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Global CO_2 emissions may set a record this year

Global carbon dioxide emissions contributing to atmospheric warming show no sign of abating and may reach record levels in 2010, according to the Global Carbon Project (GCP), supported by CSIRO's Marine and Atmospheric Research Division.

In its annual report card, scientists working with the GCP reported that although annual emissions in 2009 were 1.3 per cent below the record 2008 figures due to the global financial crisis, the concentration of carbon dioxide (CO_2) in the atmosphere continued its upward trend to reach a new high of 387 parts per million.

Results from the GCP reported in a paper published today in *Nature Geoscience* indicate that the 2009 decrease in emissions is likely to be more than offset by renewed growth in fossil-fuel emissions in 2010.

"There is some good news, however, in that we found global emissions from deforestation have decreased through the last decade by more than 25% compared to the 1990s and account now for about a tenth of the emissions from all human activity" says co-author and GCP Executive Director, CSIRO's Dr Pep Canadell.

The small 2009 decrease in global fossil fuel emissions includes large regional shifts, with large decreases occurring in Europe, Japan and North America (e.g. US -6.9 per cent, UK -8.6 per cent, Germany -7 per cent, Japan -11.8 per cent, Russia -8.4 per cent) while emerging economies recorded substantial increases (e.g. China +8 per cent, India +6.2 per cent, South Korea +1.4 per cent). Australian emissions were slightly lower than those in 2008 (a change of -0.4 per cent).

"CO_2 emissions from fossil fuels are projected to increase by more than 3 per cent in 2010 if economic growth proceeds as expected, approaching the high emissions growth rates observed from 2000 to 2008," Dr Canadell said.

"Fortunately, we are seeing offsets to this in reduced tropical deforestation compared to the 1990s and increased forest re-growth in temperate regions."

Another co-author of the paper, CSIRO's Dr Michael Raupach, said that despite the estimates of carbon emissions having some uncertainties, climate scientists agree that CO_2 generated by human activity is the main contributor to human-induced climate change.

"The carbon intensity of world Gross Domestic Product (GDP), that is the amount of emissions emitted to produce one dollar of wealth, improved by only 0.7 per cent in 2009, and we attribute this to emerging economies that are reliant on coal producing a higher share of fossil-fuel CO_2 emissions.

"Both globally and for emerging economies, the fraction of fossil fuel emissions from coal continued to increase last year.

"The world GDP is projected to increase by 4.8 per cent in 2010 as the global economy recovers. .

“This projected economic growth will push global emissions up by more than 3 per cent in 2010.”

To access emission data by country, full carbon budget 2009, and additional content, please visit: http://www.globalcarbonproject.org/carbonbudget

Image available at: http://www.scienceimage.csiro.au/mediarelease/mr10-135.html

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