, the air quality in Jaipur has registered a pollution level of 235. This is considered 'poor' as per the air quality index and 2.5 times worse than the normal. .

Officials claimed that in a day or two the situation would be brought under control and Jaipur would have moderate or good air quality. .

The air quality in Kota and Bundi has gone for a toss due to the smoke emitted by industrial units. In fact, Kota along with Jaipur, Alwar and Jodhpur comes in the top 100 polluted cities in the country. Rising vehicular density has further aggravated the situation in these districts. .

"We have been raising this issue for long. All we can do at the citizen's level is to plant trees to absorb carbon dioxide absorbs making air cleaner," said environmentalist Vishnu Lamba.

Sprinkle Water on Roads to Contain Air Pollution: NGT to Delhi Govt

Date: 7th November, 2016 Source: NEWS 18



New Delhi: Lashing out at Delhi government for not taking timely preventive steps to tackle air pollution in the national capital, the National Green Tribunal (NGT) on Monday asked it to sprinkle water on roads to contain dust, even by using choppers.

"What preventive steps did you take on air pollution in national capital? We want to know from you why didn't your authorities sprinkle water on roads earlier? Why can't you use helicopters to create artificial rain to control dust pollution. Are they only meant to carry your officials," asked a bench headed by NGT Chairperson justice Swatanter Kumar.

The observations came as the bench was about to start the day's proceedings, saying the smog, which has continued to engulf the capital for the eighth day on Monday, was affecting the health of people, especially children, and the AAP government should take some immediate steps to handle the situation.

The tribunal also came down heavily on the neighbouring states of Punjab, Haryana and Rajasthan over crop burning in their areas and asked them to take strict action against the violators.

"What are you doing to control crop burning in your states? 70 per cent of agricultural land is burning in Punjab.

Don't you owe some responsibility? People are dying out of air pollution and you are doing nothing.

"All the states are shifting burden from one to another. You people don't worry about people's health. Children are not able to go out of their houses due to the smog. See, what have you done to Delhi," the bench said.

The NGT said that NASA has taken images to show that crop burning was responsible was the smog in the national capital and asked the state governments to use their energy to implement its directions, rather than "shifting caps".

The NGT asked civic bodies to ensure that construction materials are not kept on the roads and directions passed by it earlier on this be implemented strictly.

The matter was listed for next hearing on Tuesday. Earlier, the tribunal had castigated the Centre and AAP government for "shifting blame" and not taking steps to tackle the alarming pollution levels in Delhi, dubbed as the worst in 17 years.

Terming the situation as akin to that of an "emergency", the NGT had observed that the Centre, Delhi government and other authorities were "not bothered" about the rising air pollution level and its consequences on the health of citizens of Delhi but instead "shifting the blame on each other".

Foreign delegates wear mask to protect them from air pollution

Date: 7th November, 2016 Source: Business Standards

With Delhi and NCR area air quality plunging due to high level of air pollution, foreign delegates at a global health conference on tobacco control at Greater Noida today were seen wearing masks. .

Participants and delegates arriving at the 7th Session of the Conference of Parties (COP7) to World Health Organisation (WHO) Framework Convention on Tobacco Control (FCTC), which kicked off at Greater Noida today were seen wearing protective masks or protecting their nose with a cloth. .

Giovanni Castillo, Ambassador of Guatemala said that given the present situation, he had to get a protective mask from the embassy while coming to the conference venue.

"I came from the Caribbean where the air is clean and fresh. Given the kind of pollution in the national capital, I am wearing the protective mask," Castillo said.

Another delegate from Syria, who refused to be identified, was also seen coming out of the bus with her mouth and nose covered with a cloth.

She said that she was informed about the bad quality of air which is why she used the cloth to protect her mouth and nose as a precautionary measure.

Many other delegates were seen wearing protective masks while arriving at the venue.

Green body Centre for Science and Environment (CSE) had recently said that according to the India Meteorological Department, this is the worst smog with very poor visibility in 17 years.

In Delhi, there has been no respite from the choking haze of pollution since Diwali.

Analysis of air pollution data from the Delhi Pollution Control Committee shows that on Diwali day (October 30) the air was already saturated - the 24-hour average level of PM2.5 was 347 microgramme

per cubic metre (cu m) and was at 'severe' level which is the worst category according to the air quality index.

This further increased significantly post-Diwali when on November 2 the 24-hour average levels shot up to 577 microgramme per cu m. Yesterday - almost a week later -- it was far worse at 639 microgramme per cu m.

The peak levels were even more horrendous and not breathable. On November 5, the four hour averages (12 noon - 4 pm) of peak levels were as high as 732 microgramme per cu m in Punjabi Bagh, 762 microgramme per cu m in Mandir Marg and 566 microgramme per cu m in R K Puram, CSE had said.

Total Ozone increases worldwide due to rise in equatorial air pollution

Date: 9th November, 2016 Source: Indian Express



Total ozone worldwide has increased due to rise in air pollution near the equator; compared to amount of pollution being emitted

Increase in air pollution in the regions near the equator has led to the formation of more total ozone worldwide, compared to the amount of pollution being emitted, researchers have found.

"Emissions are growing in places where there is a much greater effect on the formation of ozone," said lead researcher Jason West, Associate Professor at University of North Carolina.

The reason is that ozone, a greenhouse gas and toxic air pollutant, is not emitted but forms when ultraviolet light hits nitrogen oxides (basically combustion exhaust from cars and other sources).

When these pollutants interact with more intense sunlight and higher temperatures, the interplay speeds up the chemical reactions that form ozone.

Higher temperatures near the equator also increase the vertical motion of air, transporting ozone-forming chemicals higher in the troposphere, where they can live longer and form more ozone, the researchers said.

"A tonne of emissions in a region close to the equator, where there is a lot of sunlight and intense heat, produces more ozone than a tonne of emissions in a region farther from it," West explained

The study showed that China's emissions increased more than India's and Southeast Asia's from 1980 to 2010. But, Southeast Asia and India, despite their lower growth in emissions during this period, appear to have contributed more to the total global ozone increase due to their proximity to the equator.

"Our findings suggest that 'where the world emits' is more important than 'how much it emits'," West added.

The study provides a much-needed path forward on where in the world to strategically reduce emissions of pollutants that form ozone, which when present in the lower atmosphere, or troposphere, is one of the primary causes of air pollution-related respiratory problems and heart disease.

However, Owen Cooper from the University of Colorado-Boulder, in the US said: "Even if there is a net reduction in global emissions, ozone levels may not decrease if emissions continue to shift toward the equator."

"But, continuing aircraft and satellite observations of ozone across the tropics can monitor the situation and model forecasts can guide decision-making for controlling global ozone pollution," Cooper noted.

The study appears in the online issue of the journal Nature Geoscience.

To combat air pollution, NGT comes out with a range of directions

Date: 10th November, 2016 Source: The Hindu



The National Green Tribunal (NGT) on Thursday passed a slew of directions, including the setting up of centralised and State level monitoring committees, to prepare action plans to combat pollution.

Terming "severe" levels of pollution when PM 10 and PM 2.5 are above 431 and 251 in the ambient air, a bench headed by NGT chairperson Justice Swatanter Kumar asked Uttar Pradesh, Punjab, Haryana and Rajasthan to consider banning 10-year-old diesel vehicles from plying on the roads.

The NGT directed that every State committee should, in their first meeting, notify one district where land use of agriculture is high and make it a model district for implementing orders to stop stubble burning.

"When air pollution enters alarming or 'severe' levels, immediate steps are required to be taken as environmental emergency. According to experts when PM 10 and PM 2.5 are above 431 and 251 micrograms per cubic metre respectively, then it is the situation of severe emergency in the ambient air," the bench said.

In such situations, helicopters should be used to sprinkle water in the Delhi-NCR region, especially in those areas where pollution levels are in excess of the prescribed standard limits, the bench said.

Coming down heavily on States for not taking action against farmers burning farm residues, NGT asked them, particularly Punjab, to consider withdrawal of incentive including grant of free power to farmers burning crops.

"In such emergency, States shall immediately provide happy seeders or other such machines in agriculture fields for removal of agriculture residue and incentives should be provided to farmers to sell their paddy straw to biomass plants, industries and board making unit. All construction and demolition activities and transportation of construction material should be halted temporarily and stone crushers should be directed to shut down," it said.

Providing breathable air to citizens is the "constitutional" obligation of the State governments, the NGT observed and directed them to install air purifiers in government schools.

“If thermal power plants, hot mix plants and brick kilns are found to be emitting pollution more than the prescribed standards during an emergency situation, they should be shut down temporarily till they reduce level of emissions,” the bench said.

“All five State governments shall start vacuum cleaning of roads to prevent dust pollution and vehicular pollution,” the bench said while asking Delhi to strictly enforce their existing order on deregistering diesel vehicles older than 10 years and petrol vehicles older than 15 years.

The panel directed the inter-State central monitoring committee and State committees to enforce their orders on vehicular pollution, dust pollution, solid waste and crop burning.

While the Central monitoring committee would meet once in two months starting from November 17, the State level committees would conduct meetings every month starting November 24, it directed.

Tourism Industry Fears Losing Delhi, Agra, Jaipur To Rising Air Pollution

Date: 10th November, 2016 Source: NDTV



The Delhi smog has resulted into a fall in the number of tourists, especially from foreign countries

The Delhi tourism industry fears losing the Golden Triangle of Delhi-Agra-Jaipur from the list of 'must-see' places if the air quality in the capital does not improve soon. The industry gears up for business with the onset of winter. However, the alarming air pollution levels in the capital this year have resulted into a fall in the number of tourists, especially from foreign countries.

Olga Smirnova from Russia said that she was disappointed to see Delhi's famous monuments, not because they were not impressive but because she could hardly see them, given the heavy smog.

Ms Smirnova arrived in the capital from Rajasthan on Diwali, following which the capital was shrouded in smog.

"Everywhere they were bursting crackers. The next day the whole city was cloudy," Ms Smirnova said.

The hit taken by the tourism industry this year has become most evident on the Delhi government's Hop-on-Hop-off bus service for tourists.

Surbhi Duttarya, an intern working as a tour guide with the Hop-on-Hop-off buses said that they've seen a fall in the number of tourists over the last week.

Ms Duttarya said that last week, even though some tourists got on to the buses, they chose not to get off into the polluted air. They preferred sightseeing from their bus-seats.

Prianka Sihota, the owner of a tour company called 'The Delhi Way' that takes people on guided tours of Chandni Chowk, Qutub Minar and other markets, said that business has been hit hard.

"Many people are calling us and inquiring about the weather and pollution. They are hesitant to book any tours," Ms Sihota said.

While the last season saw several tours being taken out every day, they are now down to only a few tours a week with multiple booking cancellations, postponements, and even requests for more indoor activities.

Mumbai's air quality worse at night, temperature drops

Date: 12th November, 2016 Source: Hindustan Times



Over the week, concentration of pollutants has been higher during the day than night, said researchers from the System of Air Quality Weather Forecasting and Research (SAFAR) which measures air quality in the city.

Air pollution levels continued to rise for the fifth day in a row as the pollutant measuring indicator – air quality index (AQI) - rose from 243 to 267 by the evening, falling under the 'poor' category. An AQI between 200 and 300 is considered poor and people with heart or lung diseases, older adults and children should reduce prolonged or heavy exertion.

An AQI of 265 (poor) was predicted in the city for Saturday and researchers said 'poor' pollution levels are likely to continue for another week.

SAFAR officials said that a high pollution level during the night due to a drop in temperatures was affecting the overall 24-hour air quality average for Mumbai. "The trend is generally observed during December and January in Mumbai, but this year it has begun from November itself," said Neha S Parkhi, senior programme officer, SAFAR. "With combined weather factors such as low temperatures currently over the city and calm winds, the buildup during the night time has increased. However, solar radiation during the day and a marginal increase in wind speed allows the pollution boundary layer to be away from the surface."

For the second day in a row, the minimum temperature recorded at 5.30am at the Santacruz weather station, representative of Mumbai, was 16.4 degrees Celsius, 5.5 degree Celsius below normal, which was the lowest November night temperature since 2012. "With cold winds from northern parts of the country and an upper-air circulation over north-western India, cold wave conditions have prevailed over the northern parts of the state with below-normal temperatures both at the suburbs and south Mumbai," said KS Hosalikar, deputy director general, western region, India Meteorological Department (IMD). "We expect temperatures to continue at this level for the next three days."

Parkhi added that citizens should avoid heavy exertion from the evening onwards. "The boundary pollution layer is closer to the earth's surface and can cause issues for people with already existing lung ailments," said Parkhi.

From Monday onwards, the city saw a gradual rise in AQI levels at 216 (poor) to 267 (poor) till Friday with locations such as Malad, Andheri, Bandra Kurla Complex and Navi Mumbai, being the most polluted across Mumbai.

On Friday, four out of 10 locations in Mumbai where SAFAR forecasts and monitors air quality recorded 'very poor' AQI levels, and the remaining six locations fell under the 'poor' category.

Meanwhile, day temperatures both at the suburbs and south Mumbai were more than a degree Celsius above normal and the night temperature at Colaba was 21.8 degrees Celsius, 1.8 degree Celsius below

normal. Locations such as Nasik, Pune and Badlapur recorded the lowest night temperatures in the state at 8.8 degrees Celsius, 9.4 degrees Celsius and 13.5 degrees Celsius in the last 24 hours.

Delhi: NGT directs traffic police to ensure free flow of traffic

Date: 13th November, 2016 Source: Indian Express



It also made it clear that all amounts collected for environmental compensation should be utilised only for the purpose of prevention and control of air and water pollution.

Nearly three lakh litres of petrol is burnt by vehicles stuck in traffic snarls or red lights in the national capital every day, the National Green Tribunal has noted. Directing the traffic police and other authorities to ensure there is no congestion on the roads in New Delhi, a bench headed by NGT Chairperson Justice Swatanter Kumar said any person who violates the directions of the tribunal on vehicular pollution should be strictly made liable for payment of environmental compensation.

It also made it clear that all amounts collected under NGT orders for environmental compensation should be utilised only for the purpose of prevention and control of air and water pollution.

"We have already noticed in our judgement that on the basis of the data available, nearly three lakh litres of petrol is burnt in NCT of Delhi every day by stationery vehicles in the traffic jam or the traffic light… The Traffic Police, Public Works Department and all public authorities shall ensure that there is free flow of traffic and there are no undue jams on the traffic lights or otherwise," the bench said.

It also directed the Delhi government, Delhi Development Authority and municipal corporations to ensure that all parks, flyovers, roads around the government buildings are full of greenery to raise oxygen availability by 20 per cent.

"It will help a large number of people to breathe fresh air. Efforts should be made to cover open land with green grass," the bench said. The NGT had earlier passed a slew of directions including setting up centralised and state level monitoring committees to prepare action plans to combat pollution in a bid to tackle environment emergencies.

It had directed that whenever air pollution reached severe levels, Delhi and its four neighbouring states would have to take a set of emergency measures including sprinkling water from choppers, stopping construction activities and shutting down polluting power plants and gensets.

Concerns over acid rain helped Cold War relations, historians say

Date: 18th November, 2016 Source: International Business Times

Collaboration on environmental regulations in the 1970s helped to ease international relations between the US and the Soviet Union, a New York University historian has argued.



Environmental science historian Rachel Rothschild argues that a group of scientists and environmental officials in Norway led efforts to cooperate with the Soviet bloc of Eastern European countries on investigating the causes of acid rain.

"Scientific partnerships, spearheaded by Norway, with Eastern Europe's Communist bloc in the 1970s served as a foundation for international cooperation on environmental pollution despite ongoing Cold War frictions," says Rothschild.

The UN Economic Commission for Europe ran the European-Wide Monitoring Programme to investigate the causes of acid rain in the late 1970s.

"Norway capitalised on the openings in the Iron Curtain provided by technological cooperation with the Eastern Bloc to begin earning their support for UN negotiations on acid rain," she writes in the study published in Technology and Culture. Norway gained enough political momentum to through this cooperation to bring Western representatives to the negotiating table in the 1970s, she argues. Building the acid-rain programme helped to warm up icy European relations, as well as boosting international environmental research and policies, she says.

Chukwumerije Okereke, professor in environment and development at the University of Reading in the UK, says that he sees a lot of parallels between examples of climate diplomacy such as this in the 1970s and what is going on today.

"There's a cynical way you can look at it, which is to say you can take environmental diplomacy in the 1970s and close your eyes, and then open them today, and you cannot tell any difference between what's going on in the 1970s and now." The main questions in broader international climate debates outside Europe was then about differences in expectations between countries in the global north and the global south on who would come up with the money to tackle climate change. They are broadly the same questions today, he says.

"The other view is perhaps more positive – there has been a lot of progress and diplomacy has thawed, for example, we now have China cooperating, the US has signed the Paris agreement," Okereke says.

However, with climate diplomacy set to enter a period of turbulence following the election of climate sceptic Donald Trump as US president, American international relations are likely to suffer if it pulls out of the Paris agreement.

EU offers tech expertise to India to combat air pollution

Date: 20th November, 2016 Source: The Economics Times

NEW DELHI: With Delhi and many other cities grappling with increasing pollution, the European Union has offered its best technical expertise to help India combat deteriorating air quality.

Under the initiative, the EU will initially launch a project in three cities in January to help authorities come out with effective measures to reduce pollution. Many top European companies offering clean air solutions will be involved in the project.



EU officials have already held talks with the Centre on roll out of the project. Delhi, which last month recorded worst pollution in nearly 20 years, is likely to be included in the first phase of the project.

The officials, here to finalise the project, said they were trying to get a full picture of how the air quality is managed in the cities facing severe pollution and accordingly best possible solution will be made available.

"The first step will be to understand the air quality management system in India. We are trying to get a full picture about how air quality is managed including stakeholder analysis and regulations and accordingly we will take the next step," said a top EU official involved in the project.

Without divulging much detail, he said broad contours of the project has been finalised, adding raising awareness about pollution will be a major aspect of the initiative.

A recent WHO report on pollution had listed over 30 Indian cities among hundred most polluted globally. Delhi was ranked 11th by the global body among 3,000 cities in 103 countries in terms of PM 2.5.

The WHO had listed four Indian cities among the world's 10 most polluted cities. The government had described the report as misleading.

Many European countries are known for their environment conservation efforts through advanced technologies.

The EU officials said gradually the project will be expanded to many other Indian cities as the grouping was committed to helping India in tackling pollution.

Delhi: Civic bodies, DDA rapped for not taking action on air pollution

Date: 21st November, 2016 Source: Indian Express



Multi-agency coordination on air pollution continues to elude the national capital with action against open burning of waste and violation of construction norms not showing any substantial jump.

Multi-agency coordination on air pollution continues to elude the national capital with action against open burning of waste and violation of construction norms not showing any substantial jump. Delhi Environment Minister Imran Hussain, who reviewed the drive against pollution on Monday, rapped agencies including the civic bodies and DDA for not intensifying their action, especially against those indulging in open burning of waste. However, the East Delhi Municipal Corporation (EDMC) and South Delhi Municipal Corporation's (SDMC) drive against dust pollution has seen an upswing with the bodies imposing 441 and 741 penalties respectively in the last one month.

But there has been next to nil action against open burning of leaves or garbage cutting across agencies, prompting Hussain to express "dissatisfaction" as many have been indulging in such practices.

Special Secretary (Environment) also directed the Department of Revenue to countercheck the "nil report" submitted by DDA. Moreover, the Environment Department has received only two 'action taken'

reports from nodal officers of these agencies as against 247 complaints forwarded to them by the Delhi Pollution Control Committee.

High court gives ministers deadline for tougher air pollution plan

Date: 21st November, 2016 Source: The Guardian



The government is being forced to deliver an effective plan to tackle the UK's air pollution crisis within eight months, after a high court judge rejected a longer timetable as "far too leisurely".

Environmental lawyers ClientEarth inflicted a humiliating legal defeat on ministers earlier in November – its second in 18 months – when the high court ruled that ministers' plans to tackle illegal levels of air pollution in many UK cities and towns were so poor they were unlawful.

The government subsequently refused to agree to the eight-month timetable proposed by ClientEarth for a new plan, saying it needed until September next year. But on Monday, Mr Justice Garnham ordered the government to produce a draft plan by until 24 April 2017 and a final one by 31 July 2017.

Air pollution causes more than 40,000 early deaths and at least £27.5bn in costs every year in the UK, according to the government's estimates, and was called a public health emergency by MPs in April.

An earlier government plan to tackle air pollution was declared illegal in April 2015 and ministers were ordered to produce a new strategy, which it did in December 2015. But that plan was also found not to meet the law's requirement of cutting nitrogen dioxide (NO2) pollution to legal levels in the "shortest possible time".

James Thornton, the CEO of ClientEarth, said: "It is very clear that the government must now act swiftly and decisively to protect British people from toxic and illegal air pollution. The government has said throughout this process that it takes air pollution seriously. Until now, it's actions have not lived up to this claim. Now is the time for the government to prove that it truly cares about people's health."

After the most recent court defeat, prime minister Theresa May said: "There is more to do and we will do it."

A spokeswoman for the Department of Environment, Food and Rural Affairs said on Monday: "We are determined to cut harmful emissions. Our plans have always followed the best available evidence and we have always been clear that we are ready to update them if necessary. We can now confirm a timetable for updating our plans next year and further improving the nation's air quality."

The judge also ordered the government to publish the data on which it will base its new plan. Earlier in November he said it was "remarkable" that ministers knew they were using over-optimistic pollution modelling, based on flawed lab tests of diesel vehicles rather than actual emissions on the road, but proceeded anyway.

The judge also ruled that ClientEarth can go back to court if it deems the government's draft plan, due in April, is once again not good enough to cut pollution rapidly. Alan Andrews, ClientEarth's air quality lawyer, said: "We will be watching on behalf of everyone living in the UK and will return to court if the government is failing."

The existing government plan is for just six clean air zones (CAZs) – Birmingham, Leeds, Nottingham, Derby, Southampton and London – where some polluting diesel vehicles are charged to enter city centres.

Andrews added: "If the government are at all serious about complying with the court order, a national network of CAZs must be part of their plans, which means including the dirtiest diesel cars and creating far more than the current six."

NO2 has been at illegal levels in 90% of the country's air quality zones since 2010 and stems largely from diesel vehicles.

ClientEarth also argued in court that an effective plan would require other measures including a scrappage scheme for older diesel vehicles, retrofits of HGVs and more funding for public transport and cycling and walking schemes.

Documents revealed during the recent high court case showed the Treasury had blocked initial government plans for 16 CAZs in towns and cities blighted by air pollution, due to concern about the political impact of angering motorists.

Both the environment and transport departments also recommended changes to vehicle excise duty rates to encourage the purchase of low-pollution vehicles. But the Treasury also rejected that idea, along with a scrappage scheme for older diesels.

Why Air Pollutants Make Some People Vulnerable to Atopic Dermatitis

Date: 22nd November, 2016 Source: TOHOKU



Tohoku University Graduate School of Medicine and Tohoku Medical Megabank Organization (ToMMo) are pleased to announce the published results of a study into why air pollutants cause some people to be more susceptible to atopic dermatitis, a kind of skin inflammation.

"We have discovered that AhR, a transcription factor activated by air pollutants, causes hypersensitivity to itch, through the expression of neurotrophic factor artemin," says Dr. Masayuki Yamamoto, who led the research team with Drs. Takanori Hidaka and Eri Kobayashi. "Scratching makes things worse because the skin barrier gets disrupted and sensitization to antigens is enhanced. That's why some people are predisposed to atopic dermatitis."

