Global CO2 emissions continue to increase: report

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Global emissions of carbon dioxide (CO_2) increased by 3% last year, reaching an all-time high of 34 billion tonnes in 2011.

In China, the world's most populous country, average emissions of CO_2 increased by 9% to 7.2 tonnes per capita. China is now within the range of 6 to 19 tonnes per capita emissions of the major industrialised countries. In the European Union, CO_2 emissions dropped by 3% to 7.5 tonnes per capita. The United States remain one of the largest emitters of CO_2, with 17.3 tones per capita, despite a decline due to the recession in 2008-2009, high oil prices and an increased share of natural gas. These are the main findings of the annual report 'Trends in global CO_2 emissions', released today by the European Commission's Joint Research Centre (JRC) and the Netherlands Environmental Assessment Agency (PBL).

Based on recent results from the Emissions Database for Global Atmospheric Research (EDGAR) and latest statistics on energy use and relevant activities such as gas flaring and cement production, the report shows that global CO_2 emissions continued to grow in 2011, despite reductions in OECD countries. Weak economic conditions, a mild winter, and energy savings stimulated by high oil prices led to a decrease of 3% in CO_2 emissions in the European Union and of 2% in both the United States and Japan. Emissions from OECD countries now account for only one third of global CO_2 emissions – the same share as that of China and India combined, where emissions increased by 9% and 6% respectively in 2011. Economic growth in China led to significant

increases in fossil fuel consumption driven by construction and infrastructure expansion. The growth in cement and steel production caused China's domestic coal consumption to increase by 9.7%.

The 3% increase in global CO_2 emissions in 2011 is above the past decade's average annual increase of 2.7%, with a decrease in 2008 and a surge of 5% in 2010. The top emitters contributing to the 34 billion tonnes of CO_2 emitted globally in 2011 are: China (29%), the United States (16%), the European Union (11%), India (6%), the Russian Federation (5%) and Japan (4%).

Cumulative CO_2 emissions call for action

An estimated cumulative global total of 420 billion tonnes of CO_2 were emitted between 2000 and 2011 due to human activities, including deforestation. Scientific literature suggests that limiting the rise in average global temperature to 2°C above pre-industrial levels – the target internationally adopted in UN climate negotiations – is possible only if cumulative CO_2 emissions in the period 2000-2050 do not exceed 1 000 to 1 500 billion tonnes. If the current global trend of increasing CO_2 emissions continues, cumulative emissions will surpass this limit within the next two decades.

Fortunately, this trend is being mitigated by the expansion of renewable energy supplies, especially solar and wind energy and biofuels. The global share of these so-called modern renewables, which exclude hydropower, is growing at an accelerated speed and quadrupled from 1992 to 2011. This potentially represents about 0.8 billion tonnes of CO_2 emissions avoided as a result of using renewable energy supplies in 2011, which is close to Germany's total CO_2 emissions in 2011.

More information: "Trends in global CO2 emissions" report: edgar.jrc.ec.europa.eu/CO2REPORT2012.pdf

EDGAR website: edgar.jrc.ec.europa.eu

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