Global CO2 emissions back on the rise in 2010: study

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Global carbon dioxide (CO_2) emissions – the main contributor to global warming – show no sign of abating and may reach record levels in 2010, according to a study led by the University of Exeter (UK).

The study, which also involved the University of East Anglia (UK) and other global institutions, is part of the annual carbon budget update by the Global Carbon Project.

In a paper published today in *Nature Geoscience*, the authors found that despite the major financial crisis that hit the world last year, global CO_2 emissions from the burning of fossil fuel in 2009 were only 1.3 per cent below the record 2008 figures. This is less than half the drop predicted a year ago.

The global financial crisis severely affected western economies, leading to large reductions in CO_2 emissions. For example, UK emissions were 8.6% lower in 2009 than in 2008. Similar figures apply to USA, Japan, France, Germany, and most other industrialised nations.

However, emerging economies had a strong economic performance despite the financial crisis, and recorded substantial increases in CO_2 emissions (e.g. China +8 per cent, India +6.2 per cent).

Professor Pierre Friedlingstein, lead author of the research, said: "The 2009 drop in CO_2 emissions is less than half that anticipated a year ago. This is because the drop in world Gross Domestic Product (GDP) was

less than anticipated and the carbon intensity of world GDP, which is the amount of CO_2 released per unit of GDP, improved by only 0.7 per cent in 2009 – well below its long-term average of 1.7% per year."

The poor improvements in carbon intensity were caused by an increased share of fossil-fuel CO_2 emissions produced by emerging economies with a relatively high carbon intensity, and an increasing reliance on coal.

The study projects that if economic growth proceeds as expected, global fossil fuel emissions will increase by more than 3% in 2010, approaching the high emissions growth rates observed through 2000 to 2008.

The study also found that global CO_2 emissions from deforestation have decreased by over 25% since 2000 compared to the 1990s, mainly because of reduced CO_2 emissions from tropical deforestation.

"For the first time, forest expansion in temperate latitudes has overcompensated deforestation emissions and caused a small net sink of CO_2 outside the tropics", says Professor Corinne Le Quéré, from the University of East Anglia and the British Antarctic Survey, and author of the study. "We could be seeing the first signs of net CO_2 sequestration in the forest sector outside the tropics", she adds.

More information: *Nature Geoscience*: http://www.nature.com/ngeo

Provided by University of Exeter