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India’s fossil-based CO2 emissions to spike

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Context:

The latest study on **India’s fossil-based CO2 emissions** presents a concerning outlook for 2024, with emissions expected to spike by **4.6%**. This increase is part of a broader global trend, which, if continued, may result in a 50% chance that **global average temperatures** will exceed **1.5°C** above pre-industrial levels within the next six years — a key threshold set by the **Paris Agreement** to avoid the most catastrophic impacts of climate change.

Key Findings of the Study

1**India’s CO2 Emissions**:

oIndia’s **fossil-based CO2 emissions** are projected to rise by **4.6%** in 2024, contributing to global emissions growth.

oIn 2023, India accounted for **8% of global fossil CO2 emissions**, making it the third-largest emitter after **China (31%)** and the **USA (13%)**.

2**Global Emissions Outlook**:

oGlobal **fossil CO2 emissions** are on track to reach a **record high of 37.4 billion tonnes** this year.

oThe combined contributions of **China**, the **USA**, **India**, and the **European Union** accounted for **59%** of global emissions in 2023, highlighting the dominant role these regions play in the climate crisis.

3**Temperature Threshold**:

oThe study warns that, at the current rate of emissions, there is a **50% chance** that global temperatures will consistently exceed **1.5°C** above pre-industrial levels within about **six years** — potentially as early as this year. Crossing this threshold is considered a significant milestone in terms of **climate tipping points**, beyond which the impacts of climate change are expected to become increasingly severe.

4**The Carbon Budget**:

oThe **carbon budget** refers to the amount of **CO2 emissions** that can be released into the atmosphere while still limiting global warming to a given level, such as the **1.5°C target** outlined in the **Paris Agreement**.

oBased on current emission trajectories, the world is rapidly depleting its carbon budget, with global emissions continuing to rise, especially in major economies like India.

5**Land Use and Carbon Sinks**:

o**Global emissions from land-use changes** (such as deforestation) have decreased by **20% over the past decade**. However, **deforestation** remains a significant concern for the carbon balance.

oReforestation efforts and the growth of new forests are helping to offset about **half of the emissions** from permanent deforestation globally.

oMeanwhile, **land and ocean CO2 sinks** — natural systems that absorb CO2, such as forests and oceans — still absorb roughly **half of global CO2 emissions**. However, these sinks are being increasingly impacted by **climate change**, which could reduce their effectiveness over time.

Global Carbon Project (GCP)

The study draws from data compiled by the **Global Carbon Project (GCP)**, which was established in **2001** with the aim of tracking global **carbon emissions** and **carbon sinks**. The GCP plays a crucial role in assessing progress towards the **Paris Agreement** targets, particularly in measuring the carbon budgets for key greenhouse gases such as **CO2**, **methane**, and **nitrous oxide**.

Implications for India and Global Climate Goals

- **India's rising emissions** pose a significant challenge to global climate goals, particularly the **1.5°C target**. While India has made strides in renewable energy adoption, its growing energy demand, population size, and reliance on coal for power generation continue to push its carbon footprint higher.
- The **4.6% projected increase in emissions** in 2024 underscores the urgent need for stronger **climate action** in India, including **accelerating the transition to renewable energy**, improving energy efficiency, and addressing emissions from key sectors like **transportation** and **industrial production**.
- **Global emissions** remain on an upward trajectory, and the study highlights the critical need for **collective action** across all major emitters, especially from countries like **China, the USA, and India**, to avoid crossing the 1.5°C threshold.

The study reinforces the urgency of meeting the **Paris Agreement** targets and taking immediate, comprehensive action to reduce global CO2 emissions. For India, this means scaling up efforts in **clean energy**, **energy efficiency**, and **climate adaptation**, while also addressing emissions from sectors like transportation and industry. Globally, there is an increasing recognition that **fossil fuel emissions** must peak and decline rapidly to avoid the worst impacts of climate change. The clock is ticking, and the path ahead will require unprecedented levels of international cooperation and commitment to climate action.