CO_2 emissions +2.2% in 2012, driven by China and coal

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Emissions of carbon dioxide from fossil fuels and cement production reached a new high in 2012, rising 2.2 percent over 2011 due chiefly to an increase in coal-burning China, scientists said Tuesday.

Output of CO_2 from these sources was a record 35 billion tonnes, 58 percent above 1990, the benchmark year for calculating greenhouse-gas levels, according to the annual analysis by an international group called the Global Carbon Project.

"Based on estimates of economic activity in 2013, emissions are set to rise 2.1 percent in 2013 to reach 36 billion tonnes of CO_2," it said in a report coinciding with the UN climate talks in Warsaw.

The 2012 and 2013 rates are slightly below the average growth of 2.7 percent annually over the last 10 years.

Carbin dioxide is the principal greenhouse gas, and fossil fuels—coal, oil and gas—along with cement production account for nearly all its man-made emissions. Around four billion tonnes of CO_2 come from other sources, including changes to land use, the report said.

China, the world's number one carbon emitter, accounted for 70 percent of the global increase in 2012, it said.

Chinese emissions grew 5.9 percent in 2012, lower than the average of 7.9 percent per year over the past decade.

Consumption from renewable sources and hydropower in China grew by a quarter in 2012.

But that growth came from a low baseline, and was more than offset by an increase of 6.4 percent in coal, which has a higher baseline. Coal accounted for 68 percent of Chinese energy consumption in 2012.

Other significant CO2 increases occurred in Japan (+6.9 percent) and Germany (+1.8 percent), pushed by a switch to coal to offset dependence on nuclear.

Indian emissions increased by a whopping 7.7 percent, with those from coal growing 10.2 percent.

Emissions by the 28-nation European Union (EU) fell by 1.3 percent, but emissions from coal grew 3.0 percent.

In the United States, the world's No. 2 emitter, CO2 emissions fell by 3.7 percent in 2012, with those from coal decreasing by 12 percent as the country turned to cleaner shale gas.

"If US emissions continue to decline as in the last five years, then China will emit more than the US on a per capita basis in the period 2020-2025," said Glen Peters, with Norway's Centre for International Climate and Environmental Research - Oslo (CICERO), who contributed to the report.

Per capita emissions are one of the biggest issues in the climate-change arena.

Developing countries, which include China, say rich nations should bear most of the burden for warming, as they initiated the problem and their emissions per person are much higher than those of poorer economies.

But China's per capita emissions are rising fast because of its reliance on coal, which less energy-efficient than other fuels, the report said.

Its emissions are roughly level-pegged with those of the EU, at seven tonnes of CO2 per head.

"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," said Peters.

"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 CO2 emissions."

The study involved 49 authors from 10 countries.

In May, levels of CO2 in the atmosphere briefly exceeded 400 parts per million for the first time since measurements began at the Mauna Loa Observatory on Hawaii.

Some experts fear the world is on track for double the UN target of two degrees Celsius (3.6 degrees Fahrenheit) over pre-industrial times—a recipe for worse drought, flood, storm and rising seas.