

Press release: EMBARGO: Monday 7 December, 17.00 Central European Time (Paris)

Slower global emissions growth driven by Chinese economic adjustment

Global carbon dioxide emissions grew at their slowest level outside of economic crisis in 2014 with a drop in global emissions possible in 2015. The changes are driven primarily by economic adjustments in China and may mark the beginning of a period of slower emissions growth.

The growth of global carbon dioxide emissions has slowed in the last few years, largely due to reduced growth in coal consumption in China. Global emissions may decrease in 2015, but it is unlikely that this represents a peak in global emissions.

Today the Global Carbon Project (GCP) publishes its annual analysis of trends in global carbon dioxide emissions together with a commentary in the journal *Nature Climate Change* and a review article on negative emissions (Smith et al, see separate press release).

Global carbon dioxide emissions from fossil fuels and industry grew at over 3% per year in the 2000's, but growth has slowed in the 2010's and in 2014 are likely to have reduced substantially, down to only 0.6%. This is largely a result of a sharp slowdown in Chinese coal consumption.

"China generates about 27% of global carbon dioxide emissions, and the ups and downs of the Chinese economy leave a signature on global emissions growth" said Glen Peters, a senior researcher at the Center for International Climate and Environmental Research – Oslo (CICERO) and co-author of the studies.

Close attention has been paid to Chinese emissions this year, with high-profile studies variously suggesting they have been either under- or over-estimated. Either way, it is possible that reduced Chinese coal consumption will drive a decrease in global emissions in 2015.

"New Chinese energy statistics show that the growth in Chinese emissions has slowed in the last few years, and may even have decreased in 2015" says Jan Ivar Korsbakken, a senior researcher and co-author based at CICERO. "Coal consumption may not continue to drop in 2016, however, and could increase again if growth in Chinese industry picks up".

China has been a key driver for global emissions growth in recent years, but a potential restructuring of the Chinese economy may lead to a period of lower growth, with China officially pledging a peak in emissions around 2030.

"Slower Chinese emissions growth is good news, but we're not off the hook, because it could well be short-term and there are increasing concerns with emissions growth in India and other developing countries", says Robbie Andrew, a senior researcher and co-author based at CICERO.

Indian emissions grew at nearly 9% in 2014, continuing a period of strong growth, and this growth is expected to continue with India's plan to double domestic coal production by 2020.

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“While we think it’s unlikely that India’s emissions will ever reach China’s current levels, India could certainly take over from China and drive global emissions growth in the next decade” says Andrew.

In 2014, emissions in the European Union dropped 6% continuing the downward trend and offsetting the growth in Indian emissions. US emissions continued a slight upward trend in 2014, and are expected to remain relatively stable through 2016.

While the apparent slowdown in global emissions, and potential decline in 2015, is positive news, the authors note that appropriate caution is needed.

“It is hard to say whether the Chinese slowdown is due to a successful and smooth restructuring of the Chinese economy to a ‘New Normal’ or a sign of economic instability” says Peters. “It will take a few years before we’re in a position to answer that question, and in the meantime caution is needed to avoid over-interpretation”.

“The potential drop in global emissions in 2015 is driven almost entirely by China” says Andrew. “If Chinese emissions stabilize, global emissions growth is expected to return as the growth in emissions in developing countries exceeds emission decreases in the EU and some other developed nations”.

The work was carried out by a team of about 70 collaborators as a contribution to the Global Carbon Project, <http://www.globalcarbonproject.org/>

Media Contact:

- Glen Peters, glen.peters@cicero.oslo.no, [@Peters Glen](https://www.facebook.com/glen.peters), +47 9289 1638
 - Available for interviews in Paris
- Robbie Andrew, robbie.andrew@cicero.oslo.no
- Jan Ivar Korsbakken, jan.ivar.korsbakken@cicero.oslo.no

Social media:

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Press Conference: Monday 7th December 1115 (CICERO Pavilion, Paris, astrid.arnslett@cicero.oslo.no)

Side Event: Monday 8th December 1130 (Observer Room 03, Paris, astrid.arnslett@cicero.oslo.no)

Papers:

- Jackson et al., Reaching peak emissions, *Nature Climate Change*
- Smith et al., Biophysical and economic limits to negative CO₂ emissions, *Nature Climate Change* (separate press release)
- Le Quéré et al., Global Carbon Budget 2015, *Earth System Science Data*

Access:

- Data and figures: <http://www.globalcarbonproject.org/carbonbudget>
- Data interface for exploring data: <http://www.globalcarbonatlas.org>
- Prior to embargo: Nature papers can be requested for media purposes press@nature.com
- After embargo papers are free for one month for registered users at www.nature.com