

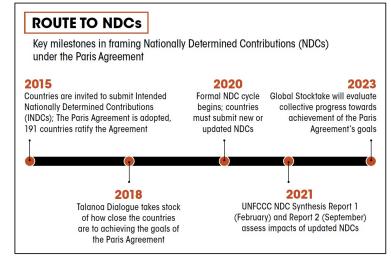


Avantika Goswami Climate Change, Centre for Science and Environment



COP 26 will be held in Glasgow from Nov 1-12, 2021...

- The Paris Agreement is an international treaty to limit and cut greenhouse gases: goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels
- Countries agreed to provide voluntary targets called Nationally Determined
 Contributions (NDCs) for how they will limit or reduce emissions.
- They will meet in Glasgow in November to discuss how to collaboratively tackle climate change – but the process has more 'negotiation' than cooperation.
- India has a target to reduce the emissions intensity of its GDP by 33-35 percent by 2030 from 2005 levels – it had achieved 24% by 2016.
- COP 26 is critical because every additional 0.5 degree of warming will increase hot extremes, extreme precipitation, and drought (IPCC AR6)



Enhancing climate ambition

Net Zero

Phasing out coal

The role of China

Rules for carbon markets

\$100 billion in climate finance for developing countries

Global Goal on Adaptation

Loss and damage

Nature based solutions (NBS)

Themes key for India and other developing countries

Enhancing climate ambition

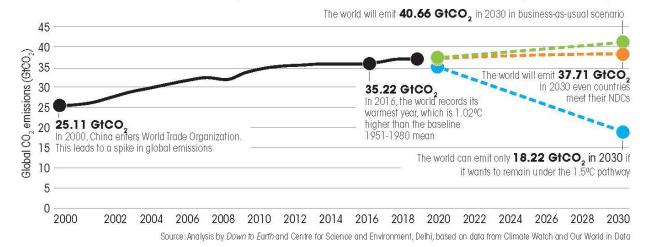
- Countries are expected to submit progressively more ambitious NDCs every 5 years, i.e., the 'ratcheting mechanism' of the
 Paris Agreement
- 116 countries have submitted new NDC targets as of October 25, 2021
 - O For these countries, total GHG emissions are estimated to be 9% below 2010 by 2030
 - O But overall, global GHG emissions could be 16% higher in 2030 compared to 2010
 - The IPCC prescribed 45% reduction in emissions in 2030 compared to 2010 to limit warming to 1.5C above preindustrial levels; current NDCs lead us to 2.7C of warming
- Major pledges were made by countries like the US, UK, and EU-27 but they are not within their 'fair share'. Other major emitters like Russia and Australia have shown inadequate ambition.
- Pledges do not equal actual policies and change most countries lack concrete plans to achieve their pledges

Enhancing climate ambition

- CSE analyzed the NDCs of 45 countries
- If implemented, they will lead to 37.71 GtCO2 emissions in 2030, compared to 18.22 prescribed by the IPCC for 1.5C
- If emissions continue at business-as-usual rates, the level will be 40.66
 GtCO2 in 2030

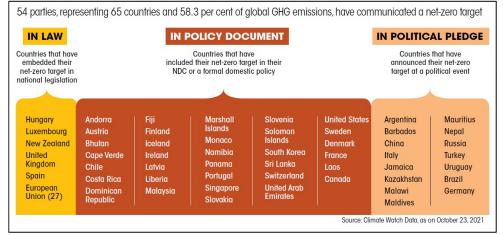
NOT NEARLY ENOUGH

The world will cross the 1.5°C threshold by 2030 even if countries meet their enhanced nationally determined targets



Net zero

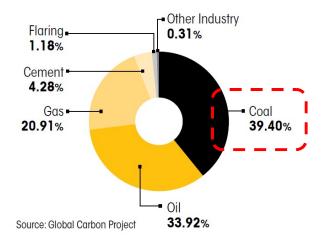
- The world must become a 'net zero' carbon emitter by 2050
 any CO2 emissions released must be negated by an equivalent amount of CO2 absorbed or removed by various means a resultant 'net' zero volume of CO2
- 65 countries have announced net zero targets most of them have a deadline of 2050
- This is too little, too late, and buys countries time to emit more
- Developed countries and China have a responsibility to turn net zero by 2030
- Net zero plans currently announced depend heavily on natural 'sinks' like forests, which have limitations in their ability to absorb CO2, and on unproven expensive technologies like carbon capture and storage
- They also lack clear sectoral pathways, and amount to little more than empty promises



Phasing out coal

- Coal has the highest contribution to CO2 emissions in 2019, almost 40 per cent of CO2 emissions from fossil fuels came from the burning of coal in thermal power plants and industry
- IPCC's 1.5C Report (2018) prescribes that coal should be completely absent from the world's electricity mix in 2050 to limit global warming to 1.5C above pre-industrial levels
- Global pipeline of proposed coal power plants has collapsed by 76 per cent since the Paris Agreement in 2015
- Remaining coal pipeline occupied mainly by China, India, Vietnam, Indonesia,
 Turkey, and Bangladesh China alone contributed 50 per cent of the world's CO2 emissions from coal in 2019
- Natural gas-dependent countries like the US and UK are pressuring developing nations to phase out coal, but this requires financial assistance