While the correlation between air pollution and the prevalence and severity of atopic dermatitis is well known, the underlying mechanism behind it was not widely understood, until now.

Itch causes scratching, which disrupts the skin barrier function, making it easy for antigens to penetrate. This results in the patients being sensitized to antigens and predisposed to allergic diseases such as asthma. This is known as "the allergic march," and is observed in patients with atopic dermatitis.

In human clinical samples, high levels of AhR activation and artemin expression are observed in atopic dermatitis patients but not in healthy individuals. This is also consistent with the findings in a similar study of mice, and further supports the notion that chronic activation of AhR is an important environmental factor causing atopic dermatitis.

Currently, steroid drugs are used as a symptomatic treatment for atopic dermatitis. However, in some cases, the itch remains. The research team believes that control of the itch is important and hopes that with the results of this study, new treatments using inhibitors of AhR and/or artemin can be found.

Schema of AhR-mediated development and exacerbation of atopic dermatitis. AhR is activated by air pollutants, such as traffic-derived particulate matter (pm2.5). Activated AhR induces the expression of artemin in keratinocytes, which induces hyper-innervation of the epidermis, resulting in hypersensitivity to itch. Subsequent scratching leads to barrier damage and increased penetration of antigens, which enhances sensitization that promotes a predisposition to other allergic diseases.

This Inhaler Combats The Negative Effects Of Air Pollution

Date: 22nd November, 2016 Source: PSFK



German medical device company Bitop is looking for a new way to protect at-risk populations, particularly in countries with developing industry

Scientists at German medical devices company Bitop have developed an inhaler that can help people counteract health issues caused by air pollution.

The inhaler delivers a compound called ectoine which can protect people from toxic air by forming a protective layer on the surface of lung cells. "It is quite an inert molecule that does one main thing, which is bind water, which stabilizes cell membrane tissues against physical or chemical damage. It supports the natural barrier,"said Dr Andreas Bilstein, of Bitop. Ectoine was first discovered in Egypt in the 1980s in a desert bacterium that uses ectoine to conserve water in extreme heat.

Air pollution continues to be a major issue around the world. It is attributed with causing millions of deaths every year and increasingly linked with asthma, lung and heart disease, stroke, Alzheimer's, mental illness and diabetes. In fact, the World Bank estimates air pollution's impact at $5 trillion annually in lost work and welfare costs.

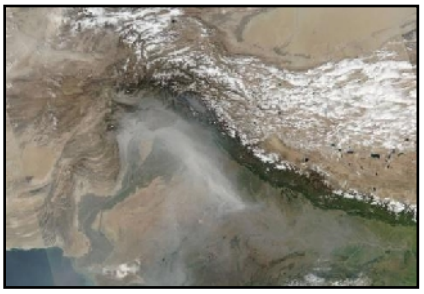
With many of the world's countries still reliant on fossil fuels and wood, researchers are hopeful this inhaler can alleviate some of the damage for millions of people. The inhaler is expected to be relatively inexpensive (approximately $21 per month month) and available over the counter. Prospective patients would be advised to inhale twice a day, once in the morning and once in the evening.

So far, the inhaler has been tested on small groups of at-risk patients with positive results expected to be published soon. A version of Bitop's product will be available this year in Germany and Poland.

That being said, Professor Jean Krutmann, who discovered ectoine's protective effects with his colleagues at the Leibniz Research Institute for Environmental Medicine, warns that the technology should not allow us to become complacent: "It is very nice to be able to protect people against the detrimental effects, but this should not be used as an argument that we can now stop working on reducing particulate."

The Indian cities with the poorest air quality

Date: 23rd November, 2016 Source: The Hindu



Of the eight cities connected to the National Air Quality Index Portal only one has a 'good' rating

Delhi, Faridabad and Varanasi have the poorest air quality among the 32 Indian cities which are connected to the web-based system National Air Quality Index Portal. Howrah, Nashik and Durgapur had the cleanest air. Average AQI for the period Nov 2015 to October 2016 was released for these cities by the Ministry of Environment, Forest and Climate Change on Tuesday in response to a Parliament Question.

Eight of the 32 cities had 'poor' air quality, averaged through the 12 months in the reference period. Another eight cities had 'moderate', 15 had 'satisfactory' and only one — Durgapur — had 'good' air quality.

In the response, the government said that "care has to be exercised before drawing any inference" from WHO's ambient air pollution database released in May 2016, which found that 10 of the top 20 most polluted cities in the world belong to India, as ranking is "based on extrapolation of data relating to PM10 to arrive at PM2.5 data based on conversion factors in respect of cities where PM2.5 data is not measured."

The ministry attributed the increase in pollution to meteorological conditions like low temperature, wind speed and mixing height along with other factors like road dust, vehicular emissions, construction and demolition activities, industrial emissions and stubble burning.

The EU finally has new air pollution rules – now, let's enforce them

Date: 23rd November, 2016 Source: EurActiv



EU governments have been too weak on air pollution. Brussels must step in to ensure member states protect their citizens, writes Louise Duprez.

Louise Duprez is Senior Policy Officer at the European Environmental Bureau.

European lawmakers today (23 November) approved new EU-wide air pollution rules committing member states to adopt stricter measures to protect citizens from the deadly effects of polluted air. But its success will depend on the European Commission taking rapid legal action against member states who abuse the flexibility provided in the new rules.

An EEA report published today reminds us of the magnitude of Europe's air quality problem. In 2013, exposure to fine particulate matter (PM2.5) was responsible for over 430,000 premature deaths in the EU. In 2014, around 85% of the urban EU population was exposed to PM2.5 at levels deemed harmful to health by the World Health Organisation (WHO). Particulate matter can cause or aggravate cardiovascular diseases, asthma and lung cancer.

The updated National Emission Ceilings (NEC) directive sets air pollution limits that are expected to halve the health impact of air pollution by 2030, compared to 2005 levels. But this is far from sufficient: even after full implementation of the directive in 2030, around 250,000 Europeans are still likely to die prematurely because of air pollution every year.

The initial proposal by the Commission was more ambitious and would have saved an extra 12,000 lives each year. But national governments lobbied hard to defend business and farming interests over people's health, weakening the draft law and succeeding in removing methane completely from further controls.

On top of that, member states introduced a variety of "get-out-of-jail-free" cards to make it easier for them to comply with their targets. For instance, member states can adjust their emissions limits to compensate for spewing out too many noxious gases in one sector, such as recently happened with emissions of nitrogen oxides (NOx) from diesel cars. Instead of taking immediate action to compensate for possible unforeseen air pollution problems, national governments can, therefore, leave air pollution and related health problems unaddressed.

Because of member states' reluctance to take air pollution seriously enough, we are left with a half empty policy to clean up our air. But this is not the end of the story. We can still push to get these rules in place as soon as possible, rather than waiting until 2030, and ensure that the Commission enforces them and deals strictly with countries that break the rules at the expense of the health of their citizens. This alone could save thousands of lives.

Citizens have understood this. In countries across Europe, they are suing governments over their failure to protect people from air pollution. This is happening in the UK, Germany and in the Czech Republic, for example, and recently, a group of citizens filed a law against the Brussels government for failure to tackle and even monitor air pollution at the heart of Europe's capital.

The Commission can also limit the use of get-out-of-jail cards, such as the adjustment of emissions inventories mentioned above. Member states will be able to make use of them as early as February 2017, when they report on their 2015 emissions. It will be up to the Commission to approve or reject countries' use of these flexibilities within nine months.

Unless existing rules are properly enforced, national governments will have little impetus to take them seriously. Quick implementation and legal consequences for the lawbreakers is the only way the EU can retain any credibility, both in terms of getting its laws respected and in defending its claims to effectively protect people's health.

European parliament passes watered-down draft law on air pollution

Date: 23rd November, 2016 Source: Reuters



The European Parliament passed a new draft law on air pollution on Wednesday that the European Commission and several members of parliament (MEPs) said was not enough to cut emissions to World Health Organization standards.

The law, which has taken almost three years to get through parliament, aims to halve the number of premature deaths caused by air pollution from more than 400,000, and targets the many EU states already in breach of existing air pollution limits.

A European Environment Agency (EEA) report published on Wednesday showed that member states across the bloc far exceed annual limits for nitrogen dioxide (NO2) emissions and at least 10 states breached limits on other pollutants in 2014.

The recent scandal over Volkswagen cheating on nitrogen oxide emissions (NOx) rules highlighted the problems caused by toxins in the air, including respiratory illness and some forms of cancer.

"Air pollution is the number one environmental cause of death in the EU," conservative MEP Julie Girling, who shepherded the bill through parliament, told the plenary session in Strasbourg. "It's not a perfect solution but it will go a long way to making important health improvements for our citizens."

Following a political agreement reached with EU nations in June, the plenary session adopted the limits on air toxins estimated to reduce health hazards by 49.6 percent, compared with the Commission's target in its 2013 proposal of 52 percent.

The bill, which still needs the endorsement of member states in the Council, sets national limits until 2030 on major pollutants, including dust, NOx and sulfur dioxide.

After opposition from the farming lobby, enteric methane emitted by ruminant animals was excluded from the bill.

DNR board to adopt air pollution rules after 4-year delay

Date: 24th November, 2016 Source: Wisconsin State Journal



After four years and a lawsuit, the state Department of Natural Resources is finally ready to adopt federal air pollution standards.

The U.S. Environmental Protection Agency published new limits on fine particulate matter in January 2013. Wisconsin law requires the DNR to adopt rules matching EPA standards to ensure state permits meet federal requirements, but the agency didn't do it.

Environmental groups Clean Wisconsin and the Midwest Environmental Defense Center sued in 2014 to force the agency to comply.

The groups and the DNR quietly settled the lawsuit last year with an agreement calling for the DNR to get rules reflecting the federal standards into state code by March 31, 2017. Agency officials have now drafted the regulations and the DNR board is expected to adopt them at a Dec. 14 meeting and forward them to Gov. Scott Walker. If he signs off and no lawmakers object, the rules would likely go into effect in late March.

"We're glad to see DNR finally adding these health-based air quality protections to help address the many respiratory illnesses like asthma, bronchitis and emphysema that many Wisconsin residents face," said Amber Meyer-Smith, Clean Wisconsin's government relations director. "It's unfortunate that the DNR needs to be compelled to add these protections, but we're glad they're complying with the settlement timelines."

DNR officials said when the lawsuit was filed that they were working on drafting the rules but it was slow going because the rule-making process requires the DNR to analyze the standards' economic impact.

Agency spokesman Andrew Savagian said this week that Walker authorized the DNR to begin work on the rule in June 2015. He had no immediate comment on why work didn't start until the settlement was reached.

Fine particulate matter is a mix of small particles and liquid droplets made up of acids, organic chemicals, metals, soil or dust particles often found near roads, dusty industries or in smoke from forest fires or power plants. The particles can pass through the throat and nose and enter the lungs, causing health problems, according to the EPA. The federal rules revised the annual standard for the amount of particulate matter allowable in the air from 15 micrograms per cubic meter to 12.

DNR officials wrote in a Nov. 7 memo to Secretary Cathy Stepp that all areas of the state are currently within the new standards. They solicited information about what effect adopting the federal standards would have on businesses and particulate-matter sources from more than 1,600 stationary sources in Wisconsin and a half-dozen business associations, including Wisconsin Manufacturers and Commerce, the state's largest business group and a staunch Republican ally, and concluded the regulations would have little to no impact.

The 2015 settlement also required the DNR to adopt tighter restrictions the EPA set in 2010 for sulfur dioxide and nitrogen oxide. The DNR sent those rules to the Legislature in April 2015, shortly before the settlement was approved. They went into effect in August.

Savagian said that rule took so long because it was the first one the DNR's air program implemented under the economic impact requirement.

Sulfur dioxide is a gas produced from fossil fuel combustion at power plants and other industrial facilities. The gas has been linked to a number of respiratory ailments, according to the EPA. Nitrogen oxide results from vehicle emissions and contributes to smog. It can cause airway inflammation and exacerbate problems for asthma suffers, the EPA has said.

Gurugram's air quality worsens three times overnight

Date: 25th November, 2016 Source: Times of India

GURUGRAM: Weeks after the air pollution levels in Gurgaon rose to 'severe' category post Diwali, the PM 2.5 in the city again shot up to the maximum level of 248u/mg on Thursday evening, according the Central Pollution Control Board (CPCB).

The PM2.5 levels in the city is now four times higher than the permissible limit of 60u/mg.

The Millennium City on Thursday had an air quality index (AQI) of 177, marked as unhealthy.

"Ideally, there should not have been such a steep increase in the PM 2.5 (fine particulate matter which is an air pollutant) levels overnight. We will have to check and figure out the cause for the same," a Haryana State Pollution Control Board (HSPCB) official told TOI, referring to the recorded PM 2.5 levels on Wednesday (80u/mg).

The official also pointed out that the department is regularly monitoring air quality in the city and it will also inspect the construction sites to check if the pollution norms are being violated.

Meanwhile, experts are of the view that the government will have to take more stringent measures and merely a ban on construction activities will not improve the air quality.

"The pollution levels are only bound to come down in the coming days. In the long term, more trees need to be planted; roads will have to be cleaned. With a sizeable pollution being caused due to the dust particles, authorities must take the task of cleaning seriously," said environmentalist Vivek Kamboj.

Kamboj added that the new sweeping machines procured by the Municipal Corporation of Gurgaon (MCG) are also not being put to proper use.

It's pertinent to mention that the air quality levels had hit the severe category levels (800 u/mg) in the city post Diwali due to several reasons including burning of crackers and stubble burning in the neighboring states, apart from low wind speed.However, after meteorological changes and an increase in the wind speed, the pollution levels had normalised. TOI had earlier reported that PM 2.5 levels, which were harmful to people's health, were likely to come down with a drop in temperature. The NCR states have been facing wrath for burning stubble, which leads to air pollution.

Air Pollution: SC Bans Sale, Stocking Of Crackers & Issuance Of New Licenses In Delhi, NCR

Date: 25th November, 2016 Source: Live Law



In a significant order which is a direct fall out of the worsening of pollution level in Delhi and National Capital Region (NCR) for nearly two weeks after Diwali when the region was enveloped by thick smog, the Supreme Court today forthwith banned sale, stocking of all kinds of fire crackers and issuance of new license in Delhi and NCR region.

A bench of Chief Justice T S Thakur and justices A K Sikri and S A Bobde also specified that no fresh licenses shall be issued for sale and stocking of firecrackers.

The bench also directed Central Pollution Control Board to study harmful effects of materials used in firecrackers and submit report in Supreme Court in 3 months.

The court was acting on petitions filed by three infants Arjun Gopal, Aarav Bhandari and Zoya Rao Bhasin, all aged between six months and 14 months, for complete ban on crackers.

"Over the last 2 years, Delhi has retained unique distinction of being most polluted city in the world. Levels of Particulate Matter are highest and across the country, over 7,00,000 deaths occur annually due to air pollution-related diseases. Studies show citizens of India have 30 per cent lower lung capacity than Europeans and that the children are worst affected, as their lungs are not fully developed, making their systems more vulnerable," their petition said.

The infants said while considerable debate and long-term measures are being discussed by "slow moving state machinery for implementation of measures to control pollution levels in Delhi", the highest court of the land was "duty bound" to take interim steps in effectuating the people's right to clean, healthy and breathable air under Article 21 of the Constitution.

"We are the most vulnerable category when it comes to air pollution, especially from suspended particles and toxins. We are foremost prone to lung disease, asthma, coughing, bronchitis, retarded development of the nervous system and cognitive impairment:" said the infants in their petition.

The PIL had quoted a May 2014 report of the WHO which said Delhi was the most polluted city in the world. It said the Ambient Air Pollution (AAP) database contains results of outdoor air pollution monitoring from almost 1,600 cities in 91 countries. The national Capital has the highest concentration of PM 2.5 – particulate matters less than 2.5 microns – form of air pollution, which is considered most serious and can cause respiratory diseases and other health problems.

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6 ways to neutralise the effects of air pollution

Date: 26th November, 2016 Source: Hindustan Times



Our lungs have built-in pollution filters called cilia, which are small hair-like structures that push toxins away so that the lungs can take in oxygen.

However, cilia can deal only with dust and pollen, whereas the air in cities is also heavy with vehicle fumes, smoke and chemical toxins. This mix overwhelms the cilia, and as a result, our bodies are at risk of harbouring carcinogens that create cell malfunctions. Fortunately, some easily available and used foods, herbs and oils can help keep your lungs clean. Here's the list.

1. Jaggery: Studies have proved that consuming a small piece of jaggery every day can fight carbon pollution. In fact, this is one of the most popular ways to protect factory workers who work in polluted environments.

2. Water: This sounds very basic, but the fact is that you need to drink a lot of water every day. This will dilute the pollutants in your body and excrete them via the kidneys.

3. Grapes and Pomegranates: The antioxidants in both these fruits help neutralise the damage caused to cells by free radicals.

4. Vegetables and fruit mixed juices: A juice made out of carrots, beetroots, aloe vera, mint, tulsi and ginger makes for the perfect mocktail against urban pollution. It's full of vitamins A, B complex and C, which protect against the damage that pollution causes.

5. Trikatu, Pippali, Mulethi and Tulsi: These herbs help clean the lungs. Trikatu, in particular, removes toxins. The best way to consume Trikatu is to take 2.5 gms of the herb with 1 teaspoon of honey, followed by a cup of hot water. Do this twice a day.

6. Nasyam oil therapy: Use ayurvedic oils like Anu Tailam as nose drops to lubricate the nose and decrease allergic tendencies.

Also avoid tobacco, alcohol and fried foods. Do not use chemical room sprays and chemical home cleaners, and cut down the amount of cheese children eat.

Air Pollution: Delhi govt plans 20 centres to monitor PM 2.5 and PM 10

Date: 27th November, 2016 Source: The Economics Times

NEW DELHI: Authorities in the national capital plan to have around 20 monitoring stations, that will exclusively measure the levels of ultrafine particulates PM 2.5 and PM 10, the dominant pollutants in Delhi's toxic air.

These stations, to be set up by the Delhi government, will differ from the existing monitoring centres of Delhi Pollution Control Committee (DPCC) and Central Pollution Control Board (CPCB) which also measure levels of Ozone, Sulphur dioxide and Nitrogen dioxide among others.

"The government plans to set up 20 monitoring stations across the megapolis that will only measure PM 2.5 and PM 10. These will be over and above the full-fledged stations already functioning and the proposed ones," an environment department official said.

But the sluggish pace in implementing related promises made in the 2016-17 State Budget, like that of setting up three more fixed stations and deploying one mobile monitoring van, does not inspire much confidence on the latest proposal.

Pollution expert Anumita Roychowdhury of Centre for Science and Environment (CSE) said these stations may certainly help in generating more data, but more needs to be done in terms of forecast and dissemination of information.

"One can get a better picture when all the parameters are studied. Data generation should lead to action. And information should be made available to the public. Little has been done in that respect," she said.

PM 2.5 and PM 10 are microscopic particles, multiple times smaller than the average width of a human hair. They can damage the respiratory system and also enter the bloodstream causing further complications.

The DPCC currently operates six monitoring stations, while the CPCB runs nine, although there are overlaps in terms of locations. Another agency SAFAR, under the Ministry of Earth Sciences, operates another eight stations.

There also has not been much headway in terms of installing LED screens for displaying pollution levels in real-time at major public places, although the city government had alloted Rs 137 crore for this purpose in the 2016-17 Budget.

Wind, warm weather improve Delhi's air quality

Date: 27th November, 2016 Source: The Hindu



For the first time since Diwali, Delhiites woke up to improved air quality on Saturday, with levels of harmful pollutants coming down from the hazardous levels observed in the beginning of November to moderate or simply poor. This was thanks to wind picking up and warm day temperatures.

Starting from Diwali on October 30, the National Capital Region saw air pollution peak to toxic levels, with one of the worst smog

episodes in decades being recorded in the first week of November. Concentration levels of particulate matter had reached 14 to 17 times the safe limits.

On Saturday, however, the level of the fine PM2.5, which is dangerous as the particles are small enough to get lodged in the lungs, fell below 60 micrograms per cubic metre -- the standard -- at some places in Delhi. According to the Delhi Pollution Control Committee (DPCC), the hourly PM2.5 concentration at Anand Vihar, usually the most polluted part of the city, fell to 68 micrograms per cubic metre, or almost the safe level at 2 p.m.

"In fact, the level of PM2.5 was so low compared to the weekly average that at Mandir Marg monitoring station that auto-calibration was thrown off for a bit," said a DPCC official.

This improvement was down to not only winds of up to 14km/hr on Friday night, but also the vertical movement of wind that dispersed pollutants.

However, the 24-hour average of PM2.5 as of Saturday evening was 109 micrograms per cubic metre, or almost double the safe level and in the 'poor' category, as per the Union Earth Science Ministry's System of Air Quality and Weather Forecasting Research (SAFAR). The level of PM10 was relatively better, with 234 micrograms per cubic metre or just over double the safe level of 100. This put it in the 'moderate' category, a first since Diwali.

The levels of pollution are expected to decrease even more by Monday, with the level of PM2.6 expected to dip below 100 micrograms per cubic metre.

Worsening problem of urban air pollution

Date: 27th November, 2016 Source: Financial Express

The latest official statistics give the capital city's dwellers enough reasons to be gravely concerned about its alarming state of air pollution. The air of Dhaka metropolis was found, according to the data released by the Department of Environment (DoE), to be 'extremely unhealthy'. This poses a severe health threat to the city-dwellers. The Air Quality Index (AQI), as figured out by the DoE and reported in this paper last Saturday, was 309 in the capital's air on November 22 against the moderate AQI range of 51-100. This shows that the air the city-dwellers are currently breathing in is extremely unhealthy. Experts have attributed it to unchecked discharge of dust from construction sites, release of pollutants from vehicles on roads and brick kilns on the city's outskirts.

Not long ago, Bangladesh was ranked fourth among 91 countries with worst urban air quality in the air pollution monitoring report of the World Health Organisation (WHO). Moreover, three Bangladeshi cities were put among the top 25 cities having the poorest level of air quality. In its city-wise assessment, Narayanganj was marked as the 17th city with worst air quality whereas Gazipur and Dhaka were ranked 21st and 23rd respectively. Among the gaseous pollutants which the DoE measured are carbon monoxide (CO), sulphur dioxide (SO2), oxides of nitrogen (NOx) and ozone (O3), methane and non-methane pollutants. All these floating micro particles in the air, called particulate matters (PM), harm people more than any other pollutants. Most damaging of the particles are those with a diameter of 10 microns or smaller as they can penetrate and lodge deep inside the lungs. Someone with chronic exposure to such particles stands the risks of developing cardiovascular and respiratory diseases and even cancer in the lung and the urinary tract or bladder, according to the WHO.

In this context, what is all the more distressing is the virtual inaction of the DoE. Despite having the mechanism to assess air pollution, the organisation has demonstrated so far only its utter laxity; it has not been able to enforce even a modicum of a host of laws that were enacted by the government to check or reduce the incidence of air pollution. The Environment Conservation Act, 1995 and the Environment Conservation Rules, 1997 were passed by parliament. Under the Rules of 1997, Ambient Air Quality Standards, Vehicular Exhaust Emission Standards, River Transport (Mechanised) Emission Standards and Gaseous Emission for Industries or Projects Standards have been set. The Environmental Conservation Act, 1995 also contains laws relating to protection of environmental health and control of pollution. The Supreme Court in a number of cases held that the 'right to life', enshrined as a fundamental right in the Constitution, includes the right to a healthy environment.

