

Climate change boosts deadly smog

Buildings are engulfed by heavy smog in Urumqi. [Photo/Chinanews.com]

Global warming has boosted the frequency and severity of deadly air pollution peaks in northern China, according to a report in the Nature Climate Change journal.

“Climate change increases occurrences of weather conditions conducive to Beijing winter severe haze,” scientists involved in the research said.

In the capital and other major northern cities, the number of days each year with weather tailor-made for extreme smog rose from 45 to 50 in the period 1982-2015 compared to the previous three decades, a 10 percent jump, their study found.

The trend is set to worsen if warming continues unabated.

Persistent episodes of health-wrecking haze would become another 50 percent more frequent – and last nearly twice as long – during the second half of this century, the scientists found.

The main danger, experts agree, is particle pollution, especially toxic, microscopic flecks smaller than 2.5 micrometers in diameter – about 40 times thinner than a human hair.

The burning of coal, along with vehicle emissions and dust, are the main sources of these ultra-fine specks, which can cause severe respiratory problems and increase the risk of heart disease.

Small enough to enter human cells, they can also affect the immune and nervous systems.

In major cities across northern China, the number of days with “severe haze” jumped from 12 to 18 to 25 during the winters of 2014, 2015 and 2016 respectively.

Severe haze days happen when the concentration of small particles exceeds 150 micrograms per cubic meter of air.

In January this year, a thick blanket of haze settled over the Beijing-Tianjin basin – home to more than 100 million people – for eight consecutive days.

For several days running, the density of particles 2.5 micrometers or less was higher than 500 micrograms per cubic meter, more than three times the World Health Organization’s danger threshold.

“I would rank air pollution as the No. 1 or No. 2 concern of ordinary people in northern cities in China,” said co-author Liao Hong, a researcher at Nanjing University’s School of Environmental Science and Engineering.

A report by China's environment ministry last year showed that 265 of the country's 338 biggest cities failed to meet new health standards for small-particle pollution in 2015.

The perfect storm of geographic and weather conditions that favor lung-searing smog include sharp temperature differences between the lower and upper atmosphere, faint winds, and certain patterns of atmospheric flow.

The researchers, led by Cai Wenju of the Qingdao National Laboratory for Marine Science and Technology, combined these elements to create a "haze weather index" that they matched against 60 years of weather records.

Averaging across 15 climate models, they also calculated a sharp increase in the number of smog-inducing days from 2050 to 2100.

"In spite of stringent emission controls, severe haze days in Beijing have continued to increase, as clearly seen over the past three winters," said Zhang Renhe, a researcher at Fudan University. "A global effort to slow down global warming is also urgently needed to decrease the risk of heavy air pollution in Beijing."

The extreme Centre

I see Mr Blair and others are out and about complaining that the centre is not strong enough. He thinks the centre ground needs reinforcing, as he dislikes the way it is assailed by Brexiteers of all persuasions, and by the Corbyn tendency in the Labour party. He still sees new Labour as ideal, as the perfect balance between "the extremes". It is high time this piece of self serving nonsense was exposed to some criticism.

The problems with New Labour were their three main extremisms.

They took an extreme view about UK intervention in Middle Eastern wars, believing we could use military force to create liberal democracies in various Middle Eastern countries. The public disagreed, and the results of their military actions despite much bravery and heroic effort by our forces were disappointing. They did not understand or manage the politics of the Middle Eastern countries well, relying too much on force.

They took an extreme view about the ability of the economy to withstand a huge build up in public and private debt and credit, before making an even more extreme judgement to bring some banks crashing down for no good reason. They told us they had abolished the boom-bust cycle, only to preside over the biggest boom-bust since the Great Depression of the 1930s.

