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Chinese pollution: A shift in the wind

By Pilita Clark and Lucy Hornby

After resisting foreign calls to cut emissions, domestic pressure is finally forcing change

Bleak view: China's carbon emissions per person are higher than those of France, Italy and Spain

When it comes to difficult government jobs, few are as tricky as the one held by Xie Zhenhua, China's chief negotiator on climate change.

On the day he agrees to meet the Financial Times, in a room the size of a basketball court near his office in the country's economic planning ministry, the air outside is "unhealthy". At least, that is what it says on the smartphone air quality apps people in Beijing check as obsessively as Londoners watch weather forecasts.

Much of the smog comes from cars but it also drifts in from the coal-powered plants that have helped propel China's economy into second place after the US – and turned it into a carbon dioxide polluter like no other.

China's hunger for coal meant it pumped out almost 10 gigatons of CO2 in 2012, more than the US and the EU combined and nearly a third of the global total. Despite its 1.3bn population, China's emissions per head are higher than those of France, Italy and Spain and nearly equal to the EU average.

This makes Mr Xie's position difficult. For most of the past decade, the 64-year-old engineer has represented China in the international climate talks launched nearly 20 years ago to curb emissions of CO2, the main man-made greenhouse gas scientists say is warming the atmosphere to potentially dangerous levels.

Those talks have failed to stop the fastest rise in emissions on record over the past decade, due in large part to China, which has resisted outside pressure to rein in carbon pollution.

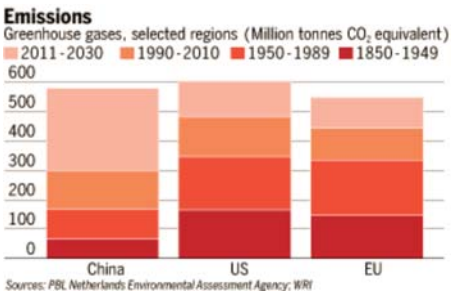
Mr Xie has been known to bang the odd table in climate talks when confronted with what he felt were unrealistic demands from other countries. But now, he says, the pollution visible each day outside his windows is forcing China to change regardless of what the outside world wants.

"It's fair to say the smog issue and climate change issue are caused to some extent by the same source," he says. "The smog has pushed us to make greater decisions to accelerate the transformation of our development and living model, and transform the economic, industrial and energy structure."

In other words, China wants to build on what Mr Xie describes as the "tremendous efforts" already made to replace coal power with

cleaner energy sources as its economy matures and becomes less reliant on heavy industry. The question is whether China is willing, or even able, to make such changes in time to prevent global temperatures warming to potentially risky levels.

Mr Xie bristles at the question. “Sometimes the international community wonders whether China will take real action,” he says. “There should be no question on this issue. China will definitely take action, not only in terms of protecting people’s livelihoods and health but also making a contribution to global climate-change efforts.”



It is true that China is taking astonishing strides to switch from coal to cleaner forms of power. Of the 94 gigawatts of new generating capacity it installed last year, almost 60 per cent was renewable. That included more than 11GW of solar, enough to power a small Chinese city and more than any country has built in a single year.

Solar, wind and hydropower now account for nearly a third of its installed electricity generating capacity, compared with less than 15 per cent in the US. It is also piloting emissions trading systems that could lead to a national carbon market by 2020.

But its addiction to coal is far from over. Fossil fuels, mostly coal, still make up nearly 70 per cent of its power generating capacity. Although it plans to boost sharply its nuclear and renewable power, it is also expected to add 248GW of coal capacity between now and 2020, according to IHS, the consultancy – equal to about three new coal plants every month.

Other factors underline the immense scale of the challenge China faces as it tries to wean itself off the coal choking its cities. Hydropower dams are by far is main source of renewable energy but cannot be expanded infinitely. Nuclear power is expensive. The country’s shale gas industry is in its infancy. Coal is not just cheap – it is ingrained in an economy that is the world’s workshop.

Interviews with officials and advisers working on energy and climate policies suggest China has something in common with St Augustine, who prayed for chastity but not yet.

Yes, it wants to reduce its emissions, but perhaps not as fast as climate science might dictate.