Unfortunately, all attempts to prohibit plying of old vehicles emitting poisonous gases on city roads or to modernise brick kilns failed either for political reasons or in the face of resistance by transport owners and their employees or brick-field owners. If the neighbouring countries can endeavour to help improve air quality of their cities by banning use of old vehicles and also relocating their polluting industries, there is no good reason why the authorities in Bangladesh cannot do the same. Relatively better governance has helped curb air pollution in some of the cities in those countries. The problem here also should be high on the agenda of the government as well as political parties. The issue does certainly deserve due priority. It has to be fixed. The sooner it is done the better.

A few solutions to fight the air pollution monster

Date: 27th November, 2016 Source: The Navhind Times

A blaring alarm goes off and the transparent dome slowly lowers itself. The entire city is in lockdown mode. Giant turbine fans on top of each building kick in, sucking massive amounts of air and passing them through monster filters. Large truck-mounted air purifier machines start to move into the most polluted areas. Within minutes the air in the city is pure just like mountain air.

In the TV series Under the Dome, a mysterious dome cuts off a city from the rest of the world. A transparent dome acting as an air pollution barrier for an entire city is exciting. Any air pollutant from outside wouldn't make it in, while large-scale air filtration technology would purify the air within. Unfortunately, the reality is that no dome is being constructed to protect us – now or in the future.

Air pollution now is the world's largest single environmental health risk and reports state that annually about 14 million people prematurely die as a result. These staggering numbers confirm that taking drastic measures against this monster is now beyond critical.

Schools and air purifiers

Air purifiers are effective in a closed room environment but that adds a lot of carbon dioxide to your room. The amount of carbon-dioxide emitted by 30 to 40 children in a closed classroom could be even worse than the pollution. Only a centralised air pollution control blower system would work and that's something schools need to plan and budget for.

DIY air purifier

Can you make one on your own with a Do It Yourself Kit? Absolutely. An air purifier is basically a fan that sucks air in, makes it move through a filter that traps the pollutant particles and then blows clean air

out. A good quality table fan with a pre filter and a HEPA filter would actually work. The most impressive one is SmartAir that sends you all the equipment for about `3,999. The more air purifiers you have in your house, the better the result and thus DIYs may well be the way to go.

Face masks are the solution?

No, not really! They help in extreme situations but aren't the holy grail. For one, they make you inhale a lot of your own carbon dioxide back into your lungs; buy one with a one-way-out valve. Second, while you can wash them for general hygiene, the filter inside doesn't get cleaned out. You need a new one after some time. Third, you don't have to buy those super-expensive designer ones. 3M, Honeywell and a few others make N95 and N99 face masks that do the same job at one-tenth the price.

In your car

An in-car air purifier is as important as one in your room. Switch on your AC in the car, shut off the compressor, strap a HEPA filter on the blower vent, set the air for recirculation and you've just made your car air pristine clean.

Air quality monitor

Buy a portable one that works plugged in and on battery. It will gauge how effective your air purifier is, how polluted your car is, the most affected areas in your house, faulty windows or doors leaking in outside air, how bad the air is outside and if you should go for a run or a walk – and about a dozen other areas where you need to know what you're breathing.

Stubble burning the main culprit?

One of the culprits, but it is not the major one. If crop burning in Punjab and other states was the main reason then every single town and city along the way should be as polluted, why just Delhi? The pollutants obviously don't Star Trek themselves only into this city. Banning crop burning isn't the solution; monetising what they plan to burn is. If farmers see even a little value for the stubble, they will sell it rather than burn it.

Entire city solutions

The usual culprits would be better traffic management, strict pollution toll tax in congested areas, shutting down coal burning power plants or installing filtration systems at source, and strict monitoring of polluting industries around the city. Unfortunately, this needs more political will than we have right now.

Experimental but radical

Could every single car and every single building become an air purifier? By rejigging and installing HEPA level filters in the air-conditioning system of all cars and all AC plants of buildings in a city, you could theoretically create a massive grid of moving air purifiers and giant filters that could clean a city's air up to 25 per cent. It's radical but doable.

Till then, the only solution is a giant dome covering the entire city. We would actually welcome it.

How air pollution contributes to lung cancer

Date: 28th November, 2016 Source: Live Mint



Particulate matter, a combination of extremely small solid particles and liquid droplets that are found in the air, increase the risk of lung cancer

Smoking is the biggest known cause of lung cancer, but over the past few years, exposure to air pollution is also being recognized as a prominent risk factor. It's actually a myth that only smokers get lung cancer, says Gagan Saini, senior consultant (radiation oncology), Fortis Hospital, Noida, near Delhi. "While it is true that smoking increases the risk of lung cancer the most, there are many non-smokers who also get lung cancer. The culprit could be second-hand smoke, pollution, radiation exposure or genetic propensity."

There's another myth about lung cancer that women don't get this disease. According to a report published in the Indian Journal Of Medical Research last year, lung cancer constitutes 6.9% of all new cancer cases and 9.3% of all cancer-related deaths in both sexes.

"Lung cancer is the No.1 killer cancer in women, more than breast cancer," says Dr Saini.

The pollution connection

Researchers across the world are pointing out that smoking alone cannot explain the relatively high rates of lung cancer that are observed among non-smokers and never-smokers. The World Health Organization (WHO) estimates that in 2012, 14% of outdoor air pollution-related deaths were due to lung cancer. In a 2015 report, published in the Lancet journal, Jennifer King of the Lung Cancer Alliance in the US, says that up to 20% of lung cancers occur among never-smokers, and a large population of young women with lung cancer are in the never-smoker group.

In 2013, WHO's International Agency for Research on Cancer, after evaluating over 1,000 scientific papers and studies from five continents, classified outdoor air pollution as a carcinogen (cancer-causing agent) to look out for, particularly for lung and bladder cancers.

The threat

When it comes to cancer risk, it is the tiny dust-like particles called particulate matter (PM), a combination of extremely small solid particles and liquid droplets that are found in the air, which are the most risky.

"In particular, the smallest particles, known as PM2.5, are the most risky for lung cancers as they are extremely permeable to lung tissue linings. These are chiefly found in emissions from diesel engines. And the scary part is that one third of the population in India lives in towns with PM10 levels classified as critical," says Dr Saini. "Things may get worse as it gets colder due to the formation of smog which makes the delivery of pollutants to the end of lung airways even easier," he adds.

Our body has defence mechanisms to keep pollutants out of the respiratory system, such as nasal hair, mucus and macrophage, which is a type of white blood cell that destroys foreign substances and microbes. But these defence mechanisms fail if the pollution level is very high.

Take precaution

Majority of the patients get diagnosed at an advanced stage of the disease. Cough that does not go away, chest pain, blood-tinged sputum or blood in the sputum are the common symptoms, often associated with generalized weakness, weight loss, muscle aches, says Sundeep Salvi, director, Chest Research Foundation, Pune. “X-ray of the chest, CT scan or MRI scan of the lungs. Bronchoscopy and lung biopsy are the common ways used to diagnose the disease,” he adds.

Sachin Almel, consultant (medical oncology), PD Hinduja Hospital, Mumbai, lists a few ways in which we can help prevent it. “Choosing ‘active travel’ options where possible, like walking and cycling, can help reduce pollution levels from transport in the long term and is also a great way to be more active, which is linked to a reduced risk of cancer and other diseases,” he says. For exercising outdoors, suggests Dr Almel, one could choose less polluted times like the afternoons.

Dr Salvi says surgical masks are useless as the particles that cause lung cancer are small enough to pass through them. “Only sophisticated masks like the N95 are the ones which can prevent the entry of these tiny particles into the lung,” he adds. He also says that mosquito coil smoke contains carcinogens, which when inhaled over a long period of time can increase the risk of developing lung cancer.

“Air purifiers are an option one can try, and one must also avoid going to places that have poor air quality. Tapzo (formerly Helpchat), Safar, and Plume Air Report are some of the apps that will tell you which areas are unsafe,” says Dr Almel.

We need governments and local authorities to work together to develop a comprehensive strategy to reduce air pollution, says Dr Salvi. “Meanwhile, we need to consciously reduce our exposure to pollution as far as possible to hedge the risks,” he adds.

DECEMBER 2016

Trees may increase air pollution on city streets

Date: 1st December, 2016 Source: The Guardian



Leaves and branches can slow air currents and cause pollutants to settle, says health watchdog

City trees, popularly thought to remove pollutants and improve urban life, may also increase the amount of foul air that people breathe, says the UK body which gives independent health guidance to national and local government.

"Leaves and branches slow air currents, causing pollutants to settle. They may also act as sinks for particulates and chemicals that may have direct or indirect effects in air quality. Air quality [under trees] may deteriorate at street level near vehicles," says the National Institute for Health and Care Excellence (Nice) in new draft guidance for local government to combat air pollution.

Nice does not recommend that councils cut down trees in leafy suburbs to meet pollution limits, but urges planners, local authorities and developers to take into account the adverse effect that trees can have on air quality if badly sited or unmanaged.

"It is not always true that trees reduce air pollution. Their effect is dependent on factors including species, canopy density, time of year and wind direction. Ventilation [on streets] will vary according to the size, distribution and species of tree and their position," it says.

The guidelines also question the unintended consequences of other measures often taken by cities to improve people's quality of life. Road humps aimed at slowing traffic and noise barriers erected alongside busy roads can both increase air pollution, says Nice.

"Traffic calming measures such as speed humps ... may increase emissions by adding to decelerations and accelerations," it says. "Ensuring motorists drive steadily at the optimum speed can reduce stop-go driving and reduce emissions.

"People regularly travelling or living downwind of a plume of vehicle pollution can experience poorer air quality as a result of a solid barrier."

The 60-page report, which goes to consultation on Thursday and could be adopted by July, is expected to feed into the government's response to the supreme court. Following several cases brought by law firm ClientEarth, the court has demanded faster action to reduce air pollution which causes more than 40,000 early deaths a year in Britain, with conservative estimates putting the cost at between £8.5bn-£18.6bn.

Under pressure from the courts, the government has proposed clean air zones in five cities, including Birmingham, Derby, Leeds, Nottingham and Southampton. But Nice recommends that all councils consider setting up similar zones which could allow them to ban heavily polluting vehicles from town centres, and set their own pollution standards for taxis, hire vehicles and council fleets.

It proposes that councils consider air pollution at every stage of the planning process. This could extend to where new housing is sited and recommending that developers build new houses with the living room situated furthest away from roads.

Schools and nurseries should be sited away from main roads and councils should avoid developments that trap pollution in canyons, says Nice. But it also wants to see drivers educated as to how to reduce emissions. New guidelines are expected to support low and zero emission travel.

"Public sector transport providers should educate drivers how to reduce emissions. This could include switching the engine off when they are dropping people off, or making deliveries, and avoiding rapid accelerations and decelerations," said a spokesman.

However, the committee could not directly address the sheer number of cars now on roads and was limited to proposing ways to mitigate pollution.

"We can take steps now to encourage people to walk or cycle rather than drive but these efforts will be futile if we do not have a long-term plan to improve air quality," said Mark Baker, director for the centre of clinical practice at Nice.

"Past measures have not had the required impact. The draft guidance sets out ... practical measures for local authorities to encourage low or zero emission transport," said Paul Lincoln, chair of the Nice guidelines committee.

A British Lung Foundation spokesperson said: "Robust measures must be taken to clean up the air we breathe. We need to specifically target the most polluted areas in our towns and cities. Everyone deserves to breathe clean air."

"Action is needed both to ensure vehicles on the road are clean and that there are fewer of them. Diesel vehicles, which are the most polluting, must be phased out and our transport and planning policy needs a radical overhaul," said a spokeswoman for Friends of the Earth.

"This is no time for tinkering around the edges – to deal with this public health crisis we must plan our towns and cities in ways which actually reduce traffic and give people real alternatives to driving."

Tips to protect children from air pollution

Date: 1st December, 2016 Source: Business Standards

On the occasion of National Pollution Prevention Day on December 2, here are a few tips to keep children protected from from air pollution, one of world's largest environmental health risks.

Krishan Chugh and Neetu Talwar from Fortis Memorial Research Institute throw light on most usual sources of Air Pollution and ways to prevent children from it.

Some of the most common sources of air pollution are household combustion devices, motor vehicles, industrial facilities, unpaved roads, forest fires etc.

Common pollutants found in them are particulate matter, carbon monoxide, ozone, nitrogen dioxide and sulphur dioxide.

Particulate matter (PM): PM stands for particulate matter (also called particle pollution), the term for a mixture of solid particles and liquid droplets found in the air.

Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye. Others are so small they can only be detected using an electron microscope.

Of all of the air pollutants, fine particulate matter has the greatest effect on human health.

It is an environmental health problem that affects people worldwide, but low- and middle-income countries disproportionately experience this burden.

The basic ways to reduce air pollution include educating friends, family and neighbourhood regarding:

-Dangers of air pollution, harmful effects of smoking, both active and passive

-Safe cooking practices, use of efficient stoves

-Benefits of efficient, low-polluting vehicle or a zero-emission electric car

-Maintaining your personal vehicles and keeping the tires properly inflated

-Limiting idling at traffic lights

-Replacing energy-hungry incandescent lights with compact florescent light bulbs

-Opting for fans instead of air conditioning

-Adding insulation to your homes

-Washing laundry in cold water and line dry

-When ready to replace, looking for Energy Star appliances

-Microwaving or using toaster for small meals

-Eating locally, shopping at farmer's markets and buying organic produce

-Using durable and sustainable bags and keeping them in our car so that

we are never caught off guard

-Walking or riding a bike when possible

-Recycling paper, plastic, metals and organic materials

-Initiating Walking clubs, Cycling clubs, Nature walk clubs, Car-pooling clubs, Tree plantation, Gardening and anything that help reduce air pollution and increase green cover.

SC okays Centre's graded response system on air pollution

Date: 2nd December, 2016 Source: Business Standard

The Supreme Court today accorded its nod to the Centre's graded response action plan to tackle different levels of pollution and asked the Central Pollution Control Board (CPCB) to upgrade its existing infrastructure and set up additional monitoring stations in Delhi-NCR within six months.

Terming as "severe" levels of pollution when particulate matter (PM) 2.5 levels are above 250 to 430 micrograms per cubic metre in the ambient air, the Centre told a bench headed by Chief Justice T S

Thakur that when air pollution reaches such alarming proportion, immediate steps are needed to be taken including ban on construction activities and implementation of odd-even scheme.

The sanction came after environmentalist Sunita Narain from the Centre for Science and Environment told the bench that the Centre's graded response action plan to tackle different levels of pollution was "acceptable" and can be put into operation.

"Enforcement of graded response action plan shall be under the orders of Environment Pollution (Control and Prevention) Authority (EPCA) and all other authorities should act in aid of such direction," the bench said.

The court directed the apex pollution monitoring body to file a status report on setting up additional monitoring stations in Delhi-NCR within six months.

It also directed the Centre to examine within four weeks about harmful effects of petroleum coke and furnace oil used in industries and power generation plants in NCR and issue appropriate directions in this regard.

Solicitor General (SG) Ranjit Kumar told the bench that CPCB proposed to upgrade its centralised control room with modern equipment's at an estimated cost of Rs 57 lakhs on hardware, internet and optical fibre.

CPCB also plans to set up 12 real time air monitoring stations in Uttar Pradesh, nine in Haryana, two in Rajasthan besides 20 new stations in Delhi apart from 28 existing ones, he said.

The Solicitor General also filed a compilation before the bench stating details about the system of issuing pollution under control certificates to vehicle owners and the mechanism of licensing such centres where pollution checks are carried out and certificates issued in the form of stickers.

At the outset, senior advocate Harish Salve, who is the amicus curiae in a 1985 PIL filed by environmentalist M C Mehta, told the bench also comprising Justices A K Sikri and S A Bobde that the Centre has classified three levels of pollution based on different levels of PM namely -- moderate to poor, very poor and severe.

Salve said that the Centre has recommended that whenever air pollution reaches "severe" levels, immediate action including ban on power plants and construction activities should be imposed in the national capital.

He also highlighted the ill-effects of petroleum coke and furnace oil used in industries on ambient air and told the court that the emissions from such units were highly toxic as these release high sulphur.

"Delhi has already banned use of pet coke and furnace oil in industries. But, the problem has only been transferred to the neighbouring states, where these industries still use these fuel to operate which release high sulphur which greatly contributes to pollution in the region," Salve said while referring to EPCA report.

The Centre's Graded Response Action Plan for reducing air pollution has enumerated a number of measures which include closing brick kilns, hot mix plants, stone crushers, intensifying public transport services besides increase in frequency of mechanised cleaning of road and sprinkling of water on roads.

The matter would now come up for hearing in third week of January.

The court had earlier slammed CPCB for not having an action plan ready to deal with the "emergency" smog situation and asked the Centre to come out with time-bound measures to tackle the graded level of worsening air quality.

Though not by much, air quality in Delhi better than previous year

Date: 4th December, 2016 Source: Financial Express



Though still a matter of concern, the air quality in the national capital in November had improved than before to make it slightly better than the last year's.

Though still a matter of concern, the air quality in the national capital in November had improved than before to make it slightly better than the last year's. According to reports from the Delhi Pollution Control Committee's (DPCC) R K Puram air quality monitoring station, the number of days with severe air pollution this year had reduced to 11 compared to the 12 days last year. However, number of days with moderate air pollution are three this year while last year there were none.

DPCC data also suggests that the concentration of Particulate Matter (PM) 2.5 and 10 were also being measured less than the last year. Scientists at DPCC credited wind speed for the drop in pollution, this year, citing that the wind speed was 0.4 meters/second, during daytime in the first week while it rose to about 1.2 meters/second post Diwali.

Apart from the wind speed experts had also pointed the government's measures to improve air quality, announced on November 6, to be one of the vital reason for the decrease in pollution this year.

Earlier in the month of November, dense pollutants, including dust and smoke had blanketed the city with dense smog resulting in low visibility through the day. The capital city had been facing air pollution at its worst ever, with the Air Quality Index (AQI) on Sunday at 497, even worse than the post-Diwali AQI, which was 445. The Central Pollution Control Board had cited the variable pattern of the wind for the highest concentration of dust accumulated in the city.

Air pollution becomes Israel-Palestinian wedge issue

Date: 4th December, 2016 Source: Times of Israel



Israel shuts down factories in coal-manufacturing West Bank town of Yabed due to health concerns, leaving more than 1,000 Palestinians unemployed

YABED, West Bank (AP) — For years, residents of central Israel have been complaining about air pollution from Palestinian factories in the nearby West Bank. Now that authorities have finally cracked down, shutting a group of the worst offending charcoal plants in one notorious town, Palestinians complain that hundreds were thrown out of work.

The story of the northern West Bank town of Yabed, and its now-idle collection of charcoal plants, illustrates how for Israelis and Palestinians, Middle East politics seems to permeate the most basic elements of daily life, whether it be education, construction or sports. The environment is no exception.

In Israel, factories face close environmental oversight, but in the semi-autonomous West Bank it's far trickier. For instance, the home of the Palestinian charcoal industry in Yabed is located in what is known as "Area B," a category of territory that under interim peace accords falls under Palestinian civil authority — but where Israel retains security control, as in most of the West Bank's area.

After years of failed dialogue with the local Palestinian leadership, Israel's military took matters into its own hands in November, shutting down more than a dozen factories and confiscating equipment and 160 tons of wood that was to be used to produce charcoal.

Maj. Gen. Yoav Mordechai, who heads COGAT, the defense body responsible for Palestinian civil affairs, said it was a matter of public health that "harms both Israelis and Palestinians alike."

But that's not how it was received in the West Bank, where workers called it an oppressive measure that curried favor with Jewish settlers and violated previous agreements with the Palestinian Authority, a claim Israel denies.

Mostly though, Palestinians bemoaned the closing of an industrial site that had been operating for 50 years, with some 15 factories that provided employment for about 1,000 workers.

"We are done. We cannot bring a piece of wood here," said Mahmoud Abu Baker, a 41-year-old owner of one of the factories. "We are losing our business and we have no alternative."

Abu Baker said he used to run 30 workshops, of which 80 percent of his product was sent to Israel, but now he had nothing left. The shutdown comes as unemployment has risen to an official figure of 18% in the West Bank. Even those who do work tend to earn a few hundred dollars a month, a fraction of the average salary in Israel.

Yael German, an Israeli lawmaker and former health minister who has advocated against the pollution, said she was saddened at the job losses but noted Israel faced similar concerns when shutting down factories that laid off Israeli laborers too. But she said health concerns had to prevail, particularly with pollution the World Health Organization says has a direct link to cancer and other illnesses.

"There are always conflicting values and it is painful to see people harmed," she told The Associated Press. "But you cannot allow factories to pollute and break the law … if we choose to have a healthy society there is a price to pay."

Charcoal in Yabed is still made the old-fashioned way, with wood built like a pyramid and covered with a layer of hay followed by a layer of earth. The workers light the wood from an opening in the top and leave it burning slowly. After 15 days, they cover it with earth until it is turned into charcoal, which is later mostly used for barbeques and water pipes.

They then collect the charcoal and package it without any protection tools, like air filters, often breathing in plenty of black dust. The face of Mohammed Baker, 55, for instance, was stained with black spots. But he was more concerned about his livelihood. "If I lose my job here, I won't find any other job," he said.

Mordechai said a quarter of Yabed's children and 70% of those in the charcoal industry have reported some form of respiratory illness. He vowed that Israel would engage in "dialogue with the charcoal

producers to find technological solutions to lower the risks of charcoal production for workers and residents."

COGAT spokeswoman Hadar Horen said Mordechai has held meetings with residents. She said he hopes to find a way to reopen the factories under healthier conditions. She also said that Israel has granted thousands of work permits for Palestinian laborers, and that villagers were encouraged to apply for them to find alternative jobs.

The Palestinian laborers are skeptical the Israeli overtures are genuine. Many even dismissed the health scare altogether.

"I've been working in the charcoal industry for 27 years, and I have no health problems at all," said Jaser Yacoub, 42. "The government makes us do a health checkup for all workers here and they proved we were healthy."

Tali Naim, a 42-year-old Israeli mother of three from the nearby city of Kfar Saba, a few kilometers away inside Israel proper, found that hard to believe. She said that even from a certain distance she often has to keep her children indoors because of the black plumes of smoke wafting in her direction. She said the stench affects her quality of life in ways ranging from not being able to hang her laundry outdoors to occasionally having teary eyes and a sore throat. Her kids often wheeze in gym class because of it, she said.

"I think if they (the Palestinians) thought about it, they'd realize they would also be healthier without it. I mean they are right next to it," she said. "I know it is a source of income, but it is so dangerous. It's as much a pity for them as it is for us."

Delhi-NCR air pollution reach alarming levels, but no advisory, emergency plan from govt

Date: 4th December, 2016 Source: First Post



- Delhi's Air Quality Index is at 500+ (hazardous stage).

- The level of particulate matter is at 955 umg/m3 which is 16 times higher than the permissible limit.

- Delhi is facing the worst smog in 17 years.

And…the worst is yet to come!

Five days post-Diwali, Delhi continues to be a 'toxic gas chamber'.

