

Episodes 51a, 51b, 51c, 51d, 51e, and 51f Register for 2/21/2023 Virtual Testimony about change of EPA PM2.5 limit to 8 micrometer per meter cubed

Episode 51 February 7 to 15, 2023 News for Residents Against Wood Smoke Emission Particulates (RAWSEPResidents) News

#### Episode 51a

This past week from February 7 to 15, 2023, research papers were published showing the disease links between wood smoke and Asthma, Impaired Chess Performance, Depression, High Blood Pressure, Chronic Kidney Disease, and Pneumonia. In the United States, the Comment Period is open until 3/28/2023 for your comments to the EPA on lowering the PM2.5 limit from the current limit of 12 to proposed limit of 8 micrograms per meter cubed, in order to be nearer the World Health Organization (W H O) limit of 5 micrograms per meter cubed. PM refers to Particulate Matter and 2.5 refers to 2.5 micrometer size. Wood Smoke is 90% PM 2.5. Wood smoke from neighbors' wood burning stoves enters the yards and infiltrates the homes of nearby neighbors. PM2.5 is the perfect size to infiltrate the human lung, causing a cascade of human health problems. Low cost PM2.5 monitors placed in yards near residential wood burners can measure PM2.5 emitted from wood burners' stacks after wood burning stoves are used. Low-cost PurpleAir PM2.5 monitors have hyper-localized data accessible to the public 24 7 on the PurpleAir website, so local officials can download data showing evening and weekend wood burning emissions, even during normal government working hours, eliminating the need to enter wood burning residences and eliminating any certification of wood stoves by manufacturers, which has been an abject failure in containing PM2.5 pollution. Comments on the proposed action must be received on or before March 28, 2023. *Public Hearing:* The EPA will hold a virtual public hearing on Tuesday, February 21, 2023, and Wednesday, February 22, 2023. If the EPA receives a high volume of registrations for the public hearing, we may continue the public hearing on February 23, 2023. (Please refer to the **SUPPLEMENTARY INFORMATION** section for additional information on the public hearings). You may submit comments, identified by Docket ID Number EPA-HQ-OAR-2015-0072, by any of the following means:

- *Federal eRulemaking Portal:* <https://www.regulations.gov/> (our preferred method). Follow the online instructions for submitting comments.
- *Email:* [a-and-r-Docket@epa.gov](mailto:a-and-r-Docket@epa.gov). Include the Docket ID No. EPA-HQ-OAR-2015-0072 in the subject line of the message.
- *Mail:* U.S. Environmental Protection Agency, EPA Docket Center, Air and Radiation Docket, Mail Code 28221T, 1200 Pennsylvania Avenue NW, Washington, DC 20460.

*Instructions:* All submissions received must include the Docket ID No. for this rulemaking. Comments received may be posted without change to <https://www.regulations.gov>, including any personal information provided.

*Virtual Public Hearing:* The public hearing will be held via virtual platform on February 21, 2023, and February 22, 2023, and will convene at 11 a.m. Eastern Time (ET) and conclude at 7 p.m. ET each day. On each hearing day, the EPA may close a session 15 minutes after the last pre-registered speaker has testified if there are no additional speakers. The EPA will announce further details at <https://www.epa.gov/pm-pollution/national-ambient-air-quality-standards-naaqs-pm>. If the EPA receives a high volume of registrations for the public hearing, we may continue the public hearing on February 23, 2023. For information or questions about the public hearing, please contact the public hearing team at 919-541-0505 or [HEIDpublichearing@epa.gov](mailto:HEIDpublichearing@epa.gov).

For information or questions regarding the reconsideration of the PM NAAQS, please contact Dr. Lars Perlmutter, Health and Environmental Impacts Division, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Mail Code C539-04, Research Triangle Park, NC 27711; telephone: (919) 541-3037; fax: (919) 541-5315; email: [perlmutter.lars@epa.gov](mailto:perlmutter.lars@epa.gov).

Episode 51b United Kingdom

On February 15, 2013, Ella Adoo-Kissi-Debrah, a nine year old girl living in the United Kingdom, died from air pollution. In the United Kingdom this week, on the 10 year anniversary of Ella's Death, the mother of Ella Adoo-Kissi-Debrah in a U K Guardian interview urged the passage of Ella's Law in the U K, and Ella's mother also spoke out against residential wood burning, which causes the most PM2.5 air pollution in the City of London, surpassing PM2.5 pollution from traffic.