Despite 30 years of remarkable economic growth, China still has almost 100m people living below the national poverty line of Rmb2,300 a year, or less than $400. The idea that it should cut its emissions as fast as western countries before it achieves a comparable standard of living remains deeply unpopular. “China is not Chad,” says Mr Xie, referring to one of the world’s poorest countries. “But on the other hand, China is not the US, the EU or even Japan.”

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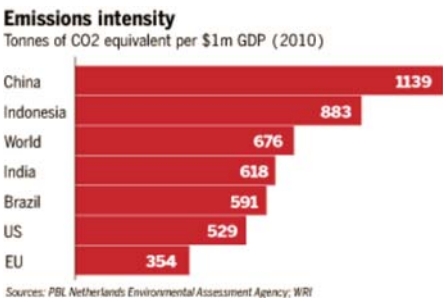
Those countries’ emissions peaked when per capita GDP was $10,000 to $15,000, and sometimes as much as $30,000, he says, yet the figure in China is still around $6,000.

So what does China really want? Part of the answer may come in September when heads of state are expected to spell out how they plan to tackle climate change at the UN.



The event has been designed to focus attention on the international climate negotiations, which are due to produce a global deal on tackling carbon emissions late next year in Paris.

The Paris meeting is expected to rival the last effort to forge such a deal, in Copenhagen in 2009, which famously ended in failure, partly because countries had not agreed enough of the treaty in advance. Mr Ban Ki-moon’s September summit is supposed to help prevent a repeat of Copenhagen.

China has said it will cut the amount of carbon it produces as a proportion of GDP by at least 40 per cent from 2005 levels by 2020. This is a far cry from the absolute cut in emissions offered by the EU, the US and other industrialised economies.

China’s position is understandable, says Prof Detlef van Vuuren of the PBL Netherlands Environmental Assessment Agency, who was also an author of the latest Intergovernmental Panel on Climate Change report.

China’s economy is growing much faster than that of European countries, “so for us it is much easier to reduce emissions in an absolute sense”, he says.

That raises the question of when China's emissions are likely to peak, either naturally or with policy effort.

The Dutch agency recently took part in a sweeping study that tried to answer this question using a range of climate-economy models. Most suggested that without more stringent policies, emissions would keep rising until at least 2050.

They showed the most cost-effective way of stopping global temperatures rising more than 2C from pre-industrial times – a threshold some scientists say should not be breached – is for China's emissions to peak shortly after 2020. Temperatures have already risen by nearly 1C.

Action could be delayed beyond 2030 but this would be more costly because it would require deeper emissions cuts later. Could China stop its emissions rising as early as 2020?

The influential Beijing think-tanks and institutes that advise ministries such as the National Development and Reform Commission, where Mr Xie is vice-chairman, have been working on an assessment of a likely peaking period.

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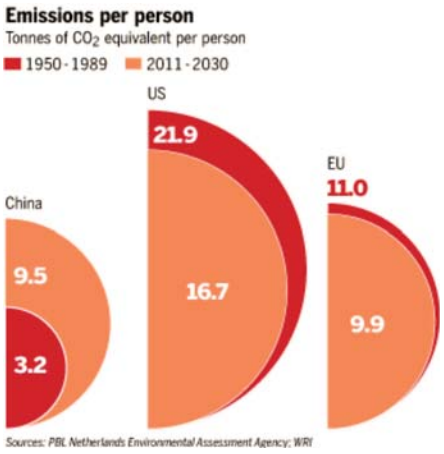
> - Xie Zhenhua

The findings may be ready in time for the September summit but there is still plenty of disagreement about a realistic peaking date, according to analysts working on the topic.

"Frankly, we have a very broad range of projections," says Zou Ji of China's National Center for Climate Change Strategy. "Xie and Su Wei [Mr Xie's negotiating colleague in the climate talks] ask us again and again, which figure is more reliable and more reasonable?"

The trouble is there are enormous problems to consider, he says. "People say: 'Oh, coal is so dirty, let's shut down the coal mines.' But on the other hand we also see a very rapid increase in demand for electricity and it seems we cannot stop that.

"Furthermore, we also see over 10m employees in coal factories. If we shut down some of the coal mines, how will those unemployed workers be addressed with a very weak social security system?"