There is no respite for children who continue to suffer due to hazardous air pollution that has reached alarming level. Whether it is dawn or midnight, the national capital remains under the cloud of thick smog.

Despite the study by Chittaranjan National Cancer Institute (CNCI), Kolkata along with Central Pollution Control Board (CPCB) showing that 40% of Delhi kids have weak lungs, why did the government fail to take any precautionary measure ahead of festive season?

It’s not for the first time that Delhi has witnessed such egregious air quality; it’s almost a decade since Delhi’s air quality gradually started worsening to alarming levels. But, the last three years have been particularly bad.

Answers needed

- Why no health advisory was issued prior to Diwali for the citizens of Delhi-NCR?

- Why there is no emergency action?

- Why there is no action plan to deal with this perennial crisis?

“It’s an emergency-like situation in Delhi-NCR. Why has the government not issued any health advisory yet?” questioned Anumita Roychowdhury, executive director, Centre for Science and Environment (CSE).

“Post-Diwali, the condition has worsened in Delhi-NCR as the pollution level in air has reached a dangerous level. Delhi government got one full year to plan and act, but we failed to hear anything from them. It’s a lost opportunity. Moreover, there is no emergency action, despite the situation having reached an alarming stage. It has become a regular practice in Delhi every winter, citizens, especially children, have to face the brunt. The agencies may talk of various measures, but the ultimate test of any action is its impact on air quality. It’s missing in Delhi,” added Roychowdhury, who also heads the air pollution programme at CSE.

According to experts, the government should have short-term, mid-term and long-term action plans to combat the air pollution menace in the national capital, which has taken the shape of a monster. Though Delhi has been suffering due to worsening air pollution, no strategy has yet been developed to counter it. Every year, children and adults, are compelled to breathe noxious gases and hazardous particulates, with no fault of their own.

What are the pollutants?

- Vehicular pollution.

- Burning of crop stubble in neigbouring states, and burning of garbage and waste in the city.

- Dust and construction debris.

- Industrial pollution — from thermal plants in Delhi.

- Burning of crackers.

Lack of political will and concrete planning both at national and state level have compounded the crisis. The motor vehicle fleet of Delhi is more than that of Mumbai, Kolkata and Chennai put together — and it’s growing every day.

Delhi’s neighbouring states like Haryana, Punjab and UP continue to burn crop wastes without any inhibition, and smoke emanating from it is a major component in the formation of smog over Delhi. It even reduces the visibility of aircraft, as has recently been reported.

“While my flight was advancing towards the IGI Airport, I could see through the window a blanket of thick smog over the ground and runway. After stepping out, I could feel irritation in my eyes and nose.

It's so horrifying," a senior World Bank official, who arrived from New York on Wednesday, told Firstpost.

Environmentalists have attributed the cause of the menace to the government's myopic attitude and decision-making, and lack of political will.

"Government has a lot of baseline data but there is no action plan for a complete year. Political statements and piece-meal action won't help. There's lack of serious political decision-making and now it has led to a big crisis. Delhi has virtually become a toxic gas chamber," remarked Ravi Agarwal, director, Toxics Link, an environmental NGO.

"Air-pollution is not just Delhi's problem. It's pan-India. But, there is no national plan to deal with it. Central agencies have powers to initiate action, but it's missing. Eventually, people have been left on their fate to deal it themselves," he added.

Recently, Delhi's Transport Minister Satyendar Jain had announced that giant air purifiers would be installed at certain public locations in Delhi, which experts have dubbed as impractical. "Air purifier is best suited for enclosed places like offices, homes etc," an expert said.

Ram Rahman, artist-activist and founding member of Safdar Hashmi Memorial Trust, who lives in Delhi's Civil Lines said, "The air quality has deteriorated so much this time that I had to spend Rs 35,000 to buy an air-purifier at home. And, I'm not the only person doing so, there are many who suffer from respiratory ailments have been compelled to go for air-purifiers. Whatever precautionary measures like not burning crackers, etc. have been taken, it's at a personal level. But, what about the government? Due to growing number of vehicles, Delhi has reached the point of explosion."

There's no 'credible' study to quantify deaths caused by air pollution: Govt

Date: 5th December, 2016 Source: Hindustan Times



There is no "credible" study to quantify the number of deaths caused directly as a result of air pollution, the government said on Monday.

Environment Minister Anil Madhav Dave in a written reply in Rajya Sabha said that a World Health Organisation report had claimed 92% of the world's population lives in places where air pollution level exceeds WHO limits.

He said that burning of agricultural waste in open fields may lead to increased level of air pollution in the local and adjoining areas particularly during adverse meteorological conditions such as low temperature, poor wind speed and low mixing height.

"Lung and allied diseases are affected by a number of factors such as smoking, hereditary factors, lifestyle, occupation, socio-economic status, immunity levels, medical history etc. besides air pollution."

"There is no credible study to quantify number of people who have developed lung and allied diseases or number of deaths directly as a result of air pollution is available," Madhav said.

He said that the air pollution in some cities of North India was reportedly high due to increased levels of Particulate Matter (PM10 and PM2.5) -- especially after Diwali festival.

“The increase in level of air pollution occurs due to adverse meteorological conditions like low temperature, poor wind speed and low mixing height...”

Madhav said that a review mechanism in the central and state level-governments has been put in place to ensure implementation of sustainable measures to control pollution.

“The chairman of the Central Pollution Control Board also reviews the implementation of measures to mitigate pollution. The review process brings about necessary improvements in respect of required measures,” he said.

He added that the agriculture ministry has finalised a national policy for management of crop residues, which envisages adoption of technical measures, including diversified crop residue, capacity building and training, and extending central financial assistance for interventions proposed by states under ongoing schemes.

Street lamps light the way for air pollution monitoring and smoke detection

Date: 6th December, 2016 Source: The Age



The Environment Protection Authority (EPA) hopes to eventually install air-monitoring equipment in every street in Victoria.

The $200 trial sensors measure the fine particles present in smoke, dust and car exhaust fumes, but in the future the air monitors could also measure a range of different pollutants including gases and pollen.

The data could be used by emergency services to produce warnings for people with health conditions such as asthma, who would be able to access the information via a mobile-phone app.

Poor air quality can pose serious and immediate health problems for people with asthma or lung disease, as evidenced by last month's thunderstorm asthma disaster which claimed the lives of eight people.

There is also evidence that links exposure to air pollution, and particularly the particles in diesel fumes, to long-term poor health.

"Generally the air quality in Melbourne and Victoria is good and it's unlikely to be causing significant impacts on people without respiratory disease. Even though we don't know all the long-term health impacts of variations in air quality, local and international studies indicate a link between traffic related air pollution and respiratory symptoms" Lung Health Research Centre director Professor Alastair Stewart said.

Professor Stewart said data provided by widespread air monitoring may also assist research into how to predict environmental effects on asthma and other chronic respiratory diseases in the future.

The EPA is also investigating whether air quality sensors placed on street lamps or electricity poles could be used as outdoor smoke detectors, alerting fire authorities to bushfires.

The authority's manager of applied sciences, Anthony Boxshall, said fires produced small particles and other pollutants that could be detected by air sensors using existing technology.

"Just imagine there is a lightning strike that creates a fire two kilometres down a country road that has a light pole, and maybe no one notices it for an hour or so because it's not near a house," Dr Boxshall said.

"If you had air quality senors 50 metres away on a pole it would pick it up.

"The more information you have about where and how a fire started the better you can predict where a fire will go."

A similar air monitoring project in Tasmania is already bringing together information on pollution, weather and pollen, with around 29 sensors.

Dr Fay Johnston, an expert on the health effects of air pollution, said people had been able to use the data to work out if smoke or pollen had been aggravating their asthma.

The sensors had also detected poor air quality caused by wood fires.

London mayor to double funding to tackle air pollution

Date: 7th December, 2016 Source: The Guardian



Campaigners, health charities and neighbourhood groups have welcomed plans by the London mayor, Sadiq Khan, to more than double funding to clean up the capital's dirty air.

London is one of the most polluted of dozens of cities in the UK that breach EU standards on nitrogen dioxide (NO2), a toxic gas caused by diesel vehicles. Air pollution has been linked to nearly 9,500 premature deaths in the city each year.

Funding for air quality measures over the next five years will be more than doubled to £875m, under plans announced on Wednesday, up from the £425m committed under the former mayor Boris Johnson.

If approved at a Transport for London board meeting next week, most of the money – £312m – will be spent on cleaning up TfL's 9,300-strong bus fleet. A further £65m will be used to compensate and encourage taxi drivers to switch from the oldest black cabs – those more than 10 years old – to new ones capable of zero emissions, meaning they will either run on batteries or hydrogen.

Local neighbourhood schemes will receive £14m for tackling some of the worst pollution hotspots outside the city centre. Plans will also be published next year to cut the number of buses running along Oxford Street, which researchers have said has the worst NO2 pollution in the world.

Khan said: "With nearly 10,000 Londoners dying early every year due to air pollution, tackling poor air quality is a public health emergency that requires bold action. I want London to be a world leader in how we respond to the challenge of cleaning up our air, and today I'm announcing that TfL will be doubling spending on improving London's air over the next five years."

The new money comes days after the mayors of four major world cities – Paris, Madrid, Athens and Mexico City – pledged to ban diesel cars by 2025.

Khan's plans stops short of that, though the mayor is bringing in an "ultra low emissions zone" a year earlier than planned and has more than doubled its size. Owners of older diesel cars will have to pay £12.50 on top of the existing congestion charge to enter the zone.

The extra funding was welcomed by campaigners, though some called on the mayor to go further and ban diesel vehicles.

"Good job Sadiq," said Simon Birkett, founder and director of Clean Air in London, but added: "We won't be happy though till you ban diesel in London by 2020."

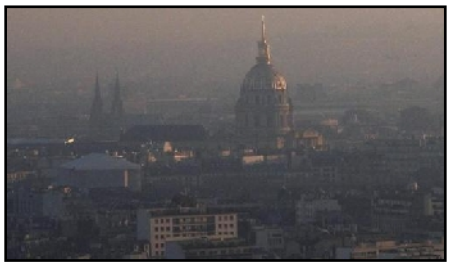
Friends of the Earth London campaigner Sophie Neuburg said: "This cash injection from the mayor is great news for Londoners forced to suffer the impacts of the capital's filthy air." But she also called for Khan to follow the other cities and ban diesel vehicles.

Dr Samantha Walker, Asthma UK's director of research and policy, said: "It is clear that action is needed and we welcome the extra investment to help clean up the air we breathe."

The mayor also repeated his call on the government to do more to improve air quality, including introducing a scrappage scheme for the most polluting cars, a measure that officials have ruled out. On Tuesday, children and the British Lung Foundation delivered a petition signed by more than 20,000 people to 10 Downing Street urging more action on dirty air.

Paris chokes under worst winter air pollution in decade

Date: 7th December, 2016 Source: Hindustan Times



Paris choked on Wednesday under its worst winter pollution in a decade, with commuters enjoying free public transport and half of the cars ordered off the road in an effort clear the air.

The surge in pollution has been driven by cold weather and near windless conditions that have trapped car exhaust, wood smoke and other pollutants, said the French capital's AirParif air monitoring service.

Though bad by local standards, current levels of fine airborne particles known as PM10 in Paris are around 60 percent of levels in notoriously polluted Beijing and a fraction of readings in New Delhi, known as one of the world's most polluted capitals.

City authorities announced a second day of traffic restrictions, with a ban imposed on private cars with registration plates ending in even numbers from between 5:30 am (local time) and midnight.

They imposed the same restriction on cars with odd-numbered plates on Tuesday.

Public transport in the city was also free for a second day running to encourage commuters to leave their vehicles at home, while school children are being prevented from exercising outside.

"This is a record period (of pollution) for the last 10 years," Karine Leger of AirParif told AFP by telephone.

For more than a week now, Airparif has published readings of PM10 at more than 80 microgrammes per cubic metre of air particles, triggering the pollution alert.

It recorded the highest level of pollution last Thursday, reporting 146 microgrammes/m3.

Other parts of France were also facing pollution alerts, with the air particle concentrations rising to dangerous levels in the southeast and the north of the country.

The central city of Lyon was suffering as pollution gathered in the Rhone Valley, also affecting the Alpine towns of Chambery and Annecy.

The environmentalist candidate in next year's presidential election, Yannick Jadot, said that politicians needed to target the most polluting vehicles and restrict the use of diesel engines.

"We have politicians who tell us they are looking after our health," Jadot said. "The reality is that when they have to choose between traffic, diesel and our health, unfortunately they don't choose our health."

This is only the fourth time Paris has resorted to traffic restrictions to cope with air pollution. The region's officials took similar measures in 1997, 2014 and 2015.

But a parliamentary report has questioned the efficacy of the restrictions, arguing that they do not target the most polluting vehicles.

Despite the measures yesterday, officials reported heavy traffic jams in and around the city in the morning and evening rush hours.

Traffic police were kept busy trying to enforce the anti-pollution measures, fining more than 1,700 motorists for violations.

Exchanging experiences to fight air pollution

Date: 7th December, 2016 Source: China Daily



This week, Chinese and international pollution management professionals are gathering in Beijing for a series of events as part of a Pollution Management and Environmental Health Business Week hosted by the Ministry of Environmental Protection and Beijing Environmental Protection Bureau with the support of the World Bank to share their experiences in air quality management.

These events are particularly timely as the toll from air pollution is becoming increasingly apparent across the world, especially for low and middle-income countries. Those of us living in polluted cities see evidence of the burden of air pollution all around us. That many of our fellow city dwellers choose to wear masks serves as a daily reminder that we are breathing polluted air.

Over the past five years, the Chinese government has been focusing on addressing PM2.5, particulate matter with a diameter of 2.5 micrometers or less, which is the most critical pollutant for public health. In 2012, the government issued stricter standards for ambient PM2.5 concentration, which went into effect

in January 2016 and are comparable to standards defined by the World Health Organization. The 13th Five-Year Plan (2016-20) has set the target of reducing PM2.5 concentration by 18 percent. This is the first time PM2.5 targets have been included in a five-year plan. China is establishing the most extensive air monitoring system in the world, which is already covering 338 cities nationwide.

While air quality has improved over the past years, levels of air pollution are and will remain high causing economic and social costs. To continue improving the air quality across China's cities, China needs to address three key challenges.

First, there is a need for an effective regional air quality management mechanism. Wind can carry air pollution more than 500 kilometer from its source, so pollution caused in one province may be blown into another province. Indeed, 20 to 40 percent of PM2.5, the main form of air pollution in China, comes from outside the affected province or city. The Beijing-Tianjin-Hebei region has developed a mechanism for sharing air quality information. This could provide a platform for increasing regional-level planning and commitment setting while implementation remains at the local level.

Second, there is a need to strengthen monitoring and analysis of additional sources of pollution. Some sources of pollution, such as coal-fired power plants, heavy industry, road vehicles and construction sites, are well known and well understood. Other sources, such as agriculture and livestock waste, biomass burning, rural stoves and off-road heavy equipment also contribute significantly to pollution, and require better monitoring and further analysis. This is important because there are chemical interactions between emissions from different sources, like road vehicles and agriculture, which worsen pollution. In the end, regional air quality management plans require a multi-sectoral approach that includes all these sources. Such an approach brings additional benefits of making those sectors more efficient and competitive.

Third, there are cost-efficiencies to be gained from coordinating air quality management and climate change policy. The synergies between carbon emissions and air pollution are well recognized; however, it is important to realize that there are discords too. As such, we cannot assume that a reduction in carbon emissions automatically improves air quality. A clear example of discordance is Europe's shift from gasoline to diesel vehicles. It is true that diesel vehicles emit 15 to 20 percent less carbon dioxide; however, they also emit about 20 times more nitrogen oxides compared to gasoline vehicles, which is a contributor to air pollution.

Chinese authorities realize that reducing air pollution is a long-term process which can be accelerated by benefiting from lessons learned from other countries which have already reduced their air pollution to accepted levels. At the same time, the Pollution Management and Environmental Health Business Week will provide an opportunity for other countries to learn from China's recent experience in implementing and strengthening air quality management policy.

After the Acid Rain

Date: 8th December, 2016 Source: Compass Live



Although acid rain has become much less common in recent decades, many high elevation watershed streams in the southern Appalachians are still acidic due to past deposition. Photo by Brian Stansberry, courtesy of Wikimedia Commons.

"Rain has become much less acidic since the Clean Air Act was

strengthened in the 1990s," says U.S. Forest Service Southern Research Station (SRS) soil scientist Jennifer Knoepp. "However, some high elevation streams still have chronic or episodic acidity."

Acid rain, as well as other forms of acidic deposition such as acid fog and acid mist, can still occur at high elevations in the southern U.S. Additionally, the acid rain of decades past has left a chemical legacy in high elevation soils.

Acids can be stored in soils for long periods of time before leaching out and making their way to rivers and streams. The acids do not move alone, either. Because of their powerful negative electronic charge, acids attract positively charged molecules. These positively charged molecules are often critical to plant growth, and their loss can weaken trees and slow growth.

Land managers need tools for identifying which watersheds are still affected by past acidic deposition, as well as strategies for restoring such watersheds. Knoepp and her colleagues addressed both of these issues in a recent study that was published in the Journal of Forest Ecology and Management.

The scientists studied high elevation watersheds in three national forests in the southern Appalachians, all in North Carolina: the North River in Cherokee National Forest; Santeeetlah Creek in Nantahala National Forest; and the North Fork of the French Broad in Pisgah National Forest.

High elevation watersheds are especially susceptible to acid deposition from rain, fog and mist. Knoepp and her colleagues studied individual catchments within each watershed to represent a gradient in elevation as well as a range of acidic deposition histories.

High elevation watersheds in the southern Appalachians tend to have deep, rocky soils with more organic matter than their lower elevation counterparts. They also have different vegetation communities and get far more acidic deposition.

As long as streams are not overwhelmed by acidic deposition, they can naturally neutralize some acids. Knoepp and her colleagues wanted to identify measurements that would help managers rank streams by their ability to resist acidification, or their acid-neutralizing capacity. The scientists also wanted to identify catchment and soil metrics that managers could use to rank streams by their sensitivity to acidity.

Knoepp and her colleagues found that the height of trees and the thickness of their trunks, or their basal area, were indicators of watershed acidity. Acid rain triggers a cascade of chemical reactions in soils that can last for years, and scientists identified a number of belowground indicators, such as soil mineralogy, total carbon content, and the depth and chemistry of specific soil layers.

The scientists also estimated the amount of lime it would take to restore acidic watersheds. "The lime requirements we identified were within the broad range found in other studies," says Knoepp. "However, the amount required varied by watershed, and the effectiveness would likely vary by watershed as well."

London plans to spend $1.1 billion to boost air quality

Date: 8th December, 2016 Source: CNBC



London is to more than double the money used to tackle air pollution in the city, the city's mayor has confirmed.

On Wednesday Sadiq Khan said that £875 million ($1.1 billion) would be spent

to boost air quality in London up until 2021/22. Air pollution is becoming an increasingly serious problem in London, with authorities saying that 9,400 deaths a year can be attributed to illnesses connected to air quality.

A range of proposals have been made to tackle the health related dangers from air pollution. These include the introduction of an Ultra-Low Emission Zone as well as five Low Emission Neighborhoods across eight boroughs.

"With nearly 10,000 Londoners dying early every year due to air pollution, tackling poor air quality is a public health emergency that requires bold action," Khan said in a statement on Wednesday. "I want London to be a world leader in how we respond to the challenge of cleaning up our air," he added.

Wednesday's announcement is the latest in a raft of new measures aimed at making London a greener, more environmentally friendly city.

On Monday, authorities said they were looking to invest £770 million in cycling over the next five years. Last week, it was announced that London would be home to the world's first double decker bus powered by hydrogen.

The U.K. capital is not the only major capital looking to tackle pollution head on. The mayors of four major cities – Mexico City, Madrid, Paris and Athens – recently pledged to ban diesel vehicles from their streets by 2025.

State's new air pollution panel has no ECO-experts

Date: 8th December, 2016 Source: Mumbai Mirror

Only govt officials part of committee, which will ensure enforcement of pollution-control steps.

The state has formed a high-level panel to bring down air pollution levels, but it has not included any environmentalists or independent experts as members, baffling activists who have questioned the government's seriousness on the issue.

The committee, headed by chief secretary Swadheen Kshatriya, comprises top officials from government departments such as health, housing and environment; MMRDA; the state roads corporation; and the police force. The member secretary of the Maharashtra Pollution Control Board is also part of the panel, which will ensure enforcement of laws and orders that seek to improve air quality in Mumbai and other affected places.

But no one from outside the government machinery has been roped in for the efforts. "The Maharashtra government has set a unique example of appointing people with no environmental understanding to handle environmental issues. This had also reflected in committees that were appointed earlier," said environmentalist D Stalin. "The government is deliberately keeping environmental and technical experts out of decision making. It is not serious about addressing eco-issues and is taking refuge under tokenism."

There have been growing concerns about the quality of air we breathe after the recent crisis in Delhi, which had to shut schools and factories because of hazardous levels of pollution.

Mirror had reported on November 9 that though Mumbai has not yet experienced the choking smog that often blankets the national capital, we have no reason to breathe easier. Different pollution monitors that

measure levels of PM 2.5 — tiny particles that can enter the lungs — have routinely described Mumbai's air as "unhealthy", "poor", and "extreme pollution".

At 9.30 pm on Wednesday, the city had "very high pollution", according to Plume Labs, which provides live reports.

The state environment department constituted the high-level committee following recent directions by the National Green Tribunal, which was hearing a petition by Vardhman Kaushik and other people alarmed by the pollution in major cities.

The committee's main brief is to ensure rules, judgments and prescribed measures on pollution control are implemented at the ground level, not just on paper, according to the government resolution issued by Satish Gavai, additional chief secretary of the environment department.

The panel will also create awareness on the harmful effects caused by burning of agricultural refuse, and inform famers about the incentives for green practices. It will create a task force to ensure waste is not burned, roads are mechanically cleaned and there are fewer traffic snarls, often blamed for worsening air pollution.

The government resolution says Kshatriya can consult environmentalists and other experts, but NGOs say the committee should have them as full-time members instead.

"The government is not serious about tackling pollution. Our application for the traffic restraint scheme has pending since 2000 and the government has backtracked on its earlier commitment," said environmentalist Debi Goenka. "It must include experts in the new committee."

Kshatriya said the state would call environmentalists as special invitees and hear them out. "We need some experts in the panel," he said.

Running home from work in high air pollution could be deadly, study suggests

Date: 9th December, 2016 Source: The Telegraph

Running or cycling home from work when air pollution is high could damage the lungs and lead to heart failure, a new study suggests.

Researchers in Belgium have discovered that the pollution causes blood vessels in the lungs to narrow, which prevents oxygen circulating effectively through the body, and could lead to cardiovascular disease.

"This is a major public health issue for people living in polluted urban areas where exercise could damage the lungs and potentially lead to decompensated heart failure," said lead author Dr Jean-Francois Argacha, a cardiologist at the University Hospital Brussels.

"Our main advice is to limit physical activities during heavy air pollution. No strong evidence exists on effectiveness of face masks to eliminate or reduce particle exposure."

Researchers looked at more than 16,000 people who had been admitted to hospital in Belgium between 2009 and 2013 and who had an echocardiogram taken to show the movement of blood through the heart.

