Carbon Dioxide Emissions Increase for First Time Since 2014

Editor's note: This article has been revised for accuracy, changing a reference about CO2 "levels" to "emissions."

Global CO2 emissions increased in 2017 by 1.2 percent over 2016, the first increase since 2014, according to a U.N. Environmental Program (UNEP) report released Nov. 27.

This raises significant doubts about the possibility of reducing emissions in time to keep the global temperature from rising 2-degree Celsius above pre-industrial levels (much less, the more ambitious target of 1.5-degree Celsius or lower, which was the goal of international commitments made in Paris at COP21 in 2015).

Based on current commitments to reduce greenhouse gas (GHG) emissions, and the progress so far in meeting these obligations, the report projects a 3-degree Celsius global temperature increase by 2100, with continued warming expected.

To meet the 1.5-degree Celsius or lower target, GHG emissions would have to be reduced by 55 percent from 2017 levels by 2030. To achieve the 2-degree Celsius or lower target would require a 25 percent reduction.

"While there has been steady progress in the number of countries that have peaked their GHG emissions or have pledged to do so in the future, the 49 countries that have so far done so, and the 36 percent share of global emissions they represent, is not large enough to enable the world's emissions to peak in the near term," the report said.

Actions by non-state actors, such as cities and publicly traded companies, as well as government action in the form of taxes on fossil fuels and subsidies for low-emission and renewable energy initiatives were cited as vital to mitigating

temperature increases.

The executive branch of the European Union proposed on Nov. 28 that the EU commit to reach "net zero" emissions by 2050, meaning the union's carbon dioxide output would be matched by carbon offsetting initiatives.

UNEP's findings further substantiate the findings of recent reports on the tenuous situation the world finds itself in regarding limiting global temperature increases:

- A World Meteorological Organization report published in early November revealed that while ozone conditions have improved, GHG emissions have continued to rise.
- An Intergovernmental Panel on Climate Change (IPCC) report released in early October warned that "rapid, far-reaching and unprecedented changes in all aspects of society" were essential to avoid global temperature surpassing a 1.5 degree Celsius threshold.

"If the IPCC report represented a global fire alarm, this report is the arson investigation," said UNEP's Deputy Executive Director Joyce Msuya in a press release announcing the report's findings.

"The science is clear; for all the ambitious climate action we've seen, governments need to move faster and with greater urgency. We're feeding this fire while the means to extinguish it are within reach," Msuya said.

The full report is available here. An executive summary is available here.