Global carbon growth stalls as US coal continues to slump

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Declining consumption of coal in the US last year played a significant role in keeping down global emissions of carbon dioxide, according to a new report. The Global Carbon Project annual analysis shows that CO2 emissions were almost flat for the third year in a row, despite a rise in economic growth.

The slowdown in the Chinese economy since 2012 has also been a key factor limiting carbon.
Experts believe it is too early to say if global CO2 emissions have peaked.

Impact of recession

The annual output of carbon dioxide from the use of fossil fuels increased by about 3% per annum through the first decade of this century. Thanks to the global recession, emissions started to slow down in 2010. However they have now stalled for the past three years at around 36.4bn tonnes of CO2.

China's rapid economic expansion, which saw two new coal fired power stations being built every week, drove the global rise in CO2 over the past 16 years. But there has been a sharp slowdown in coal use since 2012, driving Chinese CO2 emissions down 0.7% in 2015 according to this study, and a further 0.5% in 2016. "It is hard to say whether the Chinese slowdown is due to a successful and smooth restructuring of the Chinese economy or a sign of economic instability," said Glen
Peters, from the Centre for International Climate and Environmental Research (CICERO) in Oslo, who co-authored the study. "Nevertheless, the unexpected reductions in Chinese emissions give hope that the world's biggest emitter can deliver much more ambitious emission reductions." US emissions in 2016 continued a downward trend that began in 2007. They were down 2.5% in 2015 and a further 1.7% decline is projected for this year. The drop is due to a reduction in demand for American coal, something that President-elect Trump has vowed to change.

"With all eyes focussing on the fallout of the US election result, it is worth noting that wind, solar, and gas continue to displace coal in US electricity production," said Dr Peters.

Coal mining has been undermined by the global switch to gas for electricity production. "Trump's plans to revive the struggling coal industry might not be able to counteract the existing market forces leading to coal's decline," he said.

While US and Chinese emissions were going down, India's have been going up significantly. They have been growing by around 6% per annum over the last decade and slowed marginally to 5% in 2016. This is expected to continued as India looks to double domestic coal production by 2020.

The global use of fossil fuels has been critical to economic growth for decade but one of the encouraging factors in this new analysis is that the stalling of emissions has occurred while economic growth has continued. The authors say it is far too early to proclaim a global peak in emissions, but other observers believe we could be at an important moment.

"This could be the turning point we have hoped for," said Prof David Reay, from the University of Edinburgh.

"Ever since the industrial revolution our global carbon emissions have been tightly
bound to economic growth. To tackle climate change those bonds must be broken and here we have the first signs that they are at least starting to loosen."
However there are a growing number of uncertainties ahead.
While China’s emissions have slowed, there are worries they could accelerate again as the building of coal powered stations has continued.
President-elect Trump has promised not only to revive the US coal industry but to "cancel" the Paris Climate Agreement where countries agreed to voluntarily reduce their emissions of CO2.
This would be a foolish thing to do say many experts, who believe that the Paris deal, and the de-coupling of economic growth from carbon emissions, are both key to avoiding dangerous levels of global warming.
"Climate mitigation policies around the world are beginning to deliver. Hopefully emissions have peaked," said Prof Piers Forster, from the University of Leeds. "There is also a lesson for the incoming US administration here - you don't need coal to drive economic growth."
The new analysis has been published in the journal, Earth System Science Data.