They then compared the results to air pollution records and found that on average patients had worse circulation on days where pollution was high, or had been in the week before admission.

In a second experiment scientists exposed 10 healthy male volunteers to pollution in a chamber and tested their lung function at rest, and when taking a drug which simulates heart function during exercise.

Although there was no impact when resting, circulation worsened when the drug was administered.

"This suggests that pollution is more harmful to the lung circulation during exercise," added Dr Argacha.

"Our dual approach provides original data on the impact of air pollution on the pulmonary circulation."

The research was presented at the EuroEcho-Imaging annual meeting in Leipzig, Germany.

Air pollution may impair function of blood vessels in lungs

Date: 11th December, 2016 Source: The Indian Express



"This is a major public health issue for people living in polluted urban areas where exercise could damage the lungs and potentially lead to decompensated heart failure," said Argacha.

Air pollution impairs the function of blood vessels in the lungs, a study in more than 16,000 patients has found. Promoting a safer environment appears to be as important as controlling conventional risk factors, like high cholesterol, in reducing cardiovascular disease. "This is the first human study to report an influence of air pollution on pulmonary vascular function," said Jean-Francois Argacha, a cardiologist at the University Hospital in Belgium.

"This is a major public health issue for people living in polluted urban areas where exercise could damage the lungs and potentially lead to decompensated heart failure," said Argacha. Air pollution consists of particles and gases. The first vascular bed in contact with air pollutants is the pulmonary circulation yet few studies have investigated the impact. "Such studies are important because if air pollution causes narrowing of the blood vessels in the lungs, this combined with the systemic effects of pollution could cause decompensated heart failure," said Argacha.

The current study examined the effect of air pollution on pulmonary haemodynamics in a population and in individuals. The population study assessed whether common levels of outdoor air pollution influence the echocardiography parameters conventionally used to evaluate the pulmonary circulation and right ventricular function. Between 2009 and 2013, transthoracic echocardiography including an evaluation of pulmonary pressure was conducted in 16 295 individuals and correlated with average air pollution in Brussels on the same day and in the last five and ten days.

Researchers examined whether any patient subgroups were more susceptible to the effects of air pollution. The individual study examined the effect of air pollution on pulmonary circulation in ten healthy male volunteers exposed to pollutants in a chamber with standardised conditions. The volunteers were exposed to ambient air or dilute diesel exhaust with a PM2.5 (particles less than 2.5 micrometres in diametre) concentration of 300 microgrammes per cubic metre for two hours.

The effects on pulmonary vascular resistance were assessed with echocardiography at rest and during a cardiac stress test in which the drug dobutamine is given to simulate heart function during exercise. The population study showed a negative effect of PM10 (particles less than 2.5 micrometers in diametre), PM2.5 and ozone on pulmonary circulation on the same day and over five and ten days.

Specifically, increases in these pollutants were associated with reduced pulmonary acceleration time and increased pulmonary acceleration slope. Increases in PM10 and PM2.5 over ten days were associated with worse right ventricle function. The negative impact of PM10 on pulmonary circulation was more pronounced in patients with obstructive sleep apnoea.

Gurgaon releases holy smoke to cut air pollution

Date: 11th December, 2016 Source: The Times of India

GURGAON: With unabating pollution in the city and the inability of government agencies to take adequate steps to improve air quality, residents are now seeking divine intervention to purify the air.

Some residents performed a 'havan' (a ritual burning of offerings) on Saturday at Infocity in Sector 33 and offered different items in the fire to please God for purifying the air. They are planning to perform 100 havans in different parts of the city on December 31 by involving a large number of people from different sections of society.

"Havan was performed for conservation and protection of the environment and make people aware about pollution and its harmful effects," said Pramod Raghav of NGO Niswarth Kadam, who had organised the havan. He said it was also an effort to make people aware about the environment conservation.

While the irony of the exercise which entails a degree of air pollution cannot be lost on anyone, the priest who performed the havan said that on the contrary, it actually purifies the air.

Upset with the government over its failure to take steps for improvement of air, Sushant Mishra, an IT professional, said, "Now only God can protect us from air pollution. Instead of doing something about it the government is continuing to fell trees."

As Air Pollution Kills Thousands Every Year, Will The London Mayor's Plans Be Enough?

Date: 11th December, 2016 Source: Huffpost Politics



Last week, Sadiq Khan announced plans to double funding to clean up London's filthy air, and rightfully renewed his concern about the issue by branding it a "public health emergency". But will throwing money at the problem be enough to take action on our pollutant-contaminated air?

We now know that invisible pollution claims the lives of 9,500 Londoners a year. Our air is contaminated with worryingly high levels of pollutants like nitrogen dioxide (NO2), a harmful gas, and particulate matter (PM), tiny solid or liquid matter which can lodge in the lungs. Both of these pollutants correlate with toxic nitrogen oxide (NOX) emissions produced predominantly by diesel vehicles. And while the adverse effects on most people are more insidious and long-term, the effects on those with pre-existing lung diseases like asthma are much more severe. According to Asthma UK, two thirds of asthma sufferers claim that poor air quality exacerbates their asthma.

Khan's plans prioritise much of the promised spending on making London buses cleaner and incentivising cab drivers to switch from old black cabs to new ones capable of zero emissions. The Mayor is right to target public transport in his plans to reduce air pollution, as public transport can relieve traffic congestion and reduce air pollution from motor vehicles. But what his current plans fail to address adequately is how he is going to significantly reduce diesel emissions with hundreds of thousands of other diesel vehicles still roaming and polluting the City.

As it stands, the current proposal aims to curtail the number of diesel vehicles in London by levying a £12.50 charge on drivers of those vehicles, as part of the introduction of an Ultra Low Emissions Charge (ULEZ) in 2019. Although this could mean a 40% reduction in NOX emissions, the charge simply doesn't go far enough to face up to the challenge which we are seeing today; the longer we allow these vehicles to disperse toxic fumes, the less time we will have to undo the damaging effects they inflict on human health. And even once the ULEZ comes into place, it will not be enough to deter drivers of diesel-fueled vehicles, many of whom simply use them as part of their job.

Nonetheless, further action must take place. Earlier in the month, four of the world's biggest cities - Paris, Madrid, Athens and Mexico City - announced a collaborative initiative to ban diesel vehicles completely from their centres by 2025, a move which could see a radical purging of dirty air. And even though their plans are scheduled for a later start than the London Mayor's, they still signal the sort of change which must become a part of Khan's own strategy. We can no longer afford to squander money on more and more clean public transport initiatives while refusing to take the next step on diesel-burning vehicles.

Earlier this year, it was revealed that 97% of all modern diesel cars emit more NOX gas than the legal limit set by the EU. Although the vehicles meet regulations under fixed conditions in laboratories, it was discovered that they emit far more pollution when out on real roads. Despite their wrongdoing, the only car manufacturer which seemed to get a slap on the wrist was Volkswagen, which was taken to court and fined following the infamous 'dieselgate' scandal, which saw the company exposed for using cheating devices to pass emissions tests.

The only way to hit back at these manufacturers would be to put a stop to the use and production of the soot-producing motor vehicles. However a blanket ban won't be easy to implement. Many drivers bought the vehicles after being told that they would benefit the environment. And it isn't the diesel drivers we should be punishing after all; it should be the big car manufacturers responsible for the production of those vehicles. Of course the Mayor can't be held responsible for the government's inaction and lack of backbone on the regulation of NOX emissions. But he can - and should - put pressure on the government, not only to take responsibility for toxic output going unchallenged, but to coordinate an effective end to the circulation of cars, vans and motorbikes which put our lungs at risk.

I sympathise entirely with Khan's attempt to tackle something which his predecessor Boris Johnson actively suppressed while in office. And as a fellow asthma-sufferer, I think that his intention is genuine and that the gesture couldn't come sooner. There are handy websites and apps now which monitor the levels of air pollution - but they inevitably place the onus on individuals to avoid breathing in toxic air rather than the causing factors of pollution. By aiming policy at individuals, this falls short of the drastic overhaul of London's dirty air we need urgently.

Alarm system for air pollution adjusted

Date: 13th December, 2016 Source: Shanghai Daily



SHANGHAI is to adjust its four-tier air pollution alarm system and will lower the criteria for activating the lowest blue color alarm, allowing anti-pollution measures to be triggered earlier.

Under the current system, used since 2014, the blue alarm is issued when the air quality index is forecast to be between 201 and 300, or heavily polluted, over the next 24 hours.

If that reading is expected to last for 48 hours, the alarm is raised to yellow. Once an alarm is issued, Shanghai will close some construction sites and suspend operation of some factories discharging pollutants.

The highest level of red alarm will be issued when the air quality index is forecast to be over 450, or severely polluted, for the next 24 hours, under which schools and kindergartens will be closed. Shanghai has not issued a red alarm in the past three years.

Shanghai Environmental Protection Bureau chief Zhang Quan said the four-tier system would be adjusted to better serve citizens. According to Jiefang Daily, the new system may be announced this week, though the bureau said no date had yet to been set.

According to the paper, the adjusted system will lower the criteria for the activation of the blue alarm — it would be issued when there is moderate pollution (AQI between 151 and 200) or short-time heavy pollution is predicted in the next 24 hours, so that anti-pollution measures can be taken earlier to help.

Real-time density of the city's major air pollutant tiny particle PM2.5 — tiny particles that are particularly hazardous to health — will also be considered when officials decide whether to issue the alarm, said the paper. Corresponding measures would see adjustments too in the new system, according to the newspaper.

Shanghai's worst air pollution is usually in winter due to poor dispersion conditions, as well as pollutants transferred into the city from neighboring provinces and by some central and northern China cities where heavy industry is located. The first blue alarm of this winter was issued last week when the AQI hit 227 on Monday morning.

Last December, Shanghai Environmental Protection Bureau introduced "emergency measures" to better deal with air pollution in winter. Those measures included suspending outdoor operation at all the city's construction sites within the Outer Ring region and banning trucks carrying muck from city roads.

The emergency measures were triggered when continuous air pollution or short-time heavy pollution is expected in Shanghai in the next 10 days.

Air pollution as harmful to heart as smoking

Date: 13th December, 2016 Source: Indian Express

KOCHI: Though the rate of smoking has come down over the past few years, high levels of air pollution are leading to increased risk of heart diseases which is almost equivalent to the risk of smoking. Senior

doctors who spoke at the 68th annual conference of the Cardiological Society of India suggest initiating steps to reduce air pollution across the country to reduce heart and lung diseases.

According to Dr Dorairaj Prabhakaran, executive director, Centre of Chronic Disease Control, Delhi, heart disease was showing an alarming increase in India and urbanisation has played a role in this trend. ‘’All over India air pollution is higher than the standards set by the World Health Organisation (WHO),’’ said Dorairaj. Efforts have to be made to reduce air pollution to reduce heart and lung diseases. Public Health Foundation of India (PHFI) has launched an initiative named Geo Health Hub to reduce pollution.

He said practising yoga could be effective for cardiac rehabilitation of heart patients.

There is an ongoing study looking at the benefits of yoga in returning patients to their normal lives after a bypass or treatment for heart attack. Dorairaj further said treatment of high BP, sugar and cholesterol can be done by the general doctors at the primary level itself. The government has decided to launch a programme to train the primary doctors at district level to treat these risk factors of heart diseases. He said 17 million man hours will be lost due to heart diseases by 2030 if preventive measures are not taken. World Heart Foundation former president Dr Salim Yusuf said cardiac illness is one of the major causes of deaths in our country. The number of cardiac patients in Kerala is three times more than the national average. “People should reduce carbohydrates and include more fruits in daily diet,” said Yusuf. The four-day conference ended on Monday.

Ministers slammed for inaction over London air pollution

Date: 14th December, 2016 Source: Evening Standard



Ministers were left shamed after being slammed for their inaction over London’s toxic air.

MPs tore into air quality minister Therese Coffey and transport minister John Hayes over why Londoners were still having to breathe filthy fumes despite the alarm being raised about killer pollution years ago.

“We just can’t go on saying: ‘It’s the fault of somebody else’,” Neil Parish, chairman of the Commons environment committee reprimanded them as he waved a map of a pollution peak smothering London last month.

In heated exchanges, Ms Coffey was accused of “abdicating her responsibility”, “insulting Londoners” and “opting out” of key decisions, claims which she denied.

But Mr Parish lambasted “policies that are just not working” and asked why the Government had to be dragged to court twice to improve its plans to clean up toxic air blamed for a death toll of more than 9,000-a-year in the capital.

Mr Hayes described the ruling by judges, that the Government’s air quality proposals were too feeble, as a “wake-up call”, quoting CS Lewis that “failures are finger posts on the road to achievement”.

But Tory MP Mr Parish chided: “Was not the first court case a wake-up call - does it take two court cases to wake up?”

However, it was Ms Coffey who left MPs most aghast with her stance over a controversial new cruise ship terminal off Greenwich given the go-ahead without a shore-to-ship electrical supply.

Poplar and Limehouse Labour MP Jim Fitzpatrick warned of a "gap" in the law and stressed the decision should not have been left to Greenwich council as it affected other parts of London due to fumes from the ships' engines being kept running.

Rounding on Ms Coffey, he said: "To say, with the greatest respect, that Greenwich have made the decision is an abdication of your responsibility, when tens of thousands of people are dying prematurely because of poor air quality...to sit there and say Greenwich have made the decision is an an insult to the people of London."

Ms Coffey responded: "It's not an insult to the people of London, it's a stating of fact that an environmental impact assessment was considered.

"We have got to keep focused on evidence and research."

However, Mr Parish fired back: "It's no good to quote just local decisions to opt out of responsibility."

He said it was a "no brainer" to have a shore-to-ship electrical supply but that local and central government did not appear to be "pulling together", accusing the minister of "playing one against another".

Ms Coffey insisted: "It's about targeted interventions, devised by local communities, that matter."

Mr Hayes stressed millions more had been allocated to town halls to clean up air pollution, they were being given "more direction" and there was more joint working in Whitehall.

He claimed that in the Autumn Statement an extra £150 million was committed for cleaner buses and taxis, £80 million to improve electric vehicle charging infrastructure, and £20 million for an advanced renewable fuel scheme.

Ms Coffey said over 100 councils had bid for more than £3 million for clean air zones and ministers could go back to Treasury to ask for more cash.

But Mr Parish condemned the sum as a "very small amount of money" to deal with a "very big problem".

Beijing issues red alert for severe air pollution

Date: 15th December, 2016 Source: Times of India

BEIJING: Beijing has issued its first red alert for air pollution this year as a new bout of heavy smog was set to hit the capital city and surrounding areas on Friday. The smog that is expected to last for five days, officials said on Thursday.

Approved by the municipal government, the red alert will be activated 8 PM local time Friday and is expected to be lifted on December 21 when the air quality in the city improves, state-run Xinhua news agency reported.

China National Environmental Monitoring Centre said during the period, Beijing and neighbouring Tianjin Municipality and Hebei Province will suffer heavy air pollution, which will also affect Shandong and Henan provinces.

High-polluting vehicles will be pulled off roads while other vehicles will be restricted based on an odd-or-even license plate rule, it said.

Construction sites will be shut down, certain factories closed and schools advised to suspend classes during the red alert.

According to an updated emergency response plan for severe air pollution released November, four consecutive days of heavy air pollution, including two days of severe air pollution, activate a red alert.

A red alert is also issued if the city's Air Quality Index (AQI) reaches 500.

Not just prevention, we want reversal of air pollution: Delhi HC

Date: 15th December, 2016 Source: The Indian Express



Terming as "alarming" the figures of particulate matter generated from one state alone during the crop-burning season, the bench said one effective way to reduce this pollutant was by having more green cover.

The Delhi High Court on Thursday said it does not just want prevention of air pollution, but a reversal of its impact also, after it was told that pollutants once generated continue to affect the environment for years. "What about what has already come into the (environment) system every year? We don't just want prevention, but we want a reversal also," a bench of justices Badar Durrez Ahmed and Ashutosh Kumar said to the Centre, the Delhi government, all civic bodies and pollution control authorities which were also asked to carry out pollution mapping of the national capital. The court asked the authorities to map the areas in Delhi which are the highest polluters, after it was told by the Delhi Pollution Control Committee (DPCC) that Anand Vihar had the highest levels leading to increase of the average ambient air quality level of the city.

During the hearing, the bench was told that 9000 tonnes of PM 2.5 and 10,000 tonnes of PM 10, both particulate matter, were generated from burning of stubble by the state of Punjab alone during a 20-day period and these pollutants do not dissipate easily from the environment.

Terming as "alarming" the figures of particulate matter generated from one state alone during the crop-burning season, the bench said one effective way to reduce this pollutant was by having more green cover. This view was echoed by amicus curiae and senior advocate Kailash Vasdev who also suggested regulation of landfill sites and cleaning up of road and construction debris as additional measures to improve air quality.

DPCC, represented by advocate Sanjeev Ralli, claimed the reason for high pollution levels at Anand Vihar was due to the presence of a inter-state bus terminal and a railway station there, apart from the chaotic traffic situation. Taking note of the submission, the court as an "immediate short term plan" directed Delhi Traffic Police to "rectify and rationalise the traffic situation there". Similar directions were issued to the Uttar Pradesh government to control the traffic situation in neighbouring areas of Anand Vihar which fall in that state.

DPCC, meanwhile, was asked to give average ambient air quality figures for Delhi by excluding Anand Vihar. The East Delhi Municipal Corporation and the Public Works Department were directed to focus on Anand Vihar area and remove the roadside rubble, dust and construction debris from the area.

During the hearing, DPCC told the court that it was going to set up 20 more monitoring stations in the national capital, but it would take at least a year as bids have to be invited from abroad as there were no certified manufacturers in India which make such equipment.

The commissioners of the three municipal corporations in the city were asked to file their affidavits, indicating their action plan for management and disposal of the waste generated by the national capital, before the next date of hearing on January 12, 2017. The court said it will consider the affidavits on the next date.

It also allowed the amicus to give a presentation before the National Capital Region Planning Board, on the issue of air pollution, before it takes a concrete decision. The court was hearing a PIL initiated by it on the issue of alarming levels of air pollution in the national capital.

To Reduce Air Pollution, Paris' Restrictions Cut Vehicular Traffic By Half

Date: 15th December, 2016 Source: GasBuddy

Paris last week imposed license plate-based driving restrictions—and plans bans on older cars—as the City of Lights experienced the worst air pollution in a decade. Clouds of pollution are currently hanging over the city (and others across Europe) due to a lack of the winds that blow in off the Atlantic Ocean.

Reuters reports that Paris and municipalities around the city banned cars from circulation based on whether their license plates ended with odd or even numbers. It's only the fourth time in 20 years that Paris has imposed such a ban, and the first time it applies for consecutive days.

With its famous Eiffel Tower shrouded in a grayish haze and some tourists donning face masks, the city also made all public transport, residential parking and the Velib' bicycle and Autolib' electric car schemes free. "Cars are poisoning the air," said Paris city hall transport official Herve Levife. "We need to take preventative measures."

Besides instant measures like license plate-based driving bans, the city also plans to set up its fight against chronic pollution by gradually banning the oldest and most-polluting vehicles for the city center, Levife added.

From mid-January Paris will become the first French city to launch a new pollution reduction system that will require all cars to have a color-coded sticker indicating their age and pollution level. The stickers will allow police to control which vehicles can circulate in the city center.

From July 1, 2017, the city will impose bans on diesel-powered cars and vans first put into circulation in 2001, and trucks first registered in 2006. Between 2018 and 2020, the city will gradually tighten circulation permits. Cars 20 yeas and older have already been banned from Paris roads since July 1 of this year, and some 120,000 stickers have been distributed.

Additionally, Paris Mayor Anne Hidalgo is on a drive to reduce car traffic. She has increased the cost of parking meters, banned free parking on Saturdays and during the August holiday period, and is turning a highway on both banks of the Seine into a riverside park.

Grenoble in eastern France also plans to use the same color-coded stickers and Lyon plans a ban similar to Paris, while other French cities are considering banning clunkers on their own roads.

Could we see similar measures in cities like Los Angeles, Pittsburgh, Denver and Houston? What U.S. city do you think should consider comparable restrictions?

When life gave them air pollution, they made ink

Date: 16th December, 2016 Source: Detroit Free Press



Excited to arrive in Hong Kong, you're enthusiasm quickly wanes. Your eyes and lungs burn from the smog, as air pollution levels have reached record highs in this cosmopolitan city. The dense haze lingers in the air as children crave to see a rare blue sky.

First looking for fresh ways to market their goods, Hong Kong-based Tiger Beer discovered inspiration from those soot-filled skies. Realizing what a big hazard air pollution had become and connecting with the need to raise awareness to influence new environmental laws and activism, Tiger saw opportunity where others could only focus on the problem.

The big idea? Turn air pollution into ink. A special device to capture pollution was designed and attached to trucks, smokestacks, and cranes, which allowed the team to turn harmful waste into useful art. One hundred and fifty liters of ink have been harnessed so far and transformed into art displayed in the streets of Hong Kong and on the project's website, Air-ink.com.

"The streets are not only a great place to drink Tiger, they're also the place where creativity, ideas and passion are born. By using our entrepreneurial spirit to repurpose pollution into ink — the lifeblood of creativity — we're giving creative people the tools to enhance their streets, and empowering inventors to take small but impactful actions against air pollution," said Mie-Leng Wong, director of international brands, Tiger Beer, Heineken Asia Pacific, in a company statement.

What have you done to reduce air pollution: NGT to Delhi, Centre

Date: 17th December, 2016 Source: The Times of India

New Delhi: National Green Tribunal (NGT) on Friday sought to know from the Delhi government and the Centre as to what they had done so far about air pollution. It also asked municipal corporations if they had deputed 50% of their staff to improve the air quality on any day.

"Have you done a single thing to control pollution? Please mention what you have done to control dust, waste burning, and vehicular emissions," the bench asked adding, "When was your 50% staff on the roads to control air pollution?"

Central Pollution Control Board (CPCB) submitted air quality data for four parameters, which was recorded by its six stations between December 7 and December 14—NSIT Dwarka, IHBAS Dilshad Garden, DMS Shadipur, DTU Siri Fort and ITO. Delhi Pollution Control Committee (DPCC) had submitted its data for eight parameters on Thursday.

"How come there is so much variation in the data? Have you analysed the contributing factors in these areas," the bench headed by justice Swatanter Kumar asked.

Lawyers submitted that the monitoring stations are at different locations, which is why there was a variation in levels. The bench directed both DPCC and CPCB to give daily readings but divide them into four parts so that the pollution trends through the day were visible.

Meanwhile, the lieutenant governor held a review meeting on air pollution on Friday during which he asked the transport department to consider reducing fares of DTC buses to promote public transport, at least for the next couple of months. The transport minister assured that the department would work out modalities to reduce bus fares across various slabs.

The environment secretary informed the LG that Delhi's pollution levels were 20% higher because the air quality recorded at Anand Vihar was highly toxic. Environment Pollution Control Authority (EPCA) member Sunita Narain, who participated in LG's meeting, along with heads of various departments, recommended that the Anand Vihar bus depot be completely paved to reduce dust re-suspension, fire at the Ghazipur landfill be brought under control and dust control measures be adopted at the integrated freight complex.

The environment secretary also flagged the problem of idling of vehicles—200 traffic bottlenecks have been identified by the department and the data shared with agencies concerned. It was suggested that traffic congestion can be eased through road-engineering, relocation of bus stops and traffic cycle management. By February-end all U-turns at Delhi borders will be shut so that non-destined vehicles can be turned away.

