

Making business sense of the UN Climate Summit. #Paris2015

China's climate plan: comprehensive, but not radical

Jonathan Grant and George Gale review China's eagerly anticipated INDC.

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China's plan to tackle emissions growth, announced earlier this week, is comprehensive but not radical. Its Paris target for 2030 is roughly on the same track as its Copenhagen target for 2020. Staying on this track requires carbon intensity reductions of 4.3% per year – a step change from China's average decarbonisation rate this century of only 1.6%.

China published its Intended Nationally Determined Contribution shortly after a climate summit with the EU on Monday. The main targets it announced are:

1. To peak CO₂ emissions by around 2030;
2. To reduce carbon intensity by 60-65% compared with 2005 levels by 2030;
3. To increase the share of non-fossil fuels in primary energy consumption to around 20%; and
4. To increase the forest stock volume by around 4.5 billion cubic meters on the 2005 level.

China's new carbon intensity target for 2030 follows a similar trajectory as its Copenhagen target for 2020. In other words if you extend its Copenhagen line out from 2020 to 2030 you hit the Paris target. It will require annual decarbonisation of 4.3% per year compared with an average rate of only 1.6% per year since 2000.

While this may be a significant change from its historic average trend, China's more recent focus on tackling emissions has coincided with sharper reductions in intensity, reaching 4% in 2013. So China's recent efforts may be a better guide to its future climate plans than what it was doing ten years ago.

The plans described in China's INDC have obvious implications for business. Climate laws will be strengthened, and climate-related objectives will be incorporated into national and social development plans, in urbanisation strategies, and in agricultural policy. China aims to reduce the proportion of fossil fuels in the energy mix to around 80% by 2030. It will lower coal consumption for new coal power stations to around 300 grams of coal



equivalent per kilowatt-hour. China's coal fleet currently averages 335 gce/KWh with the most modern units achieving less than 280 gce/KWh, according to the IEA (1).

While the percentage increase in the proportion of renewable energy in China (to around 20%) may not seem large, given the scale of China's energy system, the actual deployment of renewables technologies will be huge. This is likely to make it a centre for innovation. Recent announcements of billions being invested in innovative renewables by the Apollo programme and the Gates Foundation, could support this deployment in China.

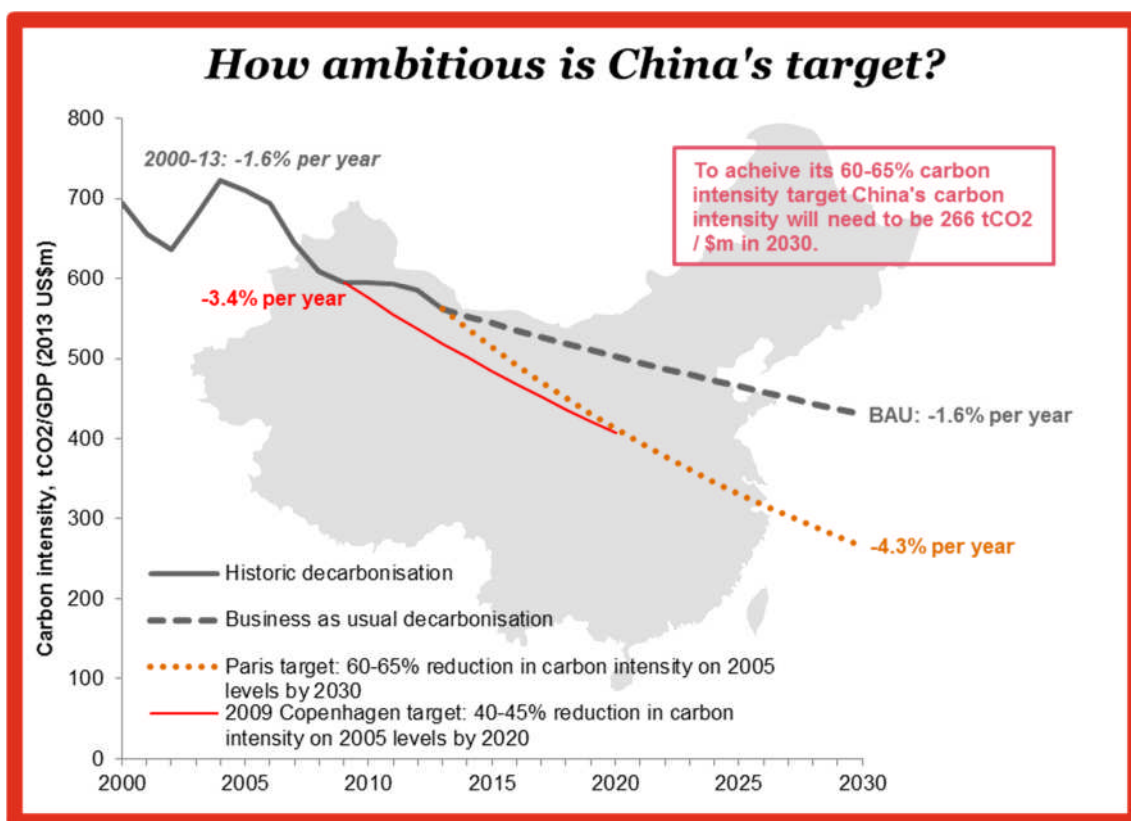
China's target is clearly ambitious. It requires faster decarbonisation than the targets from the EU and US, and it requires a bigger shift from its historic trend. But it has a much higher starting point and even if China achieves its target, in 2030 it will still have the same carbon intensity as the EU in 2001 or the US in 2018. And like the EU and US targets, China's falls short of the 6% annual reduction needed to limit warming to two degrees.