In the United States, individual states reported destruction from use of residential wood burning stoves. In Indiana, a garage was destroyed by use of a wood burning stove. In Maine, a wood burning stove caused a fire that destroyed a home. In North Carolina, tons of creosote-treated railroad ties burned, polluting air over largely non-white, low-income areas.

Also in the United States, regulations regarding residential wood smoke advanced in individual states. In California, the City of San Diego Imposed New Rules on Wood-Burning Beach Fires. In Montana, creating biochar for agricultural use was touted to reduce open burning of wood waste. In Jamestown, North Dakota, an ordinance requires placement of ash pans for wood burning appliances at least a foot and a half above the floor so that sparks will not drop to the floor and cause fires. In Bend, Oregon, PM2.5 Air quality monitoring expanded in Gorge. In Utah, television stations publicized that Public comments to the EPA could lower nationwide PM2.5 pollution limits, affecting Utah's air. The television stations also announced that Utah just started meeting the EPA standards for PM 2.5 within the past few years. In Vermont, a letter to the editor stated "Unless there is a high-performance catalytic converter on the exhaust for the wood- or pellet-burning boiler or furnace, they also produce high levels of PM2.5". In a review of the new Betty Crocker Cookbook, the Washington Post stated that the cookbook recognizes "Technological advances, such as access to running water, packaged food, and the replacement of wood-burning stoves with gas and electric". In Door County, Wisconsin, Outdoor Wood Furnaces were on the Chopping Block in Sturgeon Bay. The Fire Chief has sought a ban on those types of heaters, which resemble a small outdoor shed or shanty with a wood-burning furnace.

In Canada, in the province of British Columbia, Courtenay is planning to create an air monitoring network for PM 2.5. A clearer picture of particulate matter in the City of Courtenay's air will be mapped out with the installation of new monitors. Also in Canada, in the province of Ontario, Canada, in Clinton, recent photos of a snowmobiling clubhouse showed a stack of firewood at the front door. The clubhouse housed a wood burning stove. The wood burning stove as the cause of a fire that destroyed the clubhouse, is being investigated. According to the club, the fire comes just months after its solar power system was stolen. "It has been a difficult year for the clubhouse," a post reads.

In Australia, Australia ruled out wood pellets for energy as Europe debates whether they will continue to change away from wood burning. Australia has decided that electricity generated by burning wood pellets can no longer be considered renewable energy.

In the United Kingdom, recent articles about wood burning regulations in London, England were published in the past week.

The Guardian published "Wood burners in effect banned in new and refurbished homes in London"  
Excerpts related to wood burning in the article are below.

London

In cities such as London, wood burning is a major contributor of toxic air pollution particles, which have been linked to a wide range of health problems.

Wood burners have been in effect banned in new and refurbished buildings in London. New planning guidance announced by the mayor sets air pollution limits for home and office developments that would not be met if burners for wood or other solid fuels were installed.

Wood burning in towns and cities is a major contributor of toxic air pollution particles, which have been linked to a wide range of health problems, including heart and lung disease, dementia and mental illness in children. Dirty air causes thousands of early deaths a year in London alone, and 26,000 to 38,000 in England.

The planning guidance, which is now in force across all London boroughs, requires air quality to be considered at every stage of a development. As well as covering new buildings, refurbishments large enough to require planning permission must also conform to the new guidance.

Developers are also being encouraged to meet air quality standards by installing solar panels, electric heat pumps, cycle storage and electric vehicle charging. The guidance also requires an overall increase in biodiversity, with the inclusion of green roofs, new trees and hedges and wildlife-friendly landscaping.

The dangers posed by wood burners in urban areas have become increasingly clear in recent years. Wood burners emit more particle pollution than traffic in the UK, according to government data, and this results in almost £1bn in health costs a year. Wood burning is responsible for nearly half the cancer risk caused by urban air pollution.

Even government approved “eco” wood burners produce 450 times more pollution than gas heating, according to a report by the chief medical officer for England. Small particle pollution was the most dangerous to health and that produced by wood burning increased by more than a third from 2010 to 2020, the report said, adding that the vast majority of the 1.5m households that burn wood did so for aesthetic reasons.

The government recently encouraged councils to use their powers to issue householders with £300 on-the-spot fines for flouting air pollution rules by burning logs at home. However, English councils have issued only 17 fines over six years, despite more than 18,000 complaints, as it is difficult and expensive to prove guilt.