Beijing orders shutdown of 1200 factories to curb air pollution

Date: 17th December, 2016 Source: The Telegraph

Beijing, Dec. 17 (Reuters): Beijing's city government has ordered 1200 factories near the Chinese capital, including an oil refinery run by state oil major Sinopec and a Cofco food plant, to either shut or cut output following its highest possible air pollution warning.

Environmental authorities issued a red alert that started on Friday night and will run until Wednesday after warning of a smog build-up across China's north. That will mean curbs on traffic and construction work and advisories for schools, hospitals and businesses.

The municipal government said in a statement Sinopec's 10 million tonne-per-year Yanshan refinery, a Shougang Group steel product plant and a Cofco factory that makes instant noodles and crackers were among 500 companies it had ordered to limit output.

It also listed 700 companies that must suspend operations altogether.

Red alerts are issued when the air quality index, a measure of pollutants in the air, is forecast to break 200 for more than four days in succession, surpass 300 for more than two days or overshoot 500 for at least 24 hours.

The AQI reading in Beijing on Saturday was 120.

Ten cities in the province of Hebei, which surrounds Beijing and is the nation' top steel-producing region, have been issued with red alerts for smog. Steel plants there have been forced to cut output.

The world's second-largest economy has been battling environmental degradation left by decades of breakneck economic growth. The government's colour-graded warning system was adopted as part of its crackdown on smog.

EDITORIAL: Stefanik, others must assert reason in environmental debates

Date: 18th December, 2016 Source: Post Star



The thing about disputes over events that take place in nature — like climate change — is that nature has a way of proving you right or wrong.

Take the argument over the increase in earthquakes in Oklahoma, which seismologists have been saying for years is being caused by the underground disposal of wastewater from fracking.

Over the same period of time, people in the oil and gas industry and many politicians in Oklahoma have been denying a connection between the sudden steep increase in earthquakes and the coincident increase in fracking.

But last year, the Oklahoma government finally admitted what was obvious to anyone whose mind wasn't being controlled by a large paycheck: Fracking was causing the earthquakes.

Before the fracking boom started in the mid-2000s, Oklahoma averaged about one and a half earthquakes a year of magnitude 3.0 or larger.

Since the boom in oil and gas exploration began, the number of earthquakes has shot up: to almost 600 magnitude 3.0 or larger earthquakes in 2014 and to more than 1,000 last year.

Oil and gas executives are still saying more study is needed. When and if Oklahoma's cities have been shaken into dust, they will still be saying that.

Calling for more studies is exactly what energy industry executives were doing in the 1970s and '80s, when environmental advocates and New York politicians wanted curbs on pollution from coal-burning plants in the Midwest, which were linked to acid rain in the Adirondacks.

But what was needed was legislation, not more studies, and legislation finally came in the 1990s with the federal Clean Air Act. The pollution controls were so effective that most of the hundreds of small Adirondack lakes poisoned by acidity have recovered.

Scott Pruitt, President-elect Trump's choice to lead the federal Environmental Protection Agency, is what connects Oklahoma earthquakes to climate change and acid rain in the Adirondacks.

Pruitt, the Oklahoma attorney general, is a climate change denier. He has ignored the damage being done to his home state by the fracking-incited earthquakes. Environmentalists in New York and New England fear, if he is confirmed, he will roll back federal pollution controls that reduced acid rain.

Pruitt has led a lawsuit to overturn President Obama's Clean Power Plan, which would reduce the emission of greenhouse gases and cut air pollution beyond the levels achieved by the Clean Air Act.

Even if Pruitt is confirmed and succeeds in blocking the Clean Power Plan, the energy industry may not return to the dirty coal plants largely responsible for acid rain.

But we face a worse threat now with climate change. This November, the extent of Arctic sea ice hit a record low. A fracture that cuts across the Larsen C Ice Shelf in the Antarctic will eventually crack off an iceberg the size of Delaware.

The melting of ice at the poles has already raised sea levels and could potentially lift them by several feet over the next several decades, with immense consequences.

A story in Friday's Post-Star detailed numerous weird weather events of recent years that scientists have linked to climate change, including sunny-day flooding in Miami caused by a very high tide and a rise in sea levels. The result was 22 inches of water running through Miami streets, even as the sun shone overhead.

Soon, seawater could be running through the streets of numerous large cities, from New York to Miami to hundreds more worldwide. Most of the world's population lives along coastlines. Where will they go if the ocean invades?

We will need Republicans in Congress who still respect facts and pay attention to science to resist the path to disaster that people like Scott Pruitt would take us down. We hope our congresswoman, Elise Stefanik, is one of those Republicans.

Although Stefanik recently refused to criticize Pruitt, she has also in recent months acknowledged reality and signed on to efforts to slow the pace of climate change.

Keeping the air clean, protecting our forests and our lakes from pollution and avoiding catastrophic natural changes are not partisan issues. Everyone breathes, drinks water and depends on the natural environment for survival.

No issue is more fundamental, more important or more clearly transcends partisanship. We are counting on Elise Stefanik and other forward-thinking politicians to stop those like Pruitt who would sabotage the environmental progress we have been making.

China: 40 cities reel under heavy smog, air pollution for third day

Date: 18th December, 2016 Source: DNA India

Heavy smog continued to engulf 40 Chinese cities for the third day on Sunday, with many of them under red alert for severe air pollution, as China's environmental watchdog said the situation is likely to worsen further due to unfavourable weather conditions.

While 23 cities in north China, including Beijing and Tianjin, have activated red alerts as the air began to turn hazy starting Friday, 17 other cities declared orange alerts, the second highest alert invoking emergency measures, state- run CCTV said.

As many as 35 flights in Tianjin, east of here, were delayed or cancelled and highways into the city of 7.5 million people were closed due to "extremely low visibility", according to state-run Xinhua news agency.

Beijing and other local governments have imposed odd-even car restrictions on roads and cut emissions for factories.

The heavy smog came a bit later than previously forecast as efforts paid off, and pollutant density in the air has somewhat been reduced in these cities, Chinese Ministry of Environmental Protection said.

However, further observation is needed to confirm the actual effects of these measures, and air pollution is still likely to worsen as weather conditions continue to be unfavourable, the ministry said in a statement.

Pollution levels are likely to peak between today and tomorrow, it said, adding there will be another peak on Wednesday, Xinhua reported citing the statement.

In Beijing, the air quality index (AQI) reading reached 253 indicating heavily polluted air, according to the Beijing Municipal Environmental Monitoring Centre.

China's National Meteorological Centre (NMC) maintained an orange alert for smog today for north China, warning that air pollution will be the most severe from tomorrow evening to Wednesday.

Some regions will see PM2.5 density levels exceeding 500, the NMC said, adding the smog is expected to disperse from Wednesday night.

China has a four-tier warning system for severe weather, with red being the most serious, followed by orange, yellow and blue.

Pollution: NGT asks states why diesel buses shouldn't be barred from entering Delhi

Date: 18th December, 2016 Source: Live Mint



NGT asked Rajasthan, Uttar Pradesh, Uttarakhand, Punjab, Himachal Pradesh and Haryana to take clear decision on switching to CNG vehicles.

Six neighbouring states of Delhi have been asked by the National Green Tribunal why they should not be directed to completely stop the operation of diesel buses coming to the national capital.

Noting that ambient air quality was poor during winters, a bench headed by NGT chairperson Justice Swatanter Kumar asked the states of Rajasthan, Uttar Pradesh, Uttarakhand, Punjab, Himachal Pradesh and Haryana to take clear decision on switching to CNG vehicles and buy buses with additional fuel cylinders to resolve the issue of providing sufficient fuel in these buses.

"It is contended before us that ambient air quality is much poorer compared to the prescribed standards and there is serious environmental and public health issues arising from the pollution. It is so more particularly in the areas of Anand Vihar, Patparganj and Sahibabad. "The counsel appearing for the state of Uttarakhand, UP, Rajasthan, Haryana, Punjab and Himachal Pradesh to take clear instructions from their governments as to why they should not be directed to stop operating diesel buses destined to Delhi or passing via Delhi and instead operate CNG buses...," the bench said.

The NGT also directed Delhi Pollution Control Committee and UP pollution control board to provide complete details in regard to the air pollution resulting from the industries in Patparganj, Sahibabad and Anand Vihar within a week.

It asked them to find out what pollutants are discharged by industrial units in these areas and steps that are required to be taken by them. The matter was listed for next hearing on 23 December.

In October, the green panel had rapped the states for not being clear on their policy for CNG vehicles and warned of halting state transport if they did not introduce CNG, saying most particulate matters in the air inhaled by Delhi'ites emanated from there.

The bench was hearing a plea filed by Kaushambi Apartments Residents Welfare Association (KARWA). In its petition, KARWA had highlighted how the presence of two bus terminuses within 200 metre of each other in Kaushambi has exacerbated air pollution in the area and sought to relocate the Kaushambi bus stand.

Get masked if going to Delhi

Date: 19th December, 2016 Source: The Sangai Express

Jyaneswar Laishram

Every breath you take in Delhi is a 'deadlier' intake, because the air quality in the capital city has now attained the worst ever level in 17 years. Situation got worsen in the week after Diwali when the average air pollution level was 40 times higher than the guidelines recommended by the World Health Organisation, which is 900 micrograms per cubic metre of PM (particle pollution) defined by a mixture of air-borne toxic elements. And the fear is that no proper measures have yet taken up from any quarter by either the Modi or Kejriwal governments, because both are now busy locking horns each other over demonetisation.

Every year, or last year, India reported more deaths due to air pollution than terrorism; but the latter is the only concern political leaders pay attention. Pollution level in Delhi has now surpassed that of Beijing, which was earlier rated to be the world's most polluted city for more than a decade. A source from NASA indicates that pollution level in Delhi kept increasing up to 13 percent over the last five years, while China gradually reduced the level around 17 percent during the same period. Another finding from Global Burden Disease indicates that pollution-related premature death in India last year was around 3280, while China recorded fewer than the figure.

At the Hindustan Times Leadership Summit 2016, which had just wrapped up in the capital, where thought leaders from far and near corners of the globe shared their opinions about 'the change India needs', Jeffery Sachs of Columbia University condemned the country's political class for taking up little or no immediate actions against the deadly calamity in Delhi. He called the political leaders 'irresponsible louts' who would just stick to power without action while the people, particularly children and senior citizens, are dying due to air pollution.

Nevertheless, a little sigh of relief in the grave situation of Delhi air pollution episode is that the Supreme Court has recently approved the action plan laid out by Central Pollution Control Board in the line of Beijing. In the process, this year, certain emergency measures had undergone in the post-Diwali week when the situation attained an alarming stage—all schools shut down, construction works ceased and

selling of crackers banned in Delhi and NCR, which covers Noida, Gurgaon and Faridabad). The very next day of the gleeful festival of lights, a thick layer of smog covered the city, creating near-zero visibility in the evening and burning sensation in the eyes of outdoor strollers.

Blame everything on dust and Diwali! Every year, days before the festival of light, campaigns do carry out far and wide across the city giving people awareness about environment pollution and dreaded consequences that firecrackers could develop. However, efforts went into vain, every year. People, particularly the urban middle-class population in the city, give damn concern about the environment on the night of festival as though none of them take the slightest thought of air pollution. Up until 12 at midnight, despite the police warning of limiting bursting of crackers only upto 11 pm, they stubbornly engage in firework.

Here the point is not about blaming the religious beliefs and value systems associated with Diwali, but the question is why all these crackers bursting on the eve of the festival, even if people found it extremely 'noxious'? Would the festival go so incomplete without firecrackers? What was Diwali looked like before the invention of firecrackers? The story of the establishment of first firecracker factories in India dates back to the 1940s. Only after this did all these loudness incorporated into Diwali. So, is there any possible reformation of the festival to celebrate it in an eco-friendly manner—silently, soothingly, without deadly fume?

When the smog of Diwali goes down, another culprit responsible for the deadly pollution level in Delhi is the 'dust' in the wind. Dust possessed highest percentage (more than 50 pc) of PM10 pollutants contributed to Delhi air, while others being vehicle (20 pc), industry (11 pc) and many more. Being a region of dry season throughout the winter, road dust and that from the construction sites in the city and neighbouring NCR, mixed with toxic vehicular emissions, cause hell lot of complications including eye irritation, nasal blockage, sore throat and persistent dry cough among people in congested colonies. It all happens largely when evening falls. Delhi being the first or second home to a chunk of Manipuris, who either belong to student or professional populaces in the city, a red alert for those heading to the capital city these days, say in winter, is that they must take extra health caution about the air pollution, because a latest report from Systems of Air Quality Weather Forecasting and Research, has indicated that the air quality may get fouler due to thick fog now expected to glide down in full in a few days. And just a few days ago many residents in the city woke up to dense fog, wondering whether it was smog! (The writer is editor at S-Media Group, New Delhi)

AI and Big Data vs. Air Pollution

Date: 19th December, 2016 Source: Spectrum



Could've Seen It Coming: A heavy smog day in Beijing in November 2016 might have been predicted by IBM and Microsoft.

Beijing and other Chinese cities are choking under a blanket of smog. It's so thick in Tianjin that planes can't land. Authorities have issued the first "red alert" of 2016, and 1,200 Beijing-area factories were ordered to shut down or to reduce production, according press reports.

This winter, officials will be equipped with forecasting tools from IBM and Microsoft that they tested last year. IBM's tool, used by the city government, is designed to incorporate data from traditional sources, such as the 35 official multipollutant air-quality monitoring stations in Beijing, and lower-cost but more widespread sources, such as environmental monitoring stations, traffic systems, weather satellites, topographic maps, economic data, and even social media. Microsoft's system incorporates data from over 3,000 stations around the country. Both IBM's and Microsoft's tools blend traditional physical models of atmospheric chemistry with data-hungry statistical tools such as machine learning to try to make better forecasts in less time.

"Our advantage or differentiation is to combine all those together," says environmental engineer Jin Huang, who is project manager for the Green Horizon Initiative at IBM Research–China, in Beijing. IBM reports an accuracy of over 80 percent for 3-day forecasts and around 75 percent for its 7- to 10-day forecasts. Microsoft now provides China's Ministry of Environmental Protection with a 48-hour forecast that as of 2015 reached 75 percent accuracy for 6 hours and 60 percent for 12 hours in Beijing.

How best to combine physics models and machine learning for air-quality forecasts is "an active research area," says atmosphere scientist Vincent-Henri Peuch, the head of the European Copernicus Atmosphere Monitoring Service in Reading, England. He adds that blending is the right choice: Both types of models have something to offer and do not need to preclude each other. The market seems to agree so far. IBM now offers its combined model in New Delhi and Johannesburg, and the Beijing startup AirVisual also offers machine-learning-enhanced forecasts for private commercial use.

Beijing officials have been able to claim some success beating down their fine-particle pollution levels: They reported that 2015 levels were 6 percent below 2014 levels. And while governments are under pressure to reduce air pollution, they are also under pressure not to let economic growth slip. IBM's forecasting tool includes a simulator for measures such as shutting down factories upwind of the city or reducing road traffic for a day or two. "The tool estimates both emissions outcomes and the economic consequences of each proposed intervention," Huang says.

AirVisual, IBM, and Microsoft are all generalizing their software to work in different locations, which requires integrating different local physical models on the one hand but also tuning for differing types of input data and their changing parameters. Johannesburg, for example, has just 8 monitoring stations to Beijing's 35. Still, "there's an opportunity to reuse some of the assets they developed here in South Africa," says computer engineer Tapiwa M. Chiwewe, at the newly opened IBM Research lab in Johannesburg.

Each setting may require its own type of machine learning, a University of British Columbia team reported in 2016. In their study, they found that the computational expense of several types of learning depended on how much data they included up front versus how much data they fed into the program during its operation. The best solution for a place such as Beijing, with just a couple of years of historic air-quality data, may differ from what's best for a city with many more years of historical data, and that poses a challenge for officials trying to choose the right system for their city. It is difficult to compare different models without using the exact same data set at the same location, Peuch warns.

And cities around the world have a long way to go before they bring air quality down to levels recommended by the World Health Organization. In 2015, ambient particulate matter—which does not include tobacco smoke—cost 103.1 million disability-adjusted life years (a measure of the quality and length of human life), according to the 2015 Global Burden of Disease Study in The Lancet, making it the sixth most harmful disease risk factor. That makes it an important target for governments and companies.

By one estimate, the market for monitoring air quality will grow 8.5 percent per year for the next five years, reaching US $5.64 billion. It seems safe to forecast that the market for air-quality forecasting will grow, too.

Sooty air prompts 3 days of Solano air pollution alerts

Date: 21st December, 2016 Source: Daily Republic

FAIRFIELD — Dirty winter air caused regional air quality officials to issue pollution alerts for three consecutive days this week for the region that includes approximately half of Solano County.

Unhealthy air is prevalent in the Bay Area Air Quality Management District's North Counties region, which includes Vallejo and American Canyon on its southeastern fringe.

The air district issued a pollution alert Monday for that day and for Tuesday. The district extended the warning Tuesday to include Wednesday, when air quality is expected to remain unhealthy for people who are sensitive to air pollution. That includes those with compromised respiratory systems to include asthma and other conditions.

Air quality across the region is projected to be mostly moderate Thursday, and good Friday and Saturday.

The Bay Area district is divided into five regions, or zones. If air quality is projected to be unhealthy in one of the regions, an alert is issued for the entire district.

The Eastern Zone of the Bay Area air district includes Fairfield, Cordelia, Travis Air Force Base, Suisun City, Benicia and Birds Landing. Air quality was moderate early this week across the zone and was projected to remain so Wednesday.

The winter spare the air program starts Nov. 1 and continues through February. The program notifies Bay Area residents when levels of fine particulate, or soot, are anticipated to be unhealthy. The largest single cause of soot is wood smoke, according to the air district. Next on the list is on-road vehicles, then geological dust, combustion from stationary sources such as factories, and other mobile sources such as farm equipment.

Soot found in the wintertime – especially particulate matter 2.5 microns or smaller in size, also known as PM 2.5 – can become a serious problem in the region, according to the air district.

Burning wood, fire logs, pellets or any other solid fuels in your fireplace, wood stove or other wood-burning device is illegal in the greater Bay Area when a winter air pollution alert is in effect.

When wood burning is allowed, people who do burn in a fireplace or outdoor fire pit must still burn cleanly using dry, seasoned firewood and not burn garbage, leaves or other material that would cause excessive smoke, according to the air district. People who exceed the excess visible smoke provision in the wood-burning rule could still be subject to a ticket.

Air quality was moderate Tuesday across the Yolo-Solano Air Quality Management District, which includes Vacaville, Rio Vista and Dixon – although a warning was issued Tuesday calling for people to refrain from using fireplaces and wood stoves.

Science meet puts onus on children to fight air pollution

Date: 22nd December, 2016 Source: The Hindu



To mitigate air pollution and come up with scientific models to make a change in the future, the United Nations Information Centre for India and Bhutan organised a competition for school children to tap into their creativity to find a solution. The winner of the 'Innovation Award' was a project by Class XI students of Amity International School, Pushp Vihar will now be referred to students at IIT Delhi, who will be given the opportunity to come up with a working prototype of the model. The model was of a 'self—sustainable' car that runs using electromagnetic induction.

Addressing students at the event, the chief guest JNU Rector Chintamani Mohapatra said that there was a war going on at present to battle a silent killer — pollution. "The war is between those polluting the evironment and those fighting pollution. In this war, students are the best foot soldiers and leaders as it is their future that is at stake."

He felt that the air and water were considered free goods not so long ago but access to clean air and water has now become scarce and it is for children to spread the word and stress on the importance of mitigating air pollution as their voice is stronger than any policy, article or research paper on the issue.

Rajiv Chandran from the UNIC said that the competition was a part of efforts to reach civil society and in particular young people to act on achieving the sustainable development goals. He felt that what the students had come up with was more than just a science project and could be implemented in the real world.

Apart from the working science model competition, awards were given out for a slogan writing and poster making competition as well as a painting and sculpture competition.

The event was jointly organised by United Nations Information Centre for India and Bhutan, Sonalika Group of Companies, National Progressive Schools' Conference and Shakti Sustainable Energy Foundation.

Too much lime leads to high pH

Date: 22nd December, 2016 Source: Vindy

Q. The pH of my soil sample is 8.5. What can I do to lower this pH by spring planting?

Gary from Austintown

A. Higher than normal pH levels are being found in many soil samples brought to the OSU Extension office. There can be many reasons for these higher pH levels, but the main reason may be the over-application of lime.

To keep the pH from getting higher, stop applying so much lime or wood ash to the garden area.

Back when we had a great number of steel plants and related factories in the Mahoning Valley, we had acid rain due to the emissions from burning coal. In the late 1990s, a bill was signed into law that eventually reduced acid rain. It is commonly referred to as cap and trade.

Because it was so successful, acid rain isn't even a common term you hear on a regular basis.

Basically, acid rain is just rain that has a more acidic pH than normal rainwater. Over time, most soils can withstand slightly acidic rain without affecting pH.

The Mahoning Valley very likely had acid rain that was affecting soil pH over time, back when emissions were high. Thus, many home gardeners got used to applying small amounts of lime to the soil every couple of years.

Unfortunately, the practice of adding lime has continued after acid rain issues have gone away.

The only way to tell if your soil needs lime is by doing a proper soil test and looking at the current pH of the soil.

With Gary's soil pH being higher than what is needed for most garden/landscape plants (5.5-7.0), his soil test results suggest reducing the pH.

Optimal pH helps plants take up the nutrients they need to be healthy and productive.

Changing soil pH is a not a rapid process, and you should act as soon as possible to improve your soil for spring.

Sulfur is one way to reduce soil pH, but it should be incorporated (tilled) for the best results. So, if your soil is frozen or saturated, you may need to wait until spring.

Soil bacteria are required to metabolize the sulfur to reduce the pH, and they won't be very active in these lower temperatures. If you have to wait until spring to apply, you won't be too far behind.

Another option is peat moss, which will probably lower pH quicker, but requires lots of work to incorporate into the soil profile.

To learn about more options to lower the soil pH, visit http://go.osu.edu/lowerph.

To learn about acid rain, visit http://go.osu.edu/acidrain.

Eric Barrett is OSU Extension educator for agriculture and natural resources in Mahoning County. Winter hours for the Plant and Pest Diagnostic Clinic vary. Submit questions to the clinic at 330-533-5538 or drop samples off to the OSU Extension Office in Canfield

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Greens challenge York's Park&Ride plan, amid air pollution fears

Date: 23rd December, 2016 Source: The Press



GREEN party councillors are trying to stop a Park&Ride plan which they say will see York's air quality problems get even worse.

The contract to run the Park&Ride services in York is due to expire in February,

but City of York Council has struggled to find a company to take it on.

A tendering process held earlier in 2016 failed, and with not a single company making a proper bid for the work transport bosses had to scale back ambitions to make sure the service did not disappear altogether - with knock-on implications for congestion.

But Green councillors say the scaled down plans completely ignore pollution problems in York, when more than 100 people are already thought to die prematurely in York each year because of poor air quality.

The rethought proposals for a new contract will see the council insist that two routes use ultra low emission buses, rather than the full six routes.

Councillors Andy D'Agorne, Denise Craghill and Lars Kramm have "called in" the decision to a scrutiny committee early in the New Year.