CO2 Emissions from Fossil Fuels (2019)



Phasing out coal

Highest Emitters of CO2 from Coal (2019)

Entity	% Of Annual World CO2 Emissions from Coal	Coal Phaseout Date	
China	50.38%	No phaseout date	
India	11.63%	No phaseout date	
United States	7.62%	No phaseout date	
European Union	5.14%	Coal free: Austria, Belgium, Sweden No phaseout date: Bosnia Herzegovina, Bulgaria, Kosovo, Poland, Serbia, Turkey Phaseout under discussion: Croatia, Czech Republic, Romania, Slovenia Phaseout appounced: Depmark (2028), Finland (2029), France (2022)	
Japan	3.03%	No phaseout date	
South Africa	2.86%	No phaseout date	
Russia	2.75%	No phaseout date	
South Korea	2.08%	No phaseout date	
Indonesia	1.77%	No phaseout date	
Germany	1.64%	2038 (possibly 2030)	

Other than China and India, major consumers of coal are Japan, South Africa, Russia, and South Korea – none of whom have a target date to phaseout coal; within the EU-27, Germany has the largest coal fleet

The role of China

- China increased its share of global CO2 emissions from 5.11 per cent to 20.72 per cent between 1990-2019 it is now the world's
 largest emitter
- China will emit another 126 Gt of CO2 and occupy 30 per cent of the remaining carbon budget for this decade
- China says it will not build coal-fired power projects abroad but is silent about such plants at home
- The country still runs over half of the world's operating coal fleet, which is growing total installed coal capacity is estimated at 1,050 GW in 2020, half of the global total
- In 2020, China put another 38.4 GW of new coal-fired power capacity into operation—more than 3 times the amount that is being built elsewhere around the world; 60.75% of its electricity came from coal in 2020
- Despite its renewable energy plans, China will not be carbon neutral unless it curbs its coal power production
- To achieve the Paris Agreement's goals, the world needs China to reduce its demand for coal to nearly zero by 2050, rather than increase it

Carbon markets

- Rules for carbon markets are summarized in Article 6 of the Paris Agreement
- In 2019, some of the major issues were left unresolved: double counting, supporting adaptation through credits, how markets can lead to reduction of overall emissions, and how credits generated under the Kyoto Protocol would be treated
- The developing world needs financing for low carbon development, and credits
 must be used for investment in high-cost and transformational sectors so that
 economies can be re-engineered for the future challenges
- It should be robust, but simple and driven by policy imperatives for transformation

MARKET MATTERS

There are two types of market instruments under the Paris Agreement

Internationally Transferred Mitigation Outcomes

Sustainable Development Mechanism

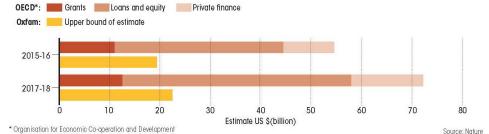
Willigation Outcomes	Wechanism	
Bilateral and multilateral	TYPE OF MARKET	Global and centralised
No direct precursor but it would apply to markets like the EU Emissions Trading System	PRECURSOR	Clean Development Mechanism
Internationally Transferred Mitiga- tion Outcomes; not standardised	UNIT	Article 6, para 4, emission reduction; Equivalent of one
Promote sustainable development Ensure environmental integrity Avoid double counting	TRADING SHOULD	●Foster sustainable development ●Ensure overall mitigation of global green house gas emissions
No provision	SHARE OF PROCEEDS	Will go toward adaptation in developing countries

Source: UNFCCC

Climate finance

INFLATED FIGURES

Charities claim that climate aid is worth much less than what it seems, in part because a lot of it comes as loans, not grants



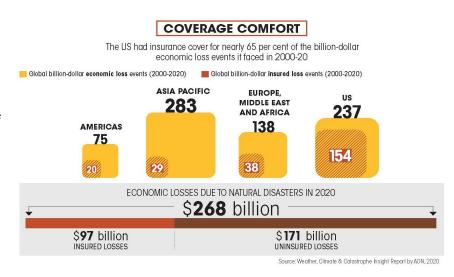
OECD found that \$78 billion was mobilized in 2018

An independent analysis by Oxfam found that the figure was only \$19 billion-\$22.5 billion, which was around a third of the OECD's estimate

- According to the Paris Agreement, \$100 billion would need to be transferred from developed to developing countries every year from 2015 till 2025, after which the amount would be revised upwards
- The goal is unmet, and is not likely to be fulfilled till 2023
- Data on climate finance flows is complex, lacks transparency, and is interpreted differently by different interest groups
 - \$100 billion was a yearly goal, and **did not reflect the actual needs** of developing countries
- To implement their NDCs, developing countries need \$5.8 trillion-\$5.9 trillion up to 2030 (UNFCCC Standing Committee on Finance)
- Current focus is on loans and mitigation, should be on grants and adaptation