Tim Dexter, the clean air policy manager at Asthma + Lung UK, said: “The impact of wood burners on air pollution levels is a big concern. We’re calling on the government to provide the public with more education about the risks posed by air pollution, including the dangers of domestic wood burning and information on cleaner and affordable alternatives. We are encouraging people to not use wood burners.”

### Episode 51C Ella’s Law in the U K

<https://www.theguardian.com/environment/2023/feb/10/ellas-law-rosamund-kissi-debrah-air-pollution-death-london>  
Ella’s Law

Excerpts from a Guardian interview with Ella Adoo-Kissi-Debrah’s mother Rosamund published February 10, 2023 on the occasion of the 10 year anniversary of Ella’s death from air pollution in London, England on February 15, 2013.

‘Remember me’: Ella’s law would be fitting legacy after London air pollution death, says mother

Rosamund Kissi-Debrah’s daughter died 10 years ago – now the government must do the ‘honourable thing’, she says  
In the 10 years since she lost her daughter, Kissi-Debrah has become a compelling advocate for cleaner air. She is driving the proposed “Ella’s law” in the UK parliament and is a World Health Organization advocate, while also keeping the memory of Ella as a lively, smart and musical girl alive. Kissi-Debrah was made C B E in the New Year’s honours list.

“Nothing ever makes up for Ella’s death,” Kissi-Debrah said in an interview. “A society is judged by how it treats its most vulnerable.” Kissi-Debrah has become both passionate and knowledgeable: “quarter of a million children in London have asthma.” Rosamund Kissi-Debrah: ‘When I talk to people, yes, they care about the cost of living, but they also care about the air that they are breathing.’ “I can’t think of anything air pollution hasn’t been linked to,” she says. “We have miscarriages, stillbirths, low sperm count – men be worried – autoimmune diseases, cancers.”

The anniversary on Wednesday will be marked by breathing-themed artworks projected on the Rambert building.

Kissi-Debrah wants the event to show the government that people worry about clean air: “We think the government wrongly feels this is something people don’t care about. I feel like the British public has been hoodwinked into thinking, this is a little green issue some middle-class people are concerned about. No, this is something that impacts all of us.”

Much of her focus at the moment is on Ella’s law. The clean air (human rights) bill, which has passed in the House of Lords and is due to have its second reading in the Commons later this month, would make clean air a human right and set a date of 2030 for compliance with key pollution standards, 10 years earlier than the government’s current date.

“Between 2030 and 2040, the premature deaths [caused by dirty air] would equal 300,000,” Kissi-Debrah said.

“(The U K) could adopt Ella’s law in her memory,” Kissi-Debrah says. “That would be a fitting way to remember her, rather than saying: ‘We’re thinking of the family on that day.’ That’s nice, but it’s not going to change anything, is it? All Mr Sunak has to do is to go into parliament tomorrow and introduce it. The government owes a duty to its citizens. I’m not going to chain myself up and sit in – I think I’ve suffered enough – I just need them to do the honourable thing.”

Even if Ella’s law passes in the UK, Kissi-Debrah does not expect to stop there: “There is work to be done across the world. People write to me from India and elsewhere saying: ‘Don’t forget us.’” The government’s response has been poor, says Kissi-Debrah: “Monitoring is really important – you’re letting the people know what they’re breathing. And when people are repeatedly coming in with asthma attacks, doctors should go, ‘What’s your postcode?’, to check air pollution levels.”

Ella Adoo-Kissi-Debrah

Excerpts from a December 20, 2021 BBC article about Ella Adoo-Kissi-Debrah's February 15, 2013 death are below

Ella Adoo-Kissi-Debrah, a nine-year-old girl who died following an asthma attack became the first person in the UK to have air pollution listed as a cause of death, after an inquest. (Her death happened exactly 10 years ago today February 15, 2023). A December 20, 2021 BBC article stated that, in London, England, Southwark Coroner's Court found that air pollution "made a material contribution" to Ella's death. Prof Gavin Shaddick, a government adviser on air pollution, called it "a landmark decision". At the conclusion of the two-week inquest, coroner Philip Barlow said Ella had been exposed to "excessive" levels of pollution. The inquest heard that in the three years before her death, she had multiple seizures and was admitted to hospital 27 times. The coroner said: "I will conclude that Ella died of asthma, contributed to by exposure to excessive air pollution." Ella was first taken to hospital in 2010 after a coughing fit, (her mother Rosamund) Adoo-Kissi-Debrah had told the inquest. As a six-year-old, (Ella) had to be placed in a medically induced coma for three days to try to stabilise her condition. By the summer of 2012, Ella was classified as disabled and her mother said she often had to carry her by piggyback to get her around. Ella died in the early hours of 15 February 2013, following a severe asthma attack.