They said: "By not requiring rapid transition from two routes to fully ultra-low emission vehicle (ULEV) status on all routes within the first half of the contract, CYC will undermine its 2012 Low Emission Strategy, in particular the proposed Clean Air Zone due to be introduced by 2018 in order to achieve compliance with the health based objectives for air quality."

The new plans have also ignored guidance from NICE - the National Institute for Clinical Excellence - about clean air zones, they added.

"The executive has a statutory public health responsibility to 'improve the health of the local population'. Given that between 94 and 163 premature deaths in York are attributed to the effects of air pollution, the executive should ensure that the proposal is compliant with its approved Low emission strategy and draft Clean Air Zone to bring air pollution down to within safe limits."

The fresh proposals for the Park&Ridee contract were agreed at a council executive meeting on December 7.

As well as they scaled-back low emission vehicle demands, they saw bus companies given more flexibility over bus capacity, staffing at park and ride sites, and fares.

Councillors also agreed not to cut the price of city centre parking, so the park and ride service stays an attractive option for shoppers, but decided to maintain demands over how frequently the buses run.

Why Christmas is the worst day of the year for air pollution at home because of fumes from the roast, log fires and party poppers

Date: 23rd December, 2016 Source: Mail Online



Christmas Day is the 'most toxic' day of the year to be at home because of fumes from the roast, log fires and party poppers, an air pollution expert has warned.

Families could breathe in as many harmful particles on Sunday as if they stood all morning on a busy London road, he said.

The danger comes from cooking a roast over several hours, with gas ovens pumping out nitrogen dioxide. Those roasting chestnuts on an open fire, or even lighting their fire or wood-burner, could inhale wood smoke, which has been linked to premature deaths.

Meanwhile fashionable candles with festive scents like cinnamon and mistletoe release volatile chemicals, while even harmless-seeming party poppers cascade ultrafine particles into the air.

Air pollution expert Professor Ian Colbeck, of the University of Essex, has warned families gathering inside with these fumes to open a window, or better yet, go for a walk to get some fresh air on Christmas Day.

He said: 'Christmas Day may well be the most toxic day of the year. It has the same effect as standing by the side of a busy London road for four hours, which is not something most people would choose to do.

'If you are asthmatic, you will become breathless, and this kind of air pollution could also raise people's risk of cardiovascular disease.'

Research is growing that our well-insulated, enclosed homes are a potential health hazard. House plants can absorb some of the fumes circulating inside, while a team at Lancaster University found planting birch trees outside a row of houses cut pollution in half.

But Christmas Day is particularly bad, because of the sheer amount of time spent cooking the festive spread.

Ultrafine particles smaller than 100 nanometres in size are belched out by electric stoves, studies show. The particles can get deep into our respiratory systems and can have inflammatory effects.

Gas ovens are a major source of nitrogen dioxide, similar to a busy roadside, and linked to a higher risk of asthma.

Wood burners can cause smoke to be inhaled when lit, while it can also enter from a neighbour's home. In Denmark, emissions from wood-burning stoves are calculated to cause 400 premature deaths every year, while in London it accounts for between seven and nine per cent of winter-time particle pollution.

But even party poppers can create a risk, according to Professor Colbeck, who has written about the issue on academics' news and views website The Conversation.

He wrote: 'Party poppers are an often overlooked source of indoor air pollution. In Britain, they are classified as fireworks. While the impact of fireworks outdoors is well-documented, detailed knowledge of how it affects the indoor environment is lacking. Although party poppers are short-lived, they can generate large concentrations of ultrafine particles.'

Finally, beware of candles which are so popular at this time of year for their festive glow. Metals are released from their colour pigments and soot is produced when the candle flame flickers due varying air flows.

Professor Colbeck said: 'More and more people are buying candles, because they look Christmassy and come in scents like pine. There is a big market for them, but these metal-style particles are implicated in health impacts.'

Pollution is not the only risk, with insurance firm NFU Mutual yesterday warning wood-burners cause house fires at Christmas, through live sparks and embers if chimneys and flues are not cleaned. It paid out £1.7 million following chimney fires last year.

2016: Deadly dangers of air pollution

Date: 23rd December, 2016 Source: Millennium Post

Beijing, London, Mexico City, New Delhi, and Paris are among the cities that have drawn attention for their dangerously high air pollution levels in 2016 – but they're not alone. The World Health Organisation (WHO) has confirmed that 92 per cent of the world's urban population now live in cities where the air is toxic.

In India, a study found that 41 Indian cities of more than a million people faced bad air quality on nearly 60 per cent of the total days monitored. Three cities – Gwalior, Varanasi, and Allahabad – didn't even manage one good air quality day.

Over the African continent, dirty air was identified as the cause of 712,000 premature deaths – that's more than unsafe water (542,000), childhood malnutrition (275,000), or unsafe sanitation (391,000).

In Europe, it was found that around 85 per cent of the urban population are exposed to harmful fine particulate matter (PM2.5) which was responsible for an estimated 467,000 premature deaths in 41 European countries.

It's not all bad news, though: 74 major Chinese cities have seen the annual average concentrations of particulate matter, sulphur dioxide and nitrogen dioxide, decrease since 2014 although the Chinese government's "war on air pollution" has received criticism.

Health risk

The health impacts of air pollution are well documented; but now, new evidence suggests a link between air pollution and dementia and Alzheimer's disease, with exposure to poor air quality equivalent to passively smoking six cigarettes a day. Not only that, toxic air has been blamed for more road traffic crashes from pollutants distracting drivers, causing watery eyes and itchy noses.

It is often poor, young, old, and disadvantaged people who are worst affected by poor air quality. Air pollution is responsible for the deaths of 600,000 children under the age of five every year. Ethnic minorities are more likely to be exposed to high pollution levels than other groups. In London, black, African and Caribbean people were exposed to higher illegal nitrogen dioxide levels (15.3 per cent) because of where they lived, compared to the rest of the city's population (13.3 per cent).

Air pollution also affects regional climate, which impacts on future water availability and ecosystem productivity. Black carbon is a particulate matter created through the burning of fossil fuels (such as diesel) and biomass. As well as affecting human health, it is responsible for glacial melting in the Himalayan and Tibetan Plateau. Black carbon deposits on snow and ice darkens the surfaces, resulting in greater absorption of sunlight and faster melting.

Research from the World Bank estimated that the global economic cost of air pollution-related deaths to be US$225 billion in lost labour income (in 2013) and more than US$5 trillion in welfare losses. The OECD predicted that global air pollution-related healthcare costs will increase from US$21 billion in

2015 to US$176 billion in 2060. And by 2060, the global annual number of lost working days that affect labour productivity is projected to reach 3.7 billion – it is currently around 1.2 billion.

Air creative

A number of creative ways of understanding and addressing the air pollution problem were seen throughout 2016. In London, racing pigeons took to the skies equipped with pollution sensors and a Twitter account, to raise awareness of the capital's illegally dirty air. Amsterdam carried on the bird theme, with smart bird houses that light up to show the air quality status, while offering free Treewifi.

Other innovations included the development of an inexpensive over-the-counter inhaler that protects the lungs against air pollution, and the installation of a seven-metre tall tower in Beijing, which sucks pollutants from filthy air. Raising awareness of the causes and effects of air pollution is important, as we are not only victims but also contributors to the problem. There have also been many air quality monitoring projects to engage citizens on air pollution issues such as "curious noses", which saw Antwerp residents measure traffic pollution and "clean air zones" in North Carolina, US, where individuals measured particulate matter in real time.

We've also seen awareness lead to action, when the demand for clean air led to ClientEarth taking legal action against government failure to tackle illegal air pollution. Meanwhile, artists in London produced their own campaigns, aimed at warning young people about the effects of poor air quality.

Change is in the air

This year the UN's New Urban Agenda, the Sustainable Development Goals and the Breathe Life Campaign called for action to improve urban air quality and deliver social, environmental and economic co-benefits.

Meanwhile, Paris, Mexico City, Madrid and Athens have pledged to remove all diesel vehicles from their streets by 2025, while promoting walking and cycling infrastructure. In Asia, a city certification programme is being piloted to encourage cities to make advances in air quality management.

If anything, 2016 showed us that poor air quality is a scourge of the developed and developing world alike – and that it requires immediate action. The evidence is clear: we need to clean up our act, to protect human health and reap the benefits of clean air for all.

Air quality monitoring stations for Tirupati

Date: 24th December, 2016 Source: The Hindu



Citizens can view real time data of pollution levels at the facility

Soon, citizens will be able to monitor real time data on pollution levels in the temple city!

Officials at the AP Pollution Control Board (APPCB)'s regional office at Tirupati have announced plans to set up a Continuous Ambient Air Quality Monitoring Station (CAAQMS) at the local Prakasam Park. The CAAQMS will generate comprehensive real time data based on pollution and meteorological parameters which will be on display for public.

Speaking to The Hindu , on the sidelines of the foundation stone laying ceremony for the construction of a new 'green building' of the regional office here on Friday, APPCB Chairman G.N. Phani Kumar remarked that the facility would be the fifth one in the State and the first in Tirupati. "CAAQMS have already been installed in Visakhapatnam, Vijayawada, Kakinada and Tirumala. We will be setting up two facilities in Tirupati, beginning with the one at Prakasam Park. The CAAQM Stations will help in the assessment of pollution levels in the city and contribute for a detailed analysis of the components," he said.

App to track pollution levels

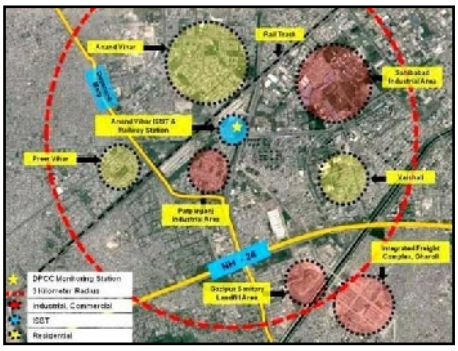
Mr. Kumar said that they would be setting up the second CAAQMS in residential areas (in near future) along with several manual units, spread across the city. Another interesting development in this regard, would be the introduction of a mobile application which tracks and displays the pollution levels, gathering information from the CAAQM Stations. "In a couple of weeks from now, a mobile application will be launched, enabling citizens with smartphones to track real time data on pollution levels in the city. Since it is an automated system it will not have any manual intervention. Information will be continuously relayed," maintained Mr. Kumar.

Green building

Minister for Environment and Forests Bojjala Gopalakrishna Reddy, accompanied by Chittoor MP N. Sivaprasad, Tirupati MLA M. Suguna and MLC G. Srinivasulu laid the foundation stone for the APPCB Office Building near Balaji colony. The officials also spoke on 'green building concepts' to be incorporated in the new APPCB office. The five-storied building, which would be constructed at a cost of Rs.13 crore (3466.61 sq. mt. area), will have green many spaces — roof and vertical gardens, water recycling plant, solar installations and energy efficient appliances. The officials further aim to project the new building as a self-sustaining example for 'Haritha Bhavanalu' (green buildings).

'Anand Vihar exposed to worst pollution'

Date: 24th December, 2016 Source: The Hindu



Pollution levels attributed to presence of ISBT, Ghazipur landfill, NH-24, as per the Centre for Science and Environment

The levels of harmful pollutants that people are exposed to in east Delhi's Anand Vihar were recently found to be two to four times higher than the ambient air pollution levels, which themselves are several times over the standards.

High exposure levels

As per the Centre for Science and Environment (CSE), which measured real-time pollutant concentrations in and around Anand Vihar using hand-held devices, the exposure levels were much higher than what the ambient pollution levels suggest.

The CSE compared the hourly exposure and ambient levels of PM 2.5 on December 14 from 5 p.m. to 7 p.m., and on December 15 from 10 a.m. to 12.30 p.m.

With an inter-State bus terminus, the Ghazipur sanitary landfill and the NH-24 in the area, Anand Vihar tends to have the highest ambient air pollution levels in the city. But, the actual pollution people are exposed to is higher.

For instance, at Anand Vihar ISBT, the ambient concentration for PM2.5 was 153 micrograms per cubic metre, while the exposure monitoring level was 552 micrograms per cubic metre.

Over the safe limits

Both these values were well over the standard of 60 micrograms per cubic metre. On top of the Ghazipur landfill, the exposure level for PM2.5 was a whopping 731 micrograms per cubic metre, or 12 times the safe level, while the ambient level was 261 micrograms per cubic metre. Behind the Ghazipur landfill, the exposure level of PM2.5 was found to be 506 micrograms per cubic metre, while the ambient level was 120 micrograms per cubic metre.

Anumita Roychowdhury, head of the CSE's air pollution and clean transportation programme, said that area-wise plans could be created to reduce pollution by monitoring exposure levels. "We know that Anand Vihar is a hotspot when it comes to air pollution. By identifying the key causes, we can come up with micro-level strategies," said Ms. Roychowdhury.

This data was presented to the office of the Lieutenant-Governor in the last weekly meeting on air pollution, she added.

Enhanced action needed

The CSE had recommended "immediate and enhanced action to stop smoke emissions from Ghazipur".

For the Anand Vihar ISBT, the CSE suggested that the terminal area be paved and cleaned.

Ms. Roychowdhury said that emissions from nearby industrial areas at Patparganj and Sahibabad should be controlled to bring the level of particulate matter down.

Framework for tackling air pollution to be unveiled in Jan

Date: 25th December, 2016 Source: Live Mint



Union environment minister Anil Dave says a detailed framework to tackle air pollution which will not be limited to Delhi, will be out in January for its implementation in 2017

New Delhi: The centre's graded response system to tackle air pollution, which proposes emergency measures such as odd-even car rationing scheme and closing schools based on the intensity of the situation, will not be enforced in the national capital this season.

Union environment minister Anil Dave said that a detailed framework in this regard, which will not be limited to Delhi, will be out in January for its implementation in 2017.

"We are discussing the possible standards to be set. State pollution control boards are being consulted. The details will be shared in January. In 2017, there should not be blame game among the states on

pollution," Dave said, alluding to the wrangling between Delhi and neighbouring Punjab and Haryana over farm fires.

However, the comprehensive plan, prepared by the central pollution control board (CPCB), which focuses on Delhi, was submitted to the Supreme Court on 2 December. The apex court had accepted and asked the centre to notify it.

Nearly a month has passed, a period which has also seen the air quality index entering the 'severe' zone, but no emergency measure has been imposed in the city, which is among the world's most polluted.

"The Supreme Court has asked us to notify it under the Environment Protection Act. There is a process involved and that has started. But even if its draft is put out, it has to be kept in public domain for at least two months," a senior environment ministry official said.

Once the plan is notified, emergency measures like odd-even car rationing scheme and ban on construction activities will be automatically enforced in the city if level of PM (particulate matter) 2.5 breaches 300 micrograms per cubic metre for two consecutive days.

The official said consultations are undergoing on many levels and it will be implemented in "due course of time".

During 'very poor' air quality, diesel generators must be banned and parking fee increased by three-four times, the plan recommends.

The plan has enumerated a number of other measures, which include closing brick kilns, hot mix plants, stone crushers, intensifying public transport services besides increase in frequency of mechanized cleaning of road and sprinkling of water on roads.

City's Stifling Problem: Greying Air

Date: 26th December, 2016 Source: Bangalor Mirror

Bengaluru's air has become significantly more toxic, according to a recent study. Air quality measured in the city over an eight-year period in six locations revealed that while sulphur dioxide levels had decreased, airborne particulate matter have either been 'high' or 'critical' in most areas.

The research project selected industrial, commercial, residential and sensitive areas of the city, including Graphite India Ltd, Whitefield Road; KHB Industrial Area, Yelahanka; Peenya Industrial area, Regional Office Peenya; Victoria Hospital, Chamrajpet; AMCO Batteries, Mysore Road; and Yeshwanthpur Police Station (YPR).

The eight-year trend analysis between 2006 and 2013, showed that the overall percentage increase in airborne particulate matter was 216 per cent in KHB, 161.2 per cent in AMCO, 119.3 per cent in Victoria Hospital, 80.3 per cent at YPR, 76.5 per cent at Graphite India, and 17.5 per cent in Peenya.

MORE VEHICLES, MORE POLLUTION

The main source of pollution in the city is the exponential growth in the number of vehicles. It contributes to almost 50 per cent of the pollution. The other contributors are construction activities, paved and unpaved road dust, domestic pollution and the increased use of diesel generator sets, said experts.

Anitha Chinnaswamy, lead researcher from Coventry University, UK, said in her findings: “All six areas have varying levels of PM10 (particulate matter 10 micrometres or less in diameter), with pollution classifications as mainly high or critical. Across all areas, the concentration level of PM10 in 2013 was critical. Overall, four air pollutants, namely sulphur dioxide, nitrogen oxide, suspended particulate matter and respirable suspended particulate matter (RSPM/PM10), were monitored at all locations.”

“Based on data obtained from the Karnataka State Pollution Control Board (KSPCB) for eight years, the paper critically analysed the trend of pollutants identified by the six air quality monitoring stations managed by KSPCB, within their respective areas of coverage and, based on that analysis, alert both researchers and local authorities to the necessity of overcoming the limitations of insufficient monitoring,” she said.

Her previous research project, taking Bengaluru as a case study, had for the first time established a link between deaths due to cardiovascular diseases and high levels of particulate matter that are 10 micrometres or less in diameter, referred to as ‘PM10.

“In general, particulate matter causes a wide range of diseases and its presence is said to be more dangerous to human health than any other common air pollutant,” she added.

HEALTH RISKS

The current paper says that the three industrial areas varied in air quality classification from moderate to critical, with KHB industrial area generally having fluctuating levels of pollution.

In 2013, the level of PM10 in KHB was at its highest — an alarming 182 micrograms per cubic metre (µg/m3) — across the eight years under consideration. (The World Health Organisation [WHO] safe limit for annual mean of PM10 levels is 20 µg/m3. A WHO report earlier this year had showed that PM10 level for Bengaluru was 118 µg/m3.)

The levels found at Graphite industrial area were also alarmingly high, revealed the analysis. The PM10 values of 194 µg/m3 in 2007, and 184 µg/m3 in 2009, were over three times above the acceptable limit.

The level in 2013 stood at 162 µg/m3, which was 2.7 times the acceptable limit.

Victoria Hospital consistently maintained a high level of PM10 pollution, from 2006 to 2012. However, in 2013 this level shot up to 152 µg/m3, three times that of the previous year and over 2.5 times the safe limit set by the Central Pollution Control Board (CPCB), the researchers observed.

“The same observation applies to the two residential areas of Yeshwanthpur (YPR) and AMCO, where there was a respective significant increase in concentration in 2013, in comparison with the seven previous years,” said the multi-national research team.

“For Bengaluru, the critical levels of PM are likely to have a damaging effect on the health of the citizens that may result in a tremendous burden on the public health system. Additionally, if this were to affect the skilled young human resource, it would pose a threat to the city’s economy. Therefore, it is of vital importance that the government addresses the issue of health impact due to air pollution by adhering to stringent measures of pollutants’ control,” the researchers said.

OTHER POLLUTANTS

According to the researchers, the sources of sulphur dioxide, applicable to the city, are mainly due to the burning of fossil fuels and diesel exhaust, and the health effects attributable to it are known to be inflammation of the respiratory tract, lung damage, and irritation in the eyes, mucous membranes and the skin.

Their analysis showed that generally the levels of sulphur dioxide tended to decrease in these areas.

"Since fuel type and quality are one of the major contributors to sulphur dioxide, the overall decreasing trend may be attributed to various regulatory measures taken, such as the reduction of sulphur in diesel fuel and the wider use of liquefied petroleum gas (LPG), instead of coal, as domestic fuel," said Chinnaswamy.

The researchers analysed levels of nitrogen oxide, exposure to which, according to experts, is linked to adverse respiratory effects and airway inflammation in healthy people, and increased respiratory symptoms in people with asthma.

Assessment shows that in both YPR and AMCO residential areas, nitrogen oxide concentration levels over the year 2009 were at their highest, with a moderate air pollution classification.

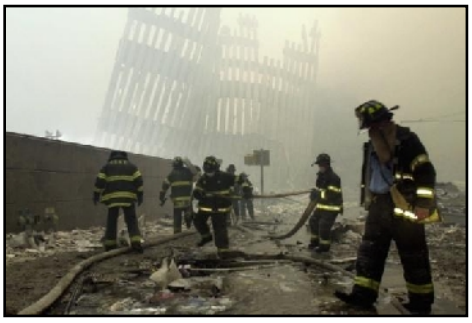
However, over the subsequent years to 2013, there was a consistent decrease in nitrogen oxide pollution and, its concentration levels decreased by 24.4 per cent and 23.8 per cent in YPR and AMCO, respectively.

"Industrial areas of KHB, Graphite and Peenya saw similar peaks in its concentration levels in 2009 (except for Graphite, where the highest level of 50.7µg/m3 was reached in 2006) before assuming a generally downward trend. In Victoria too, there was a similar pattern, with 2009 marking a peak value, followed by a downward trend," said the findings.

The researchers said a possible explanation for the universal increased nitrogen oxide concentration level in 2009 may be attributed to the increase in the number of cars. "Although the number of vehicles (whether registered or not) has been generally increasing in Bengaluru, the number of registered vehicles, particularly over 2007-09, saw an exponential increase of over half a million additional vehicles. As motor vehicle exhaust emissions are one of the major contributors to nitrogen oxide dispersion, this noticeable increase in vehicular traffic could have contributed to the significant increase in levels in 2009," they added.

Hazardous 9/11 Dust Made Newborn Babies Smaller

Date: 27th December, 2016 Source: National Geographic



The finding adds to a host of research showing the ill effects of air pollution on infants.

Fifteen years after the collapse of One World Trade Center in New York City, researchers are still learning how the terrorist attacks of September 11, 2001, impacted people's health.

When the twin towers fell on 9/11, a cloud of hazardous materials enveloped the surrounding neighborhood and coated everything and everyone exposed to it for several days. According to a new study, those dust clouds likely

contributed to negative birth outcomes for Lower Manhattan mothers. (See pictures reflecting on 9/11 from the 15th anniversary of the attacks.)

The study adds to a body of research showing that exposure to air pollution in the womb can have adverse health effects on newborns, and those effects can play out over the course of a lifetime.

For the study, published in the fall 2016 issue of the Journal of Human Resources, researchers Hannes Schwandt and Janet Currie looked at New York City birth records from 1994 to 2004. Of those 1.2 million births, they isolated data from women who lived in Lower Manhattan neighborhoods and so were the most exposed to the dust cloud. The team then refined their search for women who had previously had babies, to better determine if the low birth weights were an anomaly.

They found that women who were in their first trimester during 9/11 had more than double the probability of premature delivery. There was also an increase in the number of babies with low birth weights, which can lead to later issues such as higher risk for diabetes, heart disease, and elevated blood pressure.

“The pregnancy conditions really matter for later economic outcomes and for long-term human development and economic success,” says Schwandt, an economist at the University of Zurich whose research focuses on child development. In addition to the health risks, low birth-weight babies tend to earn less money throughout their lifespans.

WEALTHY, BUT NOT HEALTHY

Another potential factor for the 9/11 mothers could be post-traumatic stress disorder, which, like air pollution, has been linked to low birth weights. But after comparing stress levels across the city, the researchers were able to rule out PTSD as a confounding factor for the births in their study. Instead, they argue that the dust cloud was the primary culprit.