They took an extreme view about EU integration and government. Whilst telling us each Treaty was a mild tidying up exercise with all the potency of the

Beano, they signed the UK up to a comprehensive cradle of laws and controls making democratic government in the UK difficult. They always denied the public a referendum vote on their centralising tendencies, always denied their significance, and always claimed when challenged that EU laws were for the best regardless of what they said. Their EU actions led directly to the referendum which they helped lose.

Mr Blair needs to grasp that the world has moved on from New Labour. We now know their economic claims were false, as their era ended with major recession and banking crash. We know their EU policy was based on the lie that the EU was only of interest to Conservatives, and that nothing important was happening. We know their policy of favouring large corporations and encouraging cheap labour from the continent to take the low paid jobs they created was not popular with many voters.

[New superbug could be epidemic, scientists find](#)

Chinese scientists have discovered a new drug-resistant strain of bacteria that can spread stealthily and has epidemic potential.

The superbug is a strain of *Salmonella typhimurium* whose plasmid – mobile DNA that can be easily copied and shared between bacteria – contains the MCR1.6 gene, a newly discovered variant of the drug-resistant MCR1 gene.

“This is the first time the MCR1.6 gene has been found in *Salmonella*, a common foodborne pathogen, and from a healthy carrier,” said Kan Biao, deputy director of the Chinese Center for Disease Control and Prevention’s National Institute for Communicable Disease Control and Prevention.

MCR1 and its variants could help bacteria resist polymyxins – a last-resort class of antibiotics that includes colistin, the most potent, but toxic, antibiotic – according to studies by the institute, the results of which were published this month by *Antimicrobial Agents and Chemotherapy*, a journal produced by the American Society for Microbiology.

Bacterial infections caused by the MCR1 gene and its variants are treatable with other antibiotics, “but often at the cost of killing good bacteria and breaking the body’s microflora balance”, Kan said.

Kan’s team first discovered the MCR1.6 gene in a 2014 fecal sample of a 46-year-old woman from the Guangxi Zhuang autonomous region.

“The situation is alarming because healthy individuals may have been unknowingly spreading this superbacteria for years. *Salmonella* is one of the major micro pathogens of food poisoning and can cause diarrhea and vomiting.

A drug-resistant version could pose a serious threat to public health.”

Kan added that the superbug has the possibility of becoming an epidemic, similar to the typhoid outbreak in the early 20th century, when a healthy female carrier, Mary Mallon, is believed to have infected two dozen people with typhoid fever while displaying no symptoms.

Since its discovery in 2015, the MCR1 gene has spread to more than 30 countries, including the United States, the United Kingdom, Canada, India and Malaysia, according to Kan.

“The MCR1.6 gene or other MCR1 gene variants might begin to appear in other countries,” he warned. “A conservative estimate of more than 3 million Chinese suffer from Salmonella-related illnesses each year, with children and the elderly most at risk.”

Salmonella outbreaks also occur in the US on a regular basis, with the last major outbreak in late November, according to the US Centers for Disease Control and Prevention.

To tackle the superbug issue, governments should strictly regulate the use of antibiotics in livestock farming, educate the public on antibiotic uses, strengthen surveillance of resistant bacteria, and promote research and development of new antibiotics, Kan said.

For the general public, “something as simple as washing your hands, cooking food properly and strictly following a doctor’s prescription for antibiotics can greatly reduce the chance of catching a serious infection”, he added.

[Paper machines get mixed reviews](#)

“Let me try,” a short, middle-aged woman said as she moved in front of one of the face-recognition toilet paper dispensers that have been installed in restrooms at Beijing’s Temple of Heaven Park. She removed her hat and glasses, and stared straight into the camera. A group of amused fellow tourists looked on, keen to see the new high-tech machines in action.

However, nothing happened.

“Try standing further back,” came a voice from in the crowd. “Make sure you’re standing in the yellow area marked on the floor.”

The 62-year-old woman, surnamed Wang, readjusted her position and, after several seconds, was rewarded with a 60-centimeter strip of crisp, white toilet paper. If she wanted more, she was going to have to wait nine minutes to start the process all over again.

