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Comment: Why China needs help cutting its emissions

› 07 August 2009 by [Julian Hunt](#)
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IN DISCUSSIONS over how to avoid dangerous climate change, two numbers are especially prominent: 450 parts per million and 2 °C. These are, respectively, the upper "safe" concentration of carbon dioxide in the atmosphere, and the upper "safe" limit of average global temperature increase. The fear is that if we exceed either, the climate will pass an irreversible tipping point.

The world's biggest emitter of CO₂ doesn't see the future in quite the same way. I recently visited several institutions in China and heard some rather different numbers - numbers that are not being aired in the west. They certainly don't appear to be part of the discussions in the lead-up to the UN Climate Change Conference in Copenhagen in December, where a framework for dealing with climate change beyond 2012 will be discussed.



Can China put a lid on emissions? (Image: Sipa Press / Rex Features)

China is absolutely committed to political stability, and that stability depends on economic growth. Over the next 40 years it forecasts that its GDP will increase by a factor of 6. The driving force of this massive growth will be fossil fuels, in particular coal.

China's stated policy is to increase the total output of its coal-fired electricity generation while improving efficiency. This is its only significant target in relation to energy and climate change, and even if the target is met, the country's emissions are likely to at least double by 2050. China, in other words, is not committed to limiting emissions so as not to exceed any particular target for the global CO₂ concentration.

China's booming emissions will contribute significantly to atmospheric CO₂. With this in mind, the latest annual report of the [Beijing Climate Center](#) considers two future scenarios for greenhouse gas concentrations in 2100. One puts CO₂ at 550 ppm, which is double pre-industrial levels. The other is even higher, at 750 ppm, with an average temperature rise across China exceeding 4 °C.

Is there anything the rest of the world can do to avoid the risk of dangerous climate change that this implies? The main way that China can limit its emissions will be to improve the efficiency of its coal-fired power stations, adopt carbon capture and storage, and expand nuclear power. Developed countries can encourage and facilitate this transition by providing China with substantial technological assistance.

But first the western nations must commit to making deep cuts in their own emissions - of the order of at least 80 per cent - before 2050, conditional on China doing so after 2050 as its energy-efficiency, renewable and nuclear programmes become effective. As ambitious as it may seem, an international agreement along these lines in Copenhagen is a credible goal, for two reasons. First, because China has a long-term financial interest in collaborating with the US. And secondly because - as I have seen in meteorology and in plasma physics - China has a good track record in delivering on advanced technology projects and sticking to international agreements.

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