Emissions in China will continue to rise despite all these efforts. They should peak around 2030 or before if possible. With China's carbon intensity approach, the forecast for the emissions peak year depends on your assumption about economic growth in China during the 2020s. The emissions peak occurs roughly when the annual GDP growth rate falls below the decarbonisation rate of 4.3%. In our LCEI model, this emissions peak occurs in 2020, which is partly a reflection of the slowdown in our GDP growth projections at that time.

But the important issue is how sharp the peak is – ie what happens after it. There is little commentary on this in China's INDC. Our projections show that China's emissions will fall gently in the 2020s and then by around 2% per year after 2030, unless they ratchet up ambition between now and then.

(1)

<https://www.iea.org/publications/freepublications/publication/PartnerCountrySeriesEmissionsReductionthroughUpgradeofCoalFiredPowerPlants.pdf>

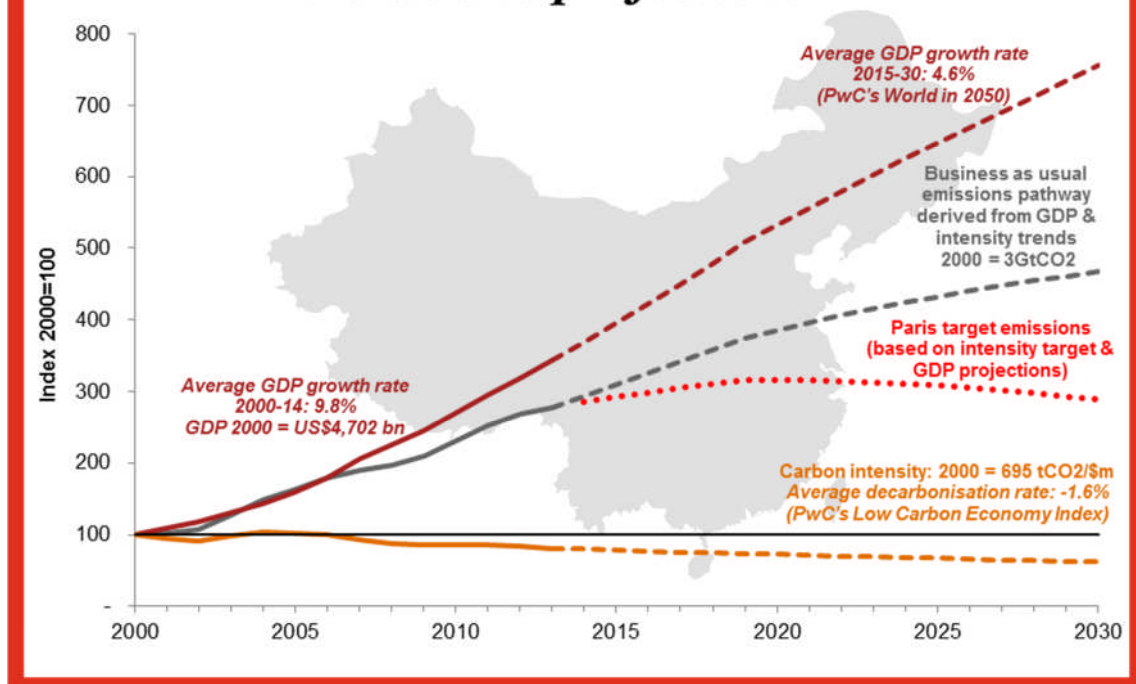


Sources: BP, International Energy Agency, Energy Information Administration, World Bank, IMF, PwC data and analysis.

(a) GDP is measured on a PPP basis.

(b) Based on PwC's Low Carbon Economy Index methodology which focuses on historic and projected changes in carbon intensity or emissions per million dollars of GDP.

China's GDP, intensity and emissions trends and projections



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