Global Goal on Adaptation

- Given the frequency and severity of extreme weather events,
 the world needs to adapt to climate change
- Article 7 of the Paris Agreement established a Global Goal on Adaptation of "enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change"
- Ever-increasing adaptation costs have outpaced the flow of funds to developing countries
- The UNEP's Adaptation Gap Report 2020 stated that the adaptation finance gap is not closing
- The annual adaptation costs in developing countries alone are currently estimated to be in the range of US \$70 billion and will reach \$280-500 billion by 2030
- In 2020, the world suffered economic losses of \$268 billion from weather-related disasters, most of it uninsured and unprotected



Loss and damage

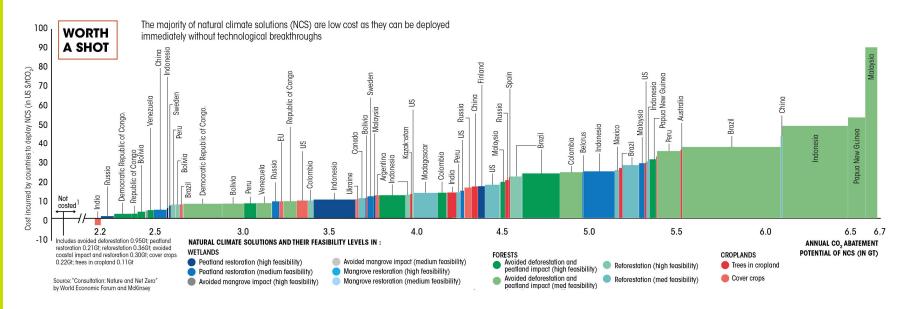
- 1970-2019 saw 11,000 climate-related disasters, with 2 million deaths and losses worth \$3.6 trillion
- There is currently no agreed definition of loss and damage the Paris Agreement includes both extreme weather events and slow onset events
- Article 8: "recognizes the importance of averting, minimizing, and addressing loss and damage associated with adverse effects
 of climate change, including extreme weather events and slow onset events"
- But it also adds: "Parties agree that Article 8 of the Agreement does not involve or provide a basis for any liability or compensation"
- Warsaw International Mechanism (2013), Santiago Network (2019) and the Fiji Clearing House for Risk Transfer (2017) are
 some of the vehicles within UNFCCC to address loss and damage
- COP 26 must make loss and damage a permanent agenda for discussion and commit scaled-up resources to the victims as "compensation"

Nature-based solutions (NBS)

- NBS is an umbrella term for initiatives that preserve natural ecosystems and enhance their capacity address climate change and biodiversity loss – can be used for both climate adaptation and mitigation
- Also referred to as natural climate solutions (NCS) in the context of mitigation
- Due to the role of land (forests, wetlands, etc.) as a carbon sink, many estimates suggest that land carbon sinks can be enhanced to absorb more CO2 and offset current emissions
- UNEP estimates that an additional \$4.1 trillion must be invested to enhance natural ecosystems



Nature-based solutions (NBS)



Estimates suggest that NBS can deliver up to 30% of the emissions reduction needed to achieve the IPCC's 2050 goal for 1.5C, mainly from avoided deforestation, peatland restoration, reforestation and cover crops

And their costs are lower than technological solutions

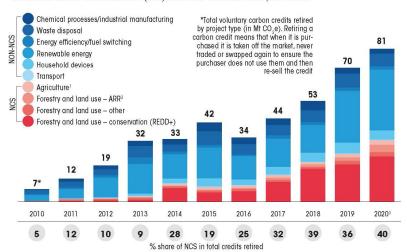
Nature-based solutions (NBS)

- The problem arises when NBS are linked to meaningless carbon offsets, that mask emissions of countries and corporations
- They are also treated as a substitute for emissions reduction, when they cannot adequately offset fossil fuel emissions
- Much of the focus is on tropical forests in the Global South which have the largest sinks, and hence potential for reforestation
- But forests are under threat from fires, deforestation, and climate change itself. They also house and feed indigenous communities
- The same international trading interests and large businesses that hail nature-based solutions are often complicit in the key drivers of tropical forest felling – 1/3 deforestation is due to trade
- Future negotiations on the role of forests and nature as the solution for climate change must preserve intact forests, and enhance existing natural environments in a way that resilient livelihoods and land rights for communities are preserved – i.e., a win-win for forests and people

Carbon credits for NBS went from 5% in 2010 to 40% in 2021

NATURAL HIGH

Demand for natural climate solutions (NCS) credits has increased in the past decade



Notes: 1 We include all projects listed as "Agriculture" as NCS here for simplicity, However, in practice; a portion of these projects are not NCS. For example, emissions reductions through annexable digesters; *afforestation, reforestation and revegetation; *adata from January-November; does not include forecast to year end