Ella was classified as disabled due to her respiratory problems. A 2018 report found unlawful levels of pollution, which were detected at a monitoring station one mile from Ella's home, contributed to her fatal asthma attack. The report's author Prof Sir Stephen Holgate said Ella had been "living on a knife edge" in the months before her death. The inquest heard Ella's family did not know of the risks posed by air pollution. Analysis by Roger Harrabin, BBC environment analyst. This is an historic verdict. Typically, experts refer to air pollution being "associated" with premature deaths because they can't be sure any one individual's death was caused or partly caused by dirty air. This case pins Ella's untimely death partly on to the air she breathed. It will heighten the debate about social equity in the UK. Ahead of the conclusion of the inquest, Arnold Schwarzenegger wrote to Ms Adoo-Kissi-Debrah calling her "a hero". The Hollywood actor and former governor of California, who has long been an advocate for better clean-air standards, thanked her for "exposing air pollution for the killer it is". 'Seismic shift' Prof Shaddick, who leads Exeter University's data science department, said he hoped the inquest ruling "makes improving the air we breathe easier to achieve in the future". "It's just regrettable it's taken this case to achieve it," he added. Sadiq Khan, who as mayor of London was named as an interested party in the inquest, called the result "a landmark moment". Khan said: "Today must be a turning point so that other families do not have to suffer the same heartbreak as Ella's family. "Ministers and the previous mayor have acted too slowly in the past, but they must now learn the lessons from the coroner's ruling." Sarah Woolnough, chief executive of Asthma UK and the British Lung Foundation, called on the government to outline a public health plan to protect against "toxic air" immediately.

Episode 51d

Recent articles about Rosamund Adoo-Kissi-Debrah's call for wood burner bans are cited below.

Ella Adoo-Kissi-Debrah: Mother calls for wood-burner ban after child's death

Evening Standard

Ella Adoo-Kissi-Debrah's mother has called for a ban on wood-burning stoves in London after her child became first person in Britain whose death ...

Ella Kissi-Debrah's mother calls for wood-burning stove ban in London | News | The Times

The Times

Wood-burning stoves should be banned in London to clean up the city's air, according to the mother of the first person in the UK whose death was ...

Ella Adoo-Kissi-Debrah: Mother calls for wood-burner ban after child's death

Yahoo News UK

Ella Adoo-Kissi-Debrah's mother has called for a ban on wood-burning stoves in London ... the goal to tackle tiny PM2.5 particulate pollution.

Recent articles about wood burning regulations in London, England are cited below, in alphabetical order by name of publisher.

How wood burners and fireworks helped to choke the air with particulate matter

Camden New Journal

The main pollutant emitted by burning solid fuels like wood is ultra-fine particulate matter, also known as PM2.5. It's not visible to the naked ...

Wood burners given the chop in new London homes as Sadiq Khan cracks down on pollution

Daily Express

Wood burners are directly linked to air particle pollution, which is associated with around 29000 attributable deaths annually in Britain.

Log burners create 'pollution hotspots' as expert warns they are 'as harmful as traffic'

Daily Express

There is a perception that wood smoke is harmless because it comes from a natural fuel, but air pollution is linked to 29000 annual deaths in the ...

Burning issue of log fires ignites in Bedford and West Northamptonshire - Daily Mail

Daily Mail

Now two councils threaten clampdown on log fires after Sadiq Khan effectively outlawed wood burners in London homes... so could YOU be affected? · Log ...

Wood burners effectively banned in new and refurbished London homes under Sadiq Khan

Daily Mail

There are believed to be 1.5million wood-burning stoves in the UK, with up to 200,000 sold each year. One Labour MP who supports the idea likened wood ...

Are YOU at risk of a £1000 fine for using a wood burner? - Daily Mail

Daily Mail

However, many hopes have been dashed after councils across the country try to ban the nifty wood burners to protect the environment. The Government is ... Regions coloured blue have restrictions on the use of wood burning stoves ... exploring whether to expand smoke control areas to outlaw the fires.

