

# Greenhouse gases soar; no signs warming is slowed

November 21 2011, By SETH BORENSTEIN , AP Science Writer

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(AP) -- Heat-trapping greenhouse gases in the atmosphere are building up so high, so fast, that some scientists now think the world can no longer limit global warming to the level world leaders have agreed upon as safe.

New figures from the U.N. weather agency Monday showed that the three biggest greenhouse gases not only reached record levels last year but were increasing at an ever-faster rate, despite efforts by many countries to reduce emissions.

As world leaders meet next week in South Africa to tackle the issue of [climate change](#), several scientists said their projections show it is unlikely the world can hold warming to the target set by leaders just two years ago in Copenhagen.

"The growth rate is increasing every decade," said Jim Butler, director of the U.S. National Oceanic and Atmospheric Administration's Global Monitoring Division. "That's kind of scary."

Scientists can't say exactly what levels of greenhouse gases are safe, but some fear a continued rise in [global temperatures](#) will lead to irreversible melting of some of the world's ice sheets and a several-foot rise in sea levels over the centuries - the so-called tipping point.

The findings from the U.N. [World Meteorological Organization](#) are consistent with other grim reports issued recently. Earlier this month,

figures from the U.S. Department of Energy showed that global [carbon dioxide emissions](#) in 2010 jumped by the highest one-year amount ever.

The WMO found that total [carbon dioxide](#) levels in 2010 hit 389 parts per million, up from 280 parts per million in 1750, before the start of the Industrial Revolution. Levels increased 1.5 ppm per year in the 1990s and 2.0 per year in the first decade of this century, and are now rising at a rate of 2.3 per year. The top two other greenhouse gases - methane and [nitrous oxide](#) - are also soaring.

The U.N. agency cited fossil fuel-burning, loss of forests that absorb CO<sub>2</sub> and use of fertilizer as the main culprits.

Since 1990 - a year that international climate negotiators have set as a benchmark for emissions - the total heat-trapping force from all the major [greenhouse gases](#) has increased by 29 percent, according to NOAA.

The accelerating rise is happening despite the 1997 Kyoto agreement to cut emissions. Europe, Russia and Japan have about reached their targets under the treaty. But China, the U.S. and India are all increasing emissions. The treaty didn't require emission cuts from China and India because they are developing nations. The U.S. pulled out of the treaty in 2001, the Senate having never ratified it.

While scientists can't agree on what level of warming of the climate is considered dangerous, environmental activists have seized upon 350 parts per million as a [target](#) for carbon dioxide levels. The world pushed past that mark more than 20 years ago.

Governments have focused more on projected temperature increases rather than carbon levels. Since the mid-1990s, European governments have set a goal of limiting warming to slightly more than 2 degrees

Fahrenheit (1.2 degrees Celsius) above current levels by the end of this century. The goal was part of a nonbinding agreement reached in Copenhagen in 2009 that was signed by the U.S. and other countries.

Temperatures have already risen about 1.4 degrees Fahrenheit (0.8 degrees Celsius) since pre-industrial times.

Massachusetts Institute of Technology professors Ron Prinn, Henry Jacoby and John Stermann said MIT's calculations show the world is unlikely to meet that two-degree goal now.

"There's very, very little chance," Prinn said. "One has to be pessimistic about making that absolute threshold." He added: "Maybe we've waited too long to do anything serious if two degrees is the danger level."

Andrew Weaver at the University of Victoria, Granger Morgan of Carnegie Mellon University and Gregg Marland of Appalachian State University agreed with the MIT analysis that holding warming to two degrees now seems unlikely.

"There's no way to stop it. There's so much inertia in the system," Morgan said. "We've committed to quite a bit of warming."

Prinn said new studies predict that if temperatures increase by more than two degrees, the Greenland ice sheets will start an irreversible melting. And that will add to [sea level](#) rise significantly.

"Over the next several centuries, Greenland slowly melts away," Weaver said.

**More information:**

World Meteorological Organization's Greenhouse Gas Bulletin:  
<http://bit.ly/vu04vB>

National Oceanic and Atmospheric Administration's Annual Greenhouse Gas Index: <http://www.esrl.noaa.gov/gmd/aggi/>

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Citation: Greenhouse gases soar; no signs warming is slowed (2011, November 21) retrieved 24 April 2024 from <https://phys.org/news/2011-11-greenhouse-gases-soar.html>

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