



AGENDA 8: NATURE-BASED SOLUTIONS

NATURE'S ARMY

With net zero, the call to use forests as carbon sinks is growing

Nature-based solutions can remove 7 GtCO₂ a year, enough to deliver a third of the 2050 emission-reduction target

Choice of trees and their management has to be for securing livelihoods, not just to fix carbon emissions

NOW THAT the world has jumped on the net-zero bandwagon, broadly seen as the way to keep emitting but to ensure that CO₂ can be sequestered or removed from the atmosphere, nature-based solutions have made a big splash in climate discussions. The term nature-based solutions may be new, but the role of forests both as a source, because of emissions from deforestation, and as a sink, because of their ability to sequester CO₂, has been long in discussion.

In climate change negotiations, Reducing Emissions from Deforestation and Forest Degradation (REDD) and its addition on conservation of

forests stocks (REDD+) was originally the framework to implement nature-based solutions. At the 2013 UN climate change conference (COP19), the Warsaw Framework for REDD+ was adopted. In 2015, Paris Agreement recognised this and included it in Article 5; parties reiterated their commitment to implement REDD+.

Now with net zero, the call to use forests as “sinks” is growing. In May 2021, the Group of Seven countries (Canada, France, Germany, Italy, Japan, UK and US) pledged the goal of “conserving or protecting at least 30 per cent of global land and at least 30 per cent of the global ocean by 2030”. The UN Environment Pro-

gramme (UNEP) estimates that if the world is to meet its climate change goals, it needs to close a US \$4.1 trillion financing gap in nature by 2050. This could increase what the UNEP terms as “NBS assets” by 300 million hectares by 2050, relative to 2020.

In May 2021, the World Economic Forum published in collaboration with McKinsey and Company a report, “Nature and Net Zero”. According to this, nature-based solutions provide a “potential of [removing] close to 7 GtCO₂ per year, sufficient to deliver around one-third of the 2050 target [to cut emissions by 50 per cent over 2010 levels]” and this cost is lower than technological solutions (see ‘Worth a shot’). The bulk of this will come from “avoided emissions, deforestation, peatland restoration, reforestation and cover crops”. Cost is the key factor for this solution, says the business body. In most cases, costs are between \$10 and \$40 per tonne of CO₂ with variations between geographies and project types.