Health warning to wood burning stove owners as heater linked to toxic chemicals

Daily Record

Not only does this pose risks for owners, but wood burning stoves can also impact the wider population. These toxic particles in our air have also ... Wood burning stoves produce a staggering amount of air pollutants, which contribute to serious health problems.

'Faulty' wood burner rips through summer house in Bridport - Dorset Live

Dorset Live

A 'faulty' wood burner has destroyed a summer house in Dorset. A picture shows fire fighters at the scene of the blaze on the outskirts of ...

Urgent health warning issued to anyone with a wood burning stove in their home

Edinburgh Live

An urgent health warning has been issued to anyone who owns a wood burning stove, as they produce 750 times more tiny particle pollution than a ... There are more than 1.5 million wood burning stoves in homes across the UK, leading to a major health warning being issued.

Fine particles in the air associated with higher blood pressure in London teens - EurekAlert!

EurekAlert!

The results show Particulate Matter (PM2.5), tiny pollutants in the air that come from car exhaust fumes, building and industry materials, ...

Are wood burning stoves a step backwards for net zero? - Evening Standard

Evening Standard

More people are using wood burners to heat their homes, but is it the right way to go?

Share your experience of wood burners in the UK | Air pollution - The Guardian

The Guardian

Politicians and campaigners have called for an urgent review of laws concerning wood burning stoves, which cause large amounts of pollution, ...

Arsenic found in London air raises fears over use of waste wood as fuel - The Guardian

The Guardian

Arsenic particles are being spotted by scientists in London's air, as concerns grow that people are increasingly burning waste wood from ...

Stricter rules to limit the health risks of wood burners - Hertfordshire County Council

Hertfordshire County Council

This tightening of regulations is because of the increasing amounts of pollution caused by wood burning devices. Many people don't realise that ...

Major health warning to anyone with a wood burning stove in their home - Leicester Mercury

Leicester Mercury

Wood burning stoves produce 750 times more tiny particle pollution than a modern HGV truck.

Vaping is among the top dating turn-off icks for single Brits - Leicestershire Live

Leicester Mercury

Wood Burning Stoves Major health warning to anyone with a wood burning stove in their home Wood burning stoves produce 750 times more tiny particle ...

The story behind Leicester's cursed ancient landmark tainted by devils and human sacrifice

Leicester Mercury

Major health warning to anyone with a wood burning stove in home · Wood burning stoves produce 750 ... "The hay continued to burn for three days.

Stark warning to anyone with a wood burner in their home - Liverpool Echo

Liverpool Echo

New wood burning stove laws aim to cut the UK's emissions, with wood burners accounting for 38% of particulate matter air pollution. However, despite ...

Wood-burning stove warning: Health alert for anybody that has a fireplace in their home

The Mirror

A major health warning has been given to Brits using wood burning stoves rather than switching on central heating in a bid to save money in the ...

Slow Burn: Britons At Risk Of \$300 Fine For Burning Firewood Amid Energy Crunch

MRCTV

Its spokesperson, Andrea Lea said, "Pollution from wood-burning is a growing source of fine particulate matter pollution in some areas, which is a ...

Trading Standards carries out checks to ensure ready to burn fuel that's on sale in Notts is ...

Nottinghamshire County Council

Nottinghamshire Trading Standards is also reminding residents of the law when using a wood-burning stove or an open fire. Smoke from burning causes ...

Air pollution linked with blood pressure in London teens - Phys.org

No evidence of a relationship between nitrogen dioxide/PM2.5 and diastolic blood pressure was observed. For example, a 1µg/m<sup>3</sup> increase in nitrogen ...

Brickbat: This Burns Me Up - Reason Magazine

Reason Magazine

The government has reduced the amount of particulate matter wood-burning stoves and heaters are allowed to emit and given local governments the ...

Wood burning stoves FAQs: updated February 2023 - SPICe Spotlight

SPICe Spotlight

Can I still use my wood burning stove in Scotland? In January 2022, new European regulations came into force to ensure that all new wood burning ...

Episode 51e

U K

How log burners are dividing Britain's middle-class neighbourhoods - Telegraph

Telegraph

Wood smoke is now more of a problem than car fumes in some areas, ... terraces across Britain have been thick with the aroma of burning fuel.

Traditional log fires could be banned in more areas to cut air pollution - Telegraph

Telegraph

Two councils to review their rules on the use of wood-burning stoves as No 10 urges local authorities to improve air quality.

