

EMBARGO: Tuesday 19 November 01:00 Central European Time (CET)

## **Coal continues to dominate global carbon emissions**

**Despite explosive growth in renewable energy consumption, continued strong growth in coal consumption has further consolidated coal as the dominate source of carbon dioxide emissions.**

In its annual analysis of global carbon emissions production published online today, the Global Carbon Project (GCP) found that global emissions from fossil fuel combustion and cement production reached a record high of 35 billion tonnes CO<sub>2</sub> in 2012, 58 per cent above the level of 1990.

In 2012 global carbon dioxide emissions were 2.2 per cent higher<sup>1</sup> than in 2011, and based on estimates of economic activity in 2013, emissions are set to rise 2.1 per cent in 2013 to reach 36 billion tonnes CO<sub>2</sub>. These growth rates are slightly lower than the average growth of 2.7 per cent per year in the last 10 years.

### **In 2012 many countries increased dependence on coal**

German emissions increased 1.8 per cent in 2012, with coal growing at 4.2 per cent.

Japanese emissions increased 6.9 per cent in 2012, with coal growing at 5.6 per cent.

EU28 emissions decreased 1.3 per cent, but emissions from coal grew 3.0 per cent.

Indian emissions increased 7.7 per cent, with coal growing at 10.2 per cent.

Poland, host of the 19<sup>th</sup> Conference of the Parties to the UNFCCC, recorded a 3.1 per cent decrease in emissions in 2012, but it is still one of Europe's most coal-reliant economies.

"While society is seeing many positive developments in renewable energy, this increased production capacity is not simply displacing coal consumption", said Peters, an author of the study based at CICERO, a climate research institute in Norway.

### **China behind 70 per cent of the global increase in emissions**

Seventy per cent of the growth in global emissions was due to increased emissions in China. Chinese emissions grew 5.9 per cent in 2012, lower than the average of 7.9 per cent per year over the last 10 years.

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<sup>1</sup> *The growth rates are not adjusted for the leap year in 2012.* The 2012 growth rates will be around 0.3 per cent lower after a leap year adjustment and 0.3 per cent higher in 2013. For example, global emissions growth would be 1.9 per cent in 2012 after a leap year adjustment (instead of 2.2 per cent) and 2.4 per cent in 2013 after a leap year adjustment (instead of 2.1 per cent)

Coal accounted for about 68 per cent of Chinese energy consumption, while hydropower and renewables accounted for about 8 per cent.

“Even though renewable and hydro energy consumption in China grew around 25 per cent in 2012, this growth is from a low baseline. The growth in low-carbon energy sources was more than offset by a 6.4 per cent increase on coal consumption which has a higher baseline”, said Dr Peters.

Carbon dioxide emissions in the USA continued their decline with a 3.7 per cent decrease in 2012, with emissions from coal consumption decreasing 12 per cent.

“If US emissions continue to decline as in the last five years, and Chinese emissions continue to increase, then China will emit more than the US on a per capita basis in the period 2020-2025”, said Peters.

China already emits the same as the EU on a per capita basis, 7.0 tonnes CO<sub>2</sub> per person.

“China has had rapid economic growth in the last decades bringing lasting benefits to its citizens, but this has come at a great cost to the environment. The conventional view is that China still lags behind developed countries, but China is actually comparable to many developed countries in terms of per capita CO<sub>2</sub> emissions”, said Peters.

## **Growing cumulative emissions increases chance of exceeding two degrees**

The latest IPCC assessment report suggests that cumulative emissions must not exceed 2900 billion tonnes CO<sub>2</sub> to have a “likely” chance of keeping global average temperatures below two degrees. Society has already emitted 69 per cent of this amount.

“Trends need to reverse and emissions to fall to limit global climate change below two degrees” says Prof Corinne Le Quéré of the Tyndall Centre for Climate Change Research at the University of East Anglia, who led the study involving 49 authors from 10 countries.

In May this year, carbon dioxide in the atmosphere ominously exceeded 400 parts per million for the first time since measurements started in 1958 at the Mauna Loa observatory.

Including an estimate of land-use change, emissions in 2012 were 39 billion tonnes of CO<sub>2</sub> with land use change 8 per cent of the total.

