

‘CO2 EMISSIONS IN 2020 ABOVE DECADAL AVERAGE’

Relevant for: Environment | Topic: Environmental Pollution - Air, Water, Soil & E-waste

A report from the World Meteorological Organisation (WMO) on Monday said the increase in CO2 from 2019 to 2020 was slightly lower than that observed from 2018 to 2019 but higher than the average annual growth rate over the past decade. This is despite the approximately 5.6% drop in fossil fuel CO2 emissions in 2020 due to restrictions related to the pandemic.

Ahead of the crucial talks in Glasgow next week, where the countries will attempt to negotiate ways to stem global greenhouse gas emissions, updated data shows that the pandemic disruption in 2020 didn't significantly dent overall greenhouse gas emissions.

Emissions on the rise

For methane, the increase from 2019 to 2020 was higher than that observed from 2018 to 2019 and also higher than the average annual growth rate over the past decade.

For nitrous oxides also, the increase was higher and also than the average annual growth rate over the past 10 years. The National Oceanic and Atmospheric Administration (NOAA) Annual Greenhouse Gas Index (AGGI) shows that from 1990 to 2020, radiative forcing by long-lived greenhouse gases (LLGHGs) increased by 47%, with CO2 accounting for about 80% of this increase.

Concentration of carbon dioxide (CO2), the most significant greenhouse gas, reached 413.2 parts per million in 2020 and is 149% of the pre-industrial level. Methane (CH4) is 262% and nitrous oxide (N2O) is 123% of the levels in 1,750 when human activities started disrupting earth's natural equilibrium.

Roughly half of the CO2 emitted by human activities today remains in the atmosphere. The other half is taken up by oceans and land ecosystems. The Bulletin, as the WMO report is called, flagged concern that the ability of land ecosystems and oceans to act as 'sinks' may become less effective in future, thus reducing their ability to absorb CO2 and act as a buffer against larger temperature increase.

The Bulletin shows that from 1990 to 2020, radiative forcing — the warming effect on our climate — by long-lived greenhouse gases increased by 47%, with CO2 accounting for about 80% of this increase. The numbers are based on monitoring by WMO's Global Atmosphere Watch network.

"At the current rate of increase in greenhouse gas concentrations, we will see a temperature increase by the end of this century far in excess of the Paris Agreement targets of 1.5 to 2 degrees Celsius above pre-industrial levels," said WMO Secretary-General Prof. Petteri Taalas.

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