In the past week in Europe, France, The Netherlands, Turkey, and Ukraine had news about wood burning.

France

Anti-pollution measures launch in several areas of southern France - The Connexion

The Connexion

The burning of garden waste is also banned in one department. ... They report that this is due to vehicle fumes, the use of wood fired heating ...

The Netherlands

Advice not to burn wood now applies to eight provinces - Ruetir

Ruetir

This has a downside, because wood smoke contains benzene, PAHs, particulate matter and carbon monoxide, among other things. When the wind blows, these ...

RIVM advises not to burn wood in Overijssel - Ruetir

Ruetir

When wood is burned, harmful substances are released, such as particulate matter, PAHs, benzene and carbon monoxide. The smoke is unhealthy for ...

Turkey

Azerbaijan, is sending wood burning stoves to Turkey, which will increase pollution in Turkey. Air pollution is being outsourced to add to the ills of Turkey in wake of the earthquake.

As instructed by Azerbaijani president, Border Service sends another humanitarian aid ...

AzerNews

... thermal underwear, shirts, wood-burning stoves, and drinking water. List of accessories included in the assistance package for 1,000 people: ...

Ukraine

Lockport, in New York State, made the wrong-headed decision to send wood burning stoves to Ukraine, which will increase pollution in Ukraine. Air pollution is “contagious” in this instance.

'It's contagious to help people': NY church helps Ukraine heat homes | Lifestyles | lockportjournal.com

Lockport Union-Sun & Journal

The wood-burning stove, however, does. The fund-raising project started with a conversation at the Thrifty Shopper at Route 281. Social worker Joe ...

The New York Times article below pointed out the privation that Ukraine is suffering, exemplified by the use of wood stoves, which adds air pollution to the ills Ukraine is already suffering.

Opinion | Fighting the Cold in Ukraine - The New York Times

The New York Times

Residents burn pine from a nearby forest on wooden stoves indoors despite the ... Back in town, the wood is cut to be used in wood-burning stoves.

In Africa in the past week, Kenyan solar stoves were touted to cut cancer risks caused by burning wood.

Africa

Kenya

Kenyan solar-stove may cut cancer risks caused by burning wood | Africanews

Africanews

A solar stove which captures the Sun's rays has been developed in Kenya as a way of cutting the use of cancer-causing wood fires.

In Asia in the past week, Bangladesh, China, India, South Asia, and Thailand reported stories about PM2.5 caused by wood burning.

Asia

Bangladesh

Bangladesh, Dhaka City

Hazardous air pollution in classrooms - The Financial Express

The Financial Express

Obnoxious gases found there are another hazard. The presence of PM 1, PM 2.5 and PM 10 and nitrogen dioxide, volatile organic and carbon dioxide in ...

China



Researchers reveal patterns and mechanisms of unhealthy air pollution event in Lanzhou, China

Phys.org

Their findings were published in Urban Climate on Jan. 31. The researchers found that the average value of PM<sub>2.5</sub>/PM<sub>10</sub> was less than 30%, indicating ...

Episode 51f

India

India, Delhi

Delhi's air pollution dips 27% in 6 years - Tribune India

Tribune India

Meanwhile, average of PM-2.5 (particulate matter with 2.5 micrometre diameter and smaller) level came down from 135 in 2016 to 97 in 2022.

India, Guwati

Air quality turns 'poor' as dust engulfs Guwahati – ThePrint – PTIFeed

As per data on the National Air Quality Index of the Central Pollution Control Board (CPCB), the air quality was at 245 PM<sub>2.5</sub> or above at all ...

Air pollution rises to alarming level in Guwahati, several flights diverted - Business Standard

Business Standard

The PM<sub>2.5</sub> level also rose to 200." According to Gokhale, the dusty wind and thick fog were responsible for this unforeseen rise.

India, Kochi

Urgent steps to be taken to monitor air pollution sources in Kochi - The Hindu

The Hindu

On the basis of reports that an increase in the level of particulate matter 2.5 (PM<sub>2.5</sub> or fine particles) in air would cause health issues, ...

India, Mumbai

Purifiers, Smog Towers... Bmc Gets Cracking On Air Pollution | Mumbai News - Times of India

Times of India

The units would filter Particulate Matter (PM) 2.5 and 10 and harmful gases such as carbon monoxide and nitrogen dioxide.