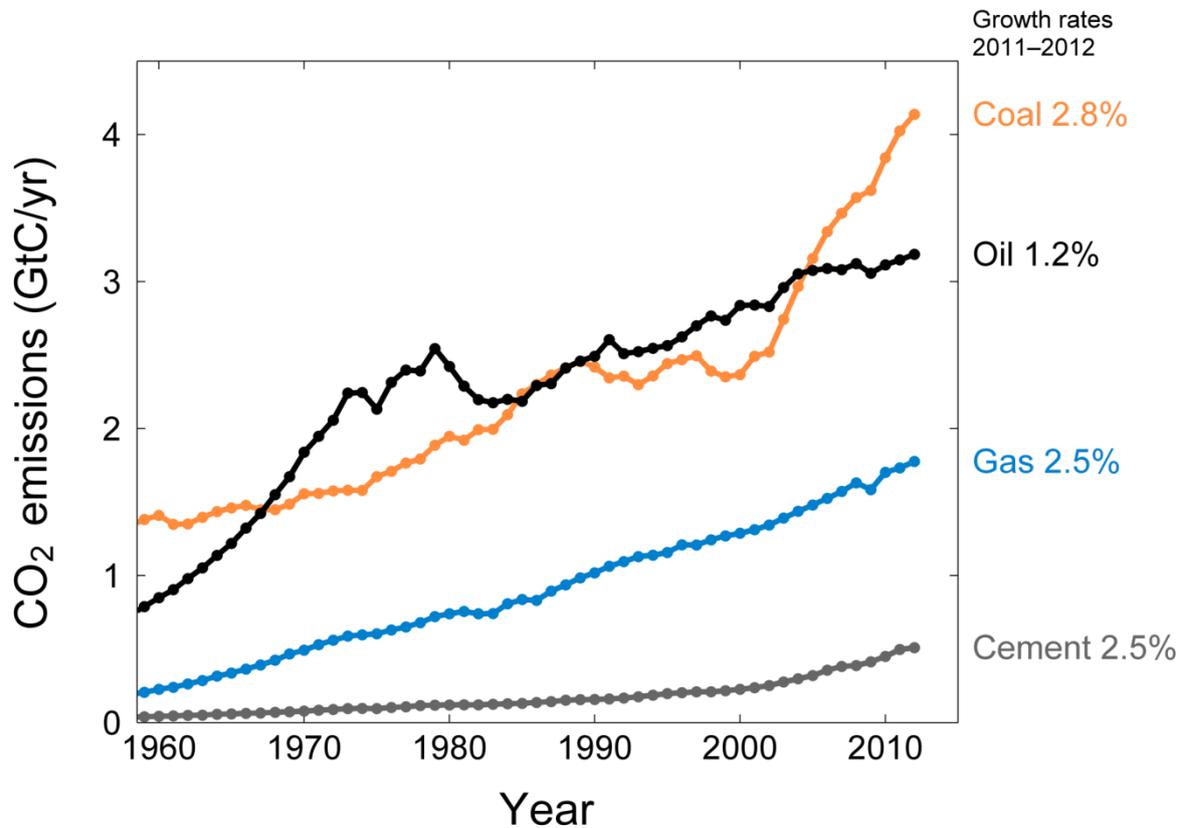
**Media:** Glen Peters (Norway), [glen.peters@cicero.oslo.no](mailto:glen.peters@cicero.oslo.no), +47 9289 1638, @Peters\_Glen

**COP19 side-event:** Global Carbon Budget 2013: rising emissions and a radical plan for 2 degrees, Wednesday 20 Nov, 15:00-16:30, Room Wrocław. Tiina Ruohonen: +47 9098 3161

**Global Carbon Budget**, for high-quality figures and additional information:

<http://www.globalcarbonproject.org/carbonbudget/>

**Global Carbon Atlas**, an online platform for people to explore, visualise and interpret data of global, regional and national emissions: [www.globalcarbonatlas.org](http://www.globalcarbonatlas.org)



**Global Carbon Budget 2013**, by C. Le Quéré, G. P. Peters, R. J. Andres, R. M. Andrew, T. Boden, P. Ciais, P. Friedlingstein, R. A. Houghton, G. Marland, R. Moriarty, S. Sitch, P. Tans, A. Arneeth, A. Arvanitis, D. C. E. Bakker, L. Bopp, J. G. Canadell, L. P. Chini, S. C. Doney, A. Harper, I. Harris, J. I. House, A. K. Jain, S. D. Jones, E. Kato, R. F. Keeling, K. Klein Goldewijk, A. Körtzinger, C. Koven, N. Lefèvre, A. Omar, T. Ono, G.-H. Park, B. Pfeil, B. Poulter, M. R. Raupach, P. Regnier, C. Rödenbeck, S. Saito, J. Schwinger, J. Segsneider, B. D. Stocker, B. Tilbrook, S. van Heuven, N. Viovy, R. Wanninkhof, A. Wiltshire, C. Yue, S. Zaehle, 2013. *Earth System Science Data Discussion*.