

'CARBON DIOXIDE REMOVAL IS NECESSARY'

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

Arunabha Ghosh, CEO, Council for Energy, Environment and Water (CEEW) and member of the High-Level Expert Group constituted by United Nations Secretary-General, speaks on the latest report by the Intergovernmental Panel on Climate Change (IPCC), its implications for India and what the expert groups strives to achieve. Edited excerpts

What are your observations on the latest IPCC report?

It's a stark reminder of what we know about the impact of climate change and that the world is on an unsustainable pathway. Compared to the aspirational goal of keeping temperatures below 1.5 degrees Celsius to 2 degrees Celsius under the Paris Agreement, the world is on track for a 3.5-4 degrees Celsius pathway (increase in temperature by the end of the century). What is important to remember is that the space for bringing it back to a sustainable pathway is shrinking. Some of the new things that this report says is exposing this disjuncture between the slowing growth rate of emissions and the increase in absolute emissions.

The growth rate of emissions has dropped from 2.1% a year (2001-2009) to 1.3% in the last decade. However, the increase in emissions in the last decade has been the highest ever. Another important message from the report is that carbon dioxide removal (from the atmosphere) is almost necessary to stay within the net zero ambitions that the world has set for itself.

You mean that we need technologies that will aid carbon capture?

No, this is different. Carbon capture happens at the source, say a power plant or cement plant (where the emitted carbon dioxide is trapped and usually stored underground). What I mean is actually sucking existing carbon dioxide out of the atmosphere. This includes a spectrum of technologies from forests, which are natural sinks, to things like 'enhanced weathering', (that involves using) certain kinds of rocks that can absorb CO₂ better; ocean fertilisation (increasing the alkalinity of oceans and thus their ability to absorb carbon dioxide) or it could be mechanical techniques like direct air capture (DAC). These technologies are under development and the governance mechanism for them is missing.

While India has committed to increasing forests, there doesn't seem to be a conversation on say developing DAC technologies in India? Does this mean India has to fund technology development on these lines?

I have advocated for some time that India should be thinking about greenhouse gas removal as an important area of research. The equations don't add up otherwise. To get to net zero (India has committed to a net zero year of 2070) means that you will still have some sources of carbon dioxide that you can't eliminate and so you need technologies (to remove the CO₂). Whether it will be through natural sinks or mechanical processes, is something that requires serious thinking.

The latest report seems to suggest coal plants without carbon capture should no longer be allowed. However India's policy, while committed to increasing solar and wind, is to build more coal plants. How do we reconcile this?

The IPCC report says that if you don't have CCS (carbon capture and storage) then coal

consumption will have to fall to 67-82% by 2030 globally. At my organisation, we have (forecast scenarios with) CCS and without CCS. Even if we had CCS, we would need 5,600 gigawatts (1 gigawatt, or GW, is a billion watts) of solar power to meet our net zero targets (at 2070) and if we didn't, we'd need about 7,000 GW. India's trajectory shows that there is continued near-term use of coal in the power sector and industry. However, the question is, how do we use this coal more efficiently, that means burning less coal and emitting less while getting the same amount of energy (as at present). Secondly, we have to experiment with CCS technologies to ensure the plants in operation can abate emissions. Finally, India has to start investing in technologies this decade even if they will reach scale only beyond 2030.

You are part of an expert group — the only Indian — constituted by the UN Secretary General to set stronger and clearer standards for net-zero emissions pledges by non-State entities — including businesses, investors, cities. What is this group expected to do?

In one word, the purpose of this group is trust. The world of climate action is far more dispersed than from 30 years ago when the United Nations Framework Convention on Climate Change was formulated. On one hand, you have national governments come out with policies on their climate actions. Sometimes these become international commitments and at other times these are devolved into what could be done by actors who aren't part of governments — companies, cities etc. We've seen that when national governments aren't as ambitious about what needs to be done, other actors step up. This all means, that there are various sources of climate action, they could all feed into national commitments, or they could lead by example to inspire states to do more. This means that what these other actors do needs to be credibly defined, credibly monitored, reported and verified. This would create trust in the multilateral process to keep nudging climate action forward.

(Full interview on

bit.ly/ArunabhaGhosh)

India's trajectory shows that there is continued near-term use of coal in the power sector and industry

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