This study’s findings are striking because many of the affected women lived in well-to-do neighborhoods that are typically predisposed to better birth outcomes. In the United States, pollution and low birth weights tend to occur in poorer communities.

“In this case, we have these relatively wealthy mothers who then are affected, and we see that the magnitude of the effect is similar to the difference between an advantaged and a disadvantaged mother,” says Schwandt.

“So we could think of it like the advantaged mother that was exposed to the dust cloud in southern Manhattan had a similar birth outcome as a disadvantaged mother who has not been exposed.”

Previous studies looking at 9/11 babies had shown little evidence of such effects. But those studies either pulled data from specific hospitals or from all over the city—including poorer and more polluted areas such as the South Bronx, says Schwandt. Because the rates of prematurity are so high in some parts of New York City, that changed the data sets. Taken together, the numbers are comparable to what you would see in less advantaged nations.

GLOBAL PROBLEM OF POLLUTION

This study has implications for cities around the world that grapple with polluted air, such as New Delhi, Mexico City, and Beijing. (See pictures of what it’s like to live in New Delhi, the world’s most polluted city.)

Most other studies that have looked at air pollution's effects on birth outcomes usually examined experiences occurring over lengthy periods of time. Because the terrorist attacks happened in a contained time and space, the researchers could better understand the effects of the resulting pollution. Essentially, this was the closest to a controlled environment as they could expect to get—the 9/11 dust cloud both simplified the variables and magnified the change.

A comparable study was done in Beijing when the city tried to clean its famously polluted air prior to and during the 2008 Olympics.

"In Beijing, the air pollution levels went down during the Olympics and then came back up, because they relaxed all the controls they had in place," says that study's co-author, Tracey Woodruff, a researcher at the University of California, San Francisco.

The Beijing study found that babies who were gestating during the period of cleaner air were about 23 grams heavier than babies born during the same time period the year before, when the air was more polluted.

For now, Schwandt and Currie don't have plans to follow through and see how the health and economic fates of the 9/11 babies have played out now that they are teenagers. But they say their work stands on its own as a tool to exemplify the problems of air pollution exposure.

"That's the whole reason why this kind of disaster research is useful in a sense, not because this is something that is very representative in general, but because it allows you to identify the effects of pollution," says Schwandt. "It's like switch on, switch off."

Driverless electric cars could 'cut air pollution to almost zero and make car parks obsolete within 10 years'

Date: 27th December, 2016 Source: Independent



Self-driving electric cars could make car parks obsolete within the next 10 years and reduce air pollution to almost zero in Scotland's cities, an expert has predicted.

The vehicles are likely to be commonplace by 2030, said Simon Tricker, of "smart cities" specialist UrbanTide, which uses technology and data to improve city planning.

"Scottish local authorities are already thinking about what city streets will look like in a decade's time - and the answers are pretty astounding," he said.

"Self-driving cars won't need parking spaces in cities - they're likely to be rented rather than owned and will just head off and carry out their next journey after dropping passengers off. Many car parking spaces which we now take for granted will simply become obsolete.

"The pace at which electric vehicle technology is developing means they're also likely to be electric, so will produce zero emissions as they're driven.

"Taken together with an opening up of the data which will enable new services to link with waiting passengers, we're likely to see a huge shift in how our cities look and how transport is managed."

Mr Tricker was speaking ahead of Scottish Renewables first low-carbon cities conference, which will be held in Edinburgh in February.

Other speakers include Asa Karlsson Bjorkmarker, deputy mayor of Vaxjo, Sweden, who will speak about her experiences leading 'Europe's greenest city', James Alexander, of C40, a network of the world's cities committed to addressing climate change, and Professor Jill Anable, of the University of Leeds.

Rachelle Money, director of communications at Scottish Renewables, said: "With the bulk of Scotland's power now coming from renewable energy and a new Scottish Climate Change Bill in the offing, Scotland continues to lead the way in building a low-carbon economy.

"Scottish Renewables' first ever low-carbon cities conference explores the many opportunities for Scotland's cities to embrace the transition to a sustainable, clean, green economy, reducing energy costs and tackling fuel poverty, while attracting low-carbon investment and jobs, and building our industries of the future.

"Cities across Scotland are already forging ahead with ground-breaking projects to decarbonise their energy supplies, and this conference will share the experiences of some of those initiatives.

"But there's still a long way to go if we are to meet our ambitious targets and achieve the goal of cutting carbon at the lowest cost, so we'll look at the emerging ideas across the generation, storage, distribution and use of energy which will transform our urban areas into smart cities for the next generation."

Let us breathe: Six kids move green court against Delhi's air pollution

Date: 27th December, 2016 Source: Hindustan Times



Harsh Dahiya, 14, a resident of Swarn Park in Mundka, looks like an average Class IX student. There's a difference though. This student of NC Jindal Public School is a petitioner in a court case demanding clean air in his toxic corner of Delhi.

He and five other children have moved the National Green Tribunal, which has sent notices to the Centre and the Delhi government on the alarming levels of air pollution caused by industries in West Delhi.

This is the second instance in recent times when little ones have petitioned against the foul air of the city in a court of law. In 2015, three parents had filed a petition in the Supreme Court on behalf of their toddlers, calling for a ban on bursting of firecrackers in Delhi-NCR.

On November 26 this year, the apex court imposed a blanket ban on the sale and stocking of firecrackers in Delhi-NCR with immediate effect, and suspended all such licences.

This present plea in the NGT was filed by Umesh Kumar, Aditi Bhardwaj, Abdul Razzaq, Harsh Dahiya, Prince Lakra and Vivekanand through their legal guardians, asking for a time-bound action plan to curb pollution in West Delhi's Mundka and Kirari areas.

Harsh told HT that the children decided to file the petition at the green court for "some sort of relief from the constant breathlessness after running a few paces".

"Our area is excessively polluted. I easily get breathless when I go out to play, especially during winter months. Cough and breathing problems are common ailments I and friends face on a regular basis. We need some relief in the form of green spaces. Someone had to do something, so we did. It is a question of our future," he said.

Younus Khan, father of 14-year-old Abdul Razzaq – another petitioner – says the presence of thousands of industries in the already over-congested corner of West Delhi has worsened the condition.

"There are around 50 schools in the area with more than 1 lakh students, many of whom are suffering from breathing problems, especially during winters. Things get really tough for kids and old people. Hopefully our kids plea will be heard," Khan said.

The petition says there are around 1,42,242 households here on about 4,626 acres, including the industrial and commercial areas in Mundka and Kirari, out of which 1,400 acres (30% of total area) have been carved out as industrial areas.

"Around 325 acres (7% of total area) are commercial areas and 2875 acres (62% of the total area) are residential in form of colonies and villages and a negligible amount of approximately 1% is green area," the plea, filed through advocates Rahul Choudhary and Meera Gopal, said.

The matter has been listed for January 27.

Experts offer tips for reducing vehicle pollution as air quality worsens in Salt Lake Valley

Date: 28th December, 2016 Source: Fox 13

SALT LAKE CITY - Air quality in the Salt Lake Valley reached 'orange' levels Wednesday, meaning it's unhealthy for sensitive groups.

It's the worst air we've seen this season, so far.

We know a lot of things contribute to the smog, and experts hope our cars can be part of the solution rather than part of the problem.

"The long term trend line shows that we've been emitting a little bit less every year over time, and that's generally, well, there's a lot of reasons for that but one reason for that is cars are getting cleaner every year," said Ari Bruening, the COO with Envision Utah.

Bryce Bird, Air Quality Director with the Department of Environmental Quality in Utah, spoke about the impact of automobiles on our air.

"We drive about 30 million miles a day here in Salt Lake County alone, and so that adds up," he said.

Bird says that for him, helping prevent dangerous inversions means more than just doing his job.

“It’s something that has interested me, my wife has asthma, so that's a challenge for our family," he said. "So it's something that is personal to me, and I want to make sure we do everything we can here to improve the situation for everybody."

Bruening said Utahns take air quality concerns seriously.

“As we’ve done research with Utahns, we’ve seen that air quality is one of their biggest concerns about living in Utah, and it’s a problem they want fixed, but it's something we can only tackle together,” she said.

Though there are many things that contribute to an inversion, the DEQ says one of the things that Utahns can do that will help most is to pay attention to how and what we drive.

“The more we idle, the more we have cold starts," Bird said of things that increase pollution. "When we start our car, each time we start it's more intense or the pollution levels are higher than it is when it’s a warm car."

Bruening echoed that call for more awareness from drivers.

“It’s actually the biggest contributor to our air pollution," Bruening said. "The older cars do tend to pollute a lot more; the newer the car, the less the pollution."

Car dealers say a car's smog rating is becoming more and more important to customers. One innovation is so-called PZA engines.

“Subaru has an engine now that is called PZA, which is a partial zero emissions," said Brett Kassing, a General Sales Manager at Nate Wade Subaru. "What it does is that it takes all the evaporative gases from the environment, so it's cleaner burning, and it doesn't put out any of those gases that go out into the environment."

To help customers stay informed, all cars are required to have a smog rating. A 1 is the worst and a 10 is the best.

“Most new cars are a five or a six, and if you go just from a 5 to an 8 that's an 80 percent reduction in your emissions," Bruening said. "So think about that, 80 percent, that's like driving 11,000 fewer miles every year."

While cars are becoming cleaner, the DEQ says an average of 60,000 people move into the Salt Lake Valley every year, and more cars equals more smog.

“Small things that we can each do that are very small in individual contribution, but if everyone does it can really make a difference,” Bird said.

Cooking emissions an overlooked contributor to air pollution

Date: 28th December, 2016 Source: The Times of India

KOLKATA: The skyline on this part of the country turns grey by afternoon. By dusk, a thick layer of smog envelops the horizon. With winter setting in, millions living in rural and suburban India has many reasons to worry about, one of it being air pollution.

The surroundings suffer from choking smog and acrid smell in the air, most of which are the result of smoke from chulhas and conventional cook stoves used by millions at their homes. While climatic conditions are contributors to bad air quality, man-made pollution is also a huge contributor across the country.

India is suffocating through an air pollution emergency. The alarming rise in air pollution levels across India, especially during winter, can be attributed to increase in industrial chimney waste, thermal power stations, burning of farms and vehicular emission. However, the effect of air pollution is different in Eastern India as compared to the rest of the country, where millions still depend on coal-based heating and cooking medium.

With multiple cities far from reaching the minimum air quality standards recommended by the World Health Organization, traffic is being forcibly reduced, construction projects are put on hold, in order to combat the crisis. Yet one of the pollution crisis's major contributors, emissions from cooking, has not made headlines as other pollution sources have. Over 85% of Indian rural households use biomass as cooking fuel, according to reports. Biomass burning not only causes indoor pollution but destroys a key resource for soil rejuvenation.

According to The Energy and Resources Institute (TERI), nearly 40% of India's air pollution comes from domestic fuel burning. For decades, researchers, experts and NGOs have looked for ways of convincing people to switch to more efficient and cost effective cooking methods.

When people cook on traditional chulhas, large amounts of toxic smoke and soot escape into the air. These emissions, which can cause cancer, pneumonia, heart disease etc, are a major contributor to outdoor air pollution.

In addition to air pollution, burning solid fuels releases emissions of some of the most important contributors to global climate change: carbon dioxide, methane, black carbon, and other short-lived climate pollutants (SLCPs). Unsustainable wood harvesting also contributes to deforestation, reducing carbon uptake by forests.

Earlier this year, an online database established with support from the Global Alliance for Clean Cookstoves, an initiative by the United Nation Foundation, began tracking the impact of household energy consumption on more than 640 districts across India. The data showed that almost 30% of the country's outdoor air pollution is due to household energy combustion. In some districts, household air pollution contributes over half of outdoor air pollution, making it clear that reducing outdoor air pollution requires addressing indoor air pollution as well.

The government has announced plans to connect 50 million households below the poverty line to cooking gas by 2019. Thus far, nearly 14 million households have already been given connections to cooking gas. Multiple partners of the Global Alliance for Clean Cookstoves have engaged with the ministry of health and family welfare, in collaboration with UNICEF and WHO, to develop a strategy for including clean cooking as part of India's integrated Action Plan for Prevention of Pneumonia and Diarrhoea.

"We know the health impacts of cooking in India, where far too many people still cook with heavily polluting fuels," says Damodar Bachani, deputy commissioner at the ministry of health and family welfare, adding, "The ministry, in collaboration with multiple stakeholders, is helping to mitigate the impact of air pollution on health. One of the proven solutions is increasing the use of safer, cleaner fuels and stoves for cooking."

"Household air pollution from cooking is a leading cause of illness and death in India. Switching millions of people from cooking with solid fuels to consistent use of clean fuels could deliver huge benefits to health and the environment, especially air quality," said Radha Muthiah, CEO of GACC.

To fight air pollution, Madrid is activating a temporary car ban

Date: 29th December, 2016 Source: The Week

It's going to be a lot easier to drive through Madrid — and the city council hopes that means it's soon going to be easier to breathe, too.

With bad air pollution a growing concern in the Spanish capital, the city council announced that when nitrogen dioxide in the atmosphere reaches a certain level in at least two measuring stations for two days in a row, and if the air is likely not going to quickly clear, there will be a restriction on which cars can be on the road from 6:30 a.m. to 9 p.m., The Guardian reports. Vehicles with even-number registration plates will be allowed to drive on even-number days, and cars with odd-number registration plates will be able to be operated on odd-number days. There are a few exceptions: moped, hybrid cars, vehicles being used to transport disabled people or three or more passengers, buses, taxis, and emergency vehicles are all exempt from the ban.

There are 3.2 million people living in Madrid, with 1.8 million cars, and the ban will be lifted once smog levels drop by a specific amount. Should the air quality not improve, the city could go a step further and ban taxis, with the exception of hybrids. "It's not about traffic restrictions but about the important issue of public health," deputy mayor Marta Higueras said. "Lots of people suffer from breathing problems and are very affected by pollution." The conservative Popular party is criticizing the measure, calling it "ideological." - Catherine Garcia.

Delhi's air quality enters 'severe' zone yet again

Date: 29th December, 2016 Source: The Times of India

NEW DELHI: Delhi's air quality today entered the 'severe' zone yet again after steadily deteriorating over the last two days and it may dip further.

The National Air Quality Index (NAQI) of the Central Pollution Control Board (CPCB) had a reading of 402 (running average) based on the data of nine monitoring stations across the city.

Level of pollutants had seen a rapid build up before Christmas, however, the situation improved a little thereafter and remained so for at least two days.

Air quality had started falling again on December 27. The average AQI of December 27 and 28 were 329 and 385, both in the very poor category.

Ministry of Earth Sciences Agency SAFAR recorded the average levels of PM 2.5 and PM 10 (24 hour, rolling) at 197 and 304 micrograms per cubic metre respectively as against the prescribed standards of 60 and 100.

It forecast that the levels are likely to be 211 and 337 respectively tomorrow. The new year's eve may see some improvement though.

Meanwhile, Delhi Environment Minister Imran Hussain reviewed the current situation of ambient air quality with the officers of the department and the Delhi Pollution Control Committee today.

A person may develop respiratory illness on prolonged exposure to 'very poor' quality air while 'severe' may affect healthy people and seriously impact those with existing respiratory diseases, CPCB says.

Madrid bans half of cars from roads to fight air pollution

Date: 29th December, 2016 Source: The Guardian



Odd- and even-numbered vehicles will swap use of roads in Spanish capital until smog eases

Madrid has ordered half of most private cars off the roads on Thursday to tackle worsening air pollution, a first in Spain.

The restrictions will operate between 6.30am and 9pm. The city council said in a statement: "vehicles with even-number registration plates will be allowed to drive around on even-number days and cars with odd-number registration plates on odd-number days".

The measure is activated when levels of harmful nitrogen dioxide in the atmosphere go above 200 microgrammes per cubic metre in at least two measuring stations for two days running, and if the air is unlikely to clear imminently.

On Thursday, city environment councillor Ines Sabanes said the ban would not be extended as smog levels had dropped by the required amount. Other measures, including a ban on street parking for non-residents and reduced speed limits, will continue. There are exceptions to the ban, such as for mopeds, hybrid cars, those carrying three people or more or used by disabled people. Buses, taxis and emergency vehicles are also exempt.

"It's not about traffic restrictions but about the important issue of public health," deputy mayor Marta Higueras said. "Lots of people suffer from breathing problems and are very affected by pollution."

With 3.2 million residents and 1.8m cars, Madrid often suffers from bad bouts of pollution. The move to ban half of cars is level three on a scale of four anti-pollution measures. Level four bans taxis from the city, except those that are hybrid cars.

The measure implemented by the city hall, which has been led by an alliance of leftist groups since 2015, sparked criticism from the conservative Popular party (PP) which ruled Madrid for nearly a quarter of a century and governs at the national level.

Íñigo Henríquez de Luna, a PP spokesman in Madrid's local parliament, called the move "ideological" and said authorities should do more to encourage residents to avoid using their cars rather than punish them.

The anti-pollution measures were implemented by former PP mayor Ana Botella just before municipal elections in May 2015.

Officials urge against fireworks amid poor air quality

Date: 30th December, 2016 Source: The News & Observer



SALT LAKE CITY: Environmental officials predicting worsening air quality for Utah's Wasatch Front over the weekend are urging people to avoid driving and forgo setting off fireworks.

Pollution levels by Thursday in Utah and Davis Counties were high enough to be considered unhealthy for sensitive populations, while Salt Lake County pollution levels were in the red range, which is considered generally unhealthy for everyone.

A malfunctioning monitor in Weber County stopped officials from measuring air there but it didn't appear much better, according to Department of Environmental Quality spokeswoman Donna Spangler.

Pollutant levels in all those urban areas were expected to increase Friday as cold, stagnant air will trap the smog over cities penned-in by mountains. It will hang there until a storm blows in, but that's not expected until late Sunday.

Until then, the amount of pollution in the air roughly doubles every day during the winter inversions, according to The Salt Lake Tribune

"It keeps filling up, unless you have something to drain it. If people continue to drive and not pay attention, it's just going to get worse," Spangler said.

To keep the haze from worsening, air quality officials have banned wood burning along the Wasatch Front and are encouraging people to avoid driving, idling cars or setting off fireworks, all of which worsen air quality.

Spangler said anyone clearing snow should use a shovel instead of a snow blower and those celebrating the New Year should reconsider fireworks. Smoke from fireworks on past holidays has pushed air quality levels into very unhealthy zones. The official New Year's Eve celebration put on by Salt Lake City has not included fireworks for several years out of pollution concerns.

"I don't want to be a killjoy," Spangler said, "but if you care about the air, you can hold off on those fireworks."

At 10 million, Delhi hits record number of vehicles; air pollution up too

Date: 30th December, 2016 Source: Hindustan Times



There is no stopping the national capital from driving its air pollution to a new high.

The city of about 20 million, which ranks among the world's top cities with foul air on a WHO list, has almost 10 million vehicles, a record it set this year.

Delhi government data released on Thursday shows the number of registered vehicles increased from 8.8 million in 2014-15 to 9.7 million in 2015-16 — a spike of 9.93% and the highest in eight years.

The city has the country's highest density of vehicles, a primary source of air pollution.

According to an IIT-Kanpur report, toxic exhaust fumes from vehicles constitute 25% of the city's air pollution. The latest government data show 6,502 people died of respiratory diseases in 2015, making it one of the leading causes of death.

Exhaust fumes coupled with smoke from farmers burning paddy stalk in neighbouring states and dust from construction sites formed the thickest smog for two decades to shroud the city after Diwali this year.

The Capital is struggling to reduce its air pollution, with measures such as a road rationing formula that allows cars with odd- and even-numbered number plates to ply on alternates days. The government as well as the National Green Tribunal and pollution control boards had banished smoke-belching trucks from the city and sought to scrap all ageing vehicles above 15 years.

But these measures are having little effect as people are forced to arrange their own ride because of an inadequate public transport system, which runs mainly on clean fuel such as CNG and electricity.

The ridership and fleet strength of the Delhi Transport Corporation — the city's public transporter — depleted in the past year. From almost 3.9 million in 2014-15, the daily average ridership of DTC buses decreased to about 3.5 million in 2015-16, the data show.

The number of buses depleted from 4,705 to 4,352 during the period, despite the government's efforts to bulk up the fleet to encourage people to use public transport more often to reduce air pollution.

The city needs 11,000 buses but even with private buses bolstering the operation, it is around 4,000 short.

Besides pushing air pollution up, the rise in vehicle density has clogged the city's road network and forced Delhi residents to spend more time travelling. A study by six road design experts found recently that people's commuting time has doubled in the past six years and traffic speed has halved during peak hours.

The average speed has come down from 42kmph to 20kmph. Experts said the city will crawl at 5kmph in 10 years, the average speed at which a human walks.

The data released by deputy chief minister Manish Sisodia also inform that city's per capita income stood at Rs 280,142 during 2015-16; it has more mobile and fixed line phones; and power consumption has come down to 24,037 million units.

Delhi's air quality 'very poor,' set to worsen on Sunday

Date: 31st December, 2016 Source: Hindustan Times



Air quality in Delhi was "very poor" on Saturday and pollution remained in the 'very severe' category in one area.

Weather department officials predict foul air on New Year's day.

According to monitoring agency SAFAR, the Air Quality Index was 341, at very poor levels. Dhirpur station

recorded a maximum of 500 AQI, which falls in the ‘severe’ category.

SAFAR has advised people in Delhi to avoid outdoor physical activity. People with heart or lung diseases, senior citizens, and children should remain indoors and keep activity levels low when air quality turns ‘severe’, it said.

It also recorded Saturday’s average levels of PM 2.5 and PM 10 (24-hour rolling) at 197 and 304 micrograms per cubic metre respectively. PM2.5 and PM10 are ultra-fine particles that are the dominant air pollutants in Delhi. The acceptable levels of PM 2.5 and PM10 are 60 and 100 microgram per cubic metre, respectively.

Forecasts say PM 2.5 and PM 10 levels will reach 337 and 211 microgram per cubic metre on New Year’s day, Sunday.

“A marginal increase in the level of PM 2.5 has been predicted from 164 micrograms per cubic metre (µg/m3) on December 30 to 192µg/m3 on January 1. Thereafter, a significant drop to 159µg/m3 on January 2 is expected,” a SAFAR report said earlier.

Despite high pollution levels, Delhi is yet to put in place a comprehensive response mechanism. The graded response system, proposed by the CPCB, is yet to be notified or enforced.

The proposed plan suggested that when the air quality is at the ‘severe’ level for 48 hours, the entry of trucks, barring those carrying essential commodities, be stopped from entering Delhi and the odd-even road rationing scheme kick in. The proposal says there should be a ban on waste burning, brink kilns operating in and around the city should be shut and parking rates hiked by at least four times.

The maximum and minimum temperatures were recorded at 20.3 and 8.2 degree Celsius respectively, both a notch above normal, on Saturday.

In the morning, dense fog shrouded the city bringing down visibility levels which affected train operations. As many as 69 north-bound trains were running late while 16 were rescheduled, a railways spokesperson said.

Visibility was recorded at 200 metres at 5.30am, which subsequently improved to 400 metres by 8.30am, a weather official said.

On Sunday, the weatherman has predicted a clear sky. “Moderate to dense fog is expected with isolated, very dense fog in the morning. The maximum and minimum temperatures would be around 20 and 08 degree Celsius respectively,” a MeT official said.



जहाँ है हरियाली ।
वहाँ है खुशहाली ।।

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