

Global Carbon Dioxide Emissions set to rise 0.8% over 2023

November 13, 2024 • vajiramandravi.com



What's in today's article?

- Introduction
- India's Contribution to Global Emissions
- Key Findings from the Report
- Challenges in Meeting Climate Goals
- Call to Action
- Conclusion

Introduction

- Global carbon dioxide (CO₂) emissions from fossil fuel use are projected to rise by 0.8% in 2024, reaching a record high of 37.4 billion tonnes, according to the **Global Carbon Project's latest report presented at COP29 in Baku, Azerbaijan.**
- The report warns that at the current rate, **there is a 50% chance global warming will exceed the critical 1.5°C threshold consistently within six years**, emphasizing the urgency for decisive global

action.

India's Contribution to Global Emissions

- **Rising Emissions:** India's CO2 emissions are expected to grow by 4.6% in 2024, the highest among major economies. This includes increases from coal (4.5%), oil (3.6%), natural gas (11.8%), and cement production (4%).
- **Global Standing:** India contributes 8% of global fossil CO2 emissions, **ranking third after China** (31%) and the U.S. (13%). The European Union (EU-27) contributes 7%.
- **Per Capita Emissions:** India's per capita CO2 emissions remain significantly lower at 0.6 tonnes compared to the global average of 1.3 tonnes, the U.S. at 3.9 tonnes, China at 2.3 tonnes, and the EU-27 at 1.5 tonnes.

Key Findings from the Report

- **Global Trends in Emissions:**
 - Emissions from coal, oil, and natural gas are expected to rise slightly by 0.2%, 0.9%, and 2.4%, respectively, in 2024.
 - CO2 concentrations in the atmosphere are projected to reach 422.5 ppm in 2024, 52% higher than pre-industrial levels.
- **Carbon Budget and the 1.5°C Threshold:**
 - The remaining global carbon budget, which determines how much carbon can be emitted before breaching the 1.5°C limit, is running out. A consistent breach of the 1.5°C target is expected within six years if current trends persist.
 - The mean global temperature already surpassed 1.5°C in January 2024 when averaged over the previous 12 months.
- **Land and Ocean Carbon Sinks:**
 - Land and oceans combined absorbed about half of human-generated CO2 emissions in the past decade.
 - Oceans absorbed 10.5 billion tonnes annually, or 26% of total emissions, despite a 5.9% reduction in absorption efficiency over the last decade due to altered wind patterns and warming waters.
 - El Niño temporarily reduced land CO2 absorption in 2023 but is expected to recover by mid-2024.

Challenges in Meeting Climate Goals

- The Paris Agreement aims to limit global warming to below 2°C, striving for 1.5°C.
- However, the report highlights that global efforts are insufficient, and voluntary Nationally Determined Contributions (NDCs) are unlikely to meet the 1.5°C pathway.
- Structural barriers, such as increasing infrastructure demands in rapidly developing economies like India, outpace the growth of renewable energy sources, exacerbating fossil fuel dependence.

Call to Action

- Professor Pierre Friedlingstein from the University of Exeter's Global Systems Institute, who led the study, emphasized the urgency for "rapid and deep cuts to fossil fuel emissions" to meet the Paris Agreement goals.
- World leaders at **COP29** are urged to implement transformative policies to accelerate the transition to renewable energy, reduce fossil fuel consumption, and mitigate the impacts of climate change.

Conclusion

- The Global Carbon Budget's findings highlight the critical need for immediate and sustained global action to curb carbon emissions.
 - While India's economic growth and energy needs drive its increasing emissions, the focus must shift toward balancing development with sustainable practices.
 - Without decisive action, the window to prevent the worst impacts of climate change is rapidly closing.
-

Q1. What is the Greenhouse Effect?

The greenhouse effect is a natural process that warms the Earth's surface by trapping heat from the sun in the atmosphere

Q2. What is Net Zero?

Net zero is a state where the amount of greenhouse gases (GHGs) emitted by human activities is balanced by the amount removed from the atmosphere. This is achieved by reducing emissions and removing carbon from the atmosphere.

News: Study: India's fossil-based CO2 emissions to spike 4.6% in 2024 | Hindu

Source: <https://vajiramandravi.com/current-affairs/global-carbon-dioxide-emissions-set-to-rise-0-8-percentage-over-2023/>

© Vajiram & Ravi. For personal use only.