“If I were in a rush, it would be inconvenient,” Wang said.

The Temple of Heaven Park, one of the capital's major tourist attractions, was not swarmed with visitors on Tuesday afternoon, but many of those who were there made a beeline for the bathrooms.

Managers of the venue have said the dispensers, which have so far been installed in three restrooms on a trial basis, are designed to prevent an age-old issue of people stealing or wasting toilet paper.

However, some people have questioned whether such a high-tech solution sacrifices convenience, as patrons now need to wait for paper before they can relieve themselves.

Shortly after Wang had finished, a mother visited the same restroom with her young daughter. She walked straight past the machine and into a cubicle.

"I have everything I need in my bag, so I don't need to bother with the dispenser," she said after re-emerging, adding that the machines are not convenient for parents, particularly those with small children.

Given that the screen is placed at about average height for an adult, it is also unlikely to be of use for wheelchair users. Meanwhile, twins could have a problem, too, if they both need to use the restroom at the same time.

A worker who helped install the dispensers said the management plans to adjust their locations because the long lines of people waiting for toilet paper have been blocking entrances to the venue.

However, some people are happy to put up with a little inconvenience if it puts a stop to thieves.

"Since the new machines have been installed, many of the thieves have disappeared," said a middle-aged man waiting outside a restroom. "I think it's good to teach them a lesson."

Press release: Justice Secretary announces plans to create 5,000 modern prison places

- New builds to create up to 2,000 construction jobs and generate millions of pounds to British economy
- Builds on the government's commitment to create up to 10,000 modern places, aimed at reducing overcrowding and creating the right conditions for reform.

Justice Secretary Elizabeth Truss has today unveiled plans for the building of 4 new prisons in England and Wales – creating 5,000 modern prison places

and replacing old and overcrowded establishments with new, fit for purpose buildings.

Sites in Full Sutton in Yorkshire; Hindley in Wigan; Rochester in Kent and Port Talbot in South Wales have been earmarked for development as part of the government's commitment to build up to 10,000 modern prison places by 2020, backed by £1.3 billion to transform the estate.

As well as creating modern establishments fit for the twenty-first century, the proposed new builds will also act as a boost to regional economies across the country – creating up to 2,000 jobs in the construction and manufacturing industries and new opportunities for local businesses.

Final decisions on the new prisons will be subject to planning approvals, as well as value for money and affordability.

Justice Secretary Elizabeth Truss said:

We cannot hope to reduce reoffending until we build prisons that are places of reform where hard work and self-improvement flourish.

Outdated prisons, with dark corridors and cramped conditions, will not help offenders turn their back on crime – nor do they provide our professional and dedicated prison officers with the right tools or environment to do their job effectively.

This significant building programme will not only help create a modern prison estate where wholesale reform can truly take root, but will also provide a thriving, economic lifeline for the local community – creating hundreds of jobs for local people and maximising opportunities for businesses.

Today's announcement comes weeks after the opening of HMP Berwyn – the new, modern prison in north Wales which will hold over 2,000 prisoners. The construction of this new prison has already contributed over £100 million to the local economy and created around 150 jobs and apprenticeships before doors have even opened.

In creating a modern prison estate, old and inefficient prisons will be closed and replaced by the new accommodation. A programme of valuation work will now begin to help inform further decisions about the estate. Announcements on prison closures will be made later in the year.

Today's announcement builds on ambitious reforms to improve safety in prisons, including an additional £100 million to bolster frontline staff by 2,500.

This wholesale, organisational reform will be supported by measures within the Prisons and Court Bill, which will set out a new framework and clear system of accountability for prisons, building on the wide-ranging reforms set out in the Prison Safety and Reform White Paper.

1. We will be applying for outline planning permission for new prisons in Yorkshire, the North West, Kent and South Wales.
2. A Written Ministerial Statement detailing further information will be published at 0930 Wednesday 22 March.