Small wonder that Fuqiang Yang, senior climate and energy adviser at the Natural Resources Defense Council, a US group that operates in China, says the emissions-peaking debate has been fraught. "The first study five years ago said China's emissions peak will be in 2035. Many Chinese government officials said 'Why did you say that? It's too soon'"

Qiang Guoqiang of the private SinoCarbon consultancy that is helping advise the NDRC on its pilot emissions trading programs puts it like this: "Can China finish the whole industrialisation process in 20 years that the US took 100 years to do?"

He Jiankun of China's Tsinghua University is one of the most senior advisers on climate change and has spent months trying to balance the myriad unknown variables that go into calculating China's likely emissions peak.

These include how much its growing economy will slow down in the coming decades; what the energy mix will be and how much more efficient the industrial and transport structure will become.

It is a tough calculation in a planned economy that rarely performs according to the plan.

He figures the peak will be around 2030, based on the idea that economic growth will gradually slow to about 5 per cent a year, that more of China's energy will be generated from low-carbon sources and that it will be able to reduce the amount of pollutants generated per unit of GDP by 3.5 per cent every year for the next 16 years.

Any number of Prof He's calculations are open to disagreement. Just discussing whether China's one-party system can sustain an economic slowdown to less than 5 per cent is difficult for Chinese researchers. But the weight of probability points to a deceleration of the economy from today's 7.4 per cent growth.

There is a risk that if growth slows too fast it will trigger another attempt by Beijing to juice the economy with a shot of loose credit, as it did in 2008 after the global financial crisis and, to a lesser extent, last summer.

Such stimulus efforts tend to flood the state-owned, heavy industrial sector with money, unbalancing any

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natural transition in the economy to a more mature, service-led structure.

A bigger problem is the assumption that China can continue to wring the same amount of energy efficiency and improvements in emissions year after year, long after the low-hanging fruit has been plucked.

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One notable aspect of a recent paper by Prof He, however, is the extent to which it examines how emissions peaked in the US, the EU and Japan as their economies moved beyond the rapid industrialisation China is now undergoing.

And that goes to the heart of what China offers in the Paris climate talks. “China is definitely going to offer more ambitious mitigation action and contributions than what it has offered previously,” Prof He has said in an interview.

But this will depend on progress in the negotiations, he added, “including the principle of equity”.

Environment: Still dreaming of a blue sky

The smog was so bad that people’s eyes streamed on the way to work. Drivers had to pull over to the side of the road because they could not see for their tears. Officials fretted the pollution was a menace to aviation.

This was not Beijing, Shanghai or any of the other Chinese cities where a thick pall of smog regularly engulfs residents. It was Los Angeles almost 60 years ago, one of two western cities famous for choking levels of air pollution.

The other was London, where smog blanketed the city so heavily in 1952 that it killed an estimated 4,000 people.

It took decades for each city to clean their skies but Mr Xie thinks Beijing’s smog can be fixed in as little as five years, even though its pollution is in some ways more dire.

Xie Zhenhua

“The London smog was caused mainly by coal combustion and sulphur dioxide emissions and Los Angeles’ smog was mainly caused by auto emissions,” he says.

China has suffered both problems simultaneously, he adds, but by absorbing lessons from abroad it should be able to tackle its smog faster.

“We have published 10 measures to address air pollution,” says Mr Xie. “If those measures can be honoured, it will take five to 10 years for Beijing to have a clear sky.”

Whether this comes to pass remains to be seen but there is no lack of plans being rolled out to address China’s unnerving environmental woes. There appears to be an air of increasing openness about the problem. This month, a government report that had previously been classified a state secret was published, showing one-fifth of China’s agricultural land is polluted. In March, officials revealed that only three of its 74 largest cities met national air-quality standards.

On Thursday, China finally passed long-awaited revisions to its Environmental Protection Law, removing a loophole that kept the cost of polluting lower than the cost of installing cleaner technology and opening the door to more public monitoring.

This comes as Li Keqiang, China’s premier, declared a “war on pollution”, but as anyone breathing the air in the country’s largest cities will attest, victory is still far from evident.

Additional reporting by Owen Guo

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