Mumbai Weather: Temperature drops again; AQI remains poor - Free Press Journal

Free Press Journal

As of Saturday morning, Mumbai's AQI was 'poor' at 273; meanwhile, the pollutant PM<sub>2.5</sub> and PM<sub>10</sub> concentrations were at 273 and 168 respectively.

Air purifiers to combat pollution: a cosmetic measure or an effective solution?

Citizen Matters, Mumbai

... or air ionisation technology to remove PM<sub>2.5</sub> particles from the air. The polluted air passes through the filters where particulate matter is ...

Mumbai Pollution Update: City's air quality remains poor, AQI at 228; mercury at 25.6°C

Free Press Journal

As of Monday morning, Mumbai's AQI was 'poor' at 228; meanwhile, the pollutant PM 2.5 and PM 10 concentrations were at 228 and 147 respectively.

India, Pune

Pollution finds space in these lungs too! - Pune Mirror

... begin trapping particulate matter from various sources for more than ... which displayed the presence of PM 2.5 in the area, was never within ...

South Asia

South Asian countries must unite if they want to tackle worsening air pollution - Scroll.in

Scroll.in

60% of its population lives in heavily polluted areas where levels of deadly dust particles called particulate matter 2.5 – responsible for ...

Thailand

Thailand's worsening PM2.5 problem is lost in the fog of politics | Thai PBS World

Thai PBS World

... of 2.5 micrometers or less) at 50 micrograms per cubic meter of air. ... If this happens, Prime Minister General Prayut Chan-o-cha should call ...

Thailand, Chiang Mai

Wildfires rage Ob Luang National Park in Chiang Mai - Pattaya Mail

Pattaya Mail

Authorities are battling wildfires in the Ob Luang National Park in Chiang Mai as the PM 2.5 levels in nearby areas increase to unhealthy levels.

Extra news, this week.

RAWSEP View: A U K homeowner explains that insulation under floors helps with heating bills. Unfortunately the home owner is also the owner of a wood burner, which he intends to replace eventually.

Home insulation: how to stop your bills going through the roof | Energy bills | The Guardian

The Guardian

We installed a wood-burning stove – yes, I know – and the loft is fully ... and ultimately to replace the old boiler and the wood burner; but how, ...

Excerpts from the article follow

In April, the government will unveil Eco+, a £1bn scheme (that will) result in hundreds of thousands of homes across the country receiving new home insulation, “saving consumers about £310 a year”. focus on installing lower-cost measures such as loft and cavity wall insulation. Eco+ is aimed at (those) who are now not eligible for support, particularly people in energy-inefficient homes – those with an energy performance certificate (EPC) rating of D or below – and in the lower council tax bands. Eco+ will run alongside Eco4, which already offers help to poorer households, and the boiler upgrade scheme that offers £5,000 to those installing an air source heat pump. So what if your home already has basic insulation, you are not on benefits but you want to cut your bills and your carbon footprint? (For example) a medium-sized family house that was built on a Letchworth (Hertfordshire) estate in 1980, still has the original cavity wall insulation, double glazing, and an original 1980 Ideal Concord boiler that (...) refuses to die. We installed a wood-burning stove – yes, I know – and the loft is fully insulated to the required depth of 300 millimeter. it costs about £1 an hour to run the heating with only half the radiators and rooms in use – the same as newer combi boilers. we need more sophisticated insulation, and ultimately to replace the old boiler and the wood burner; but how, and with what? the insulation material from 1980 had slipped. Top up the insulation. can typically save 10-15% with proper floor insulation. (One) recommendation was to insulate the floors downstairs, all solid concrete. need better insulation such as window trickle

vents. it would make a significant difference,” says an expert. install a solar PV (photovoltaic) system on the roof and a battery in the garage, which will bring down our electricity bills and carbon footprint significantly. With a spend of about £10,600, it looks like we could become about 65% self-sufficient in electricity, saving £700 a year. This would get our home up to an EPC rating of C – a minimum of where most of us need to be. In the long run, when our boiler (dies) it makes sense to take the government’s £5,000 grant towards installing an air source heat pump at a typical cost of £10,000. Furbnow visits by an accredited retrofit assessor start at £350 plus VAT. In general, consumers should be looking to use MCS-accredited installers when undertaking work in this area. For more information go to [Mscertified.com](http://Mscertified.com). “Drawing your curtains and blinds every night on a typical Victorian terrace like the Energy House is going to save you about 2% of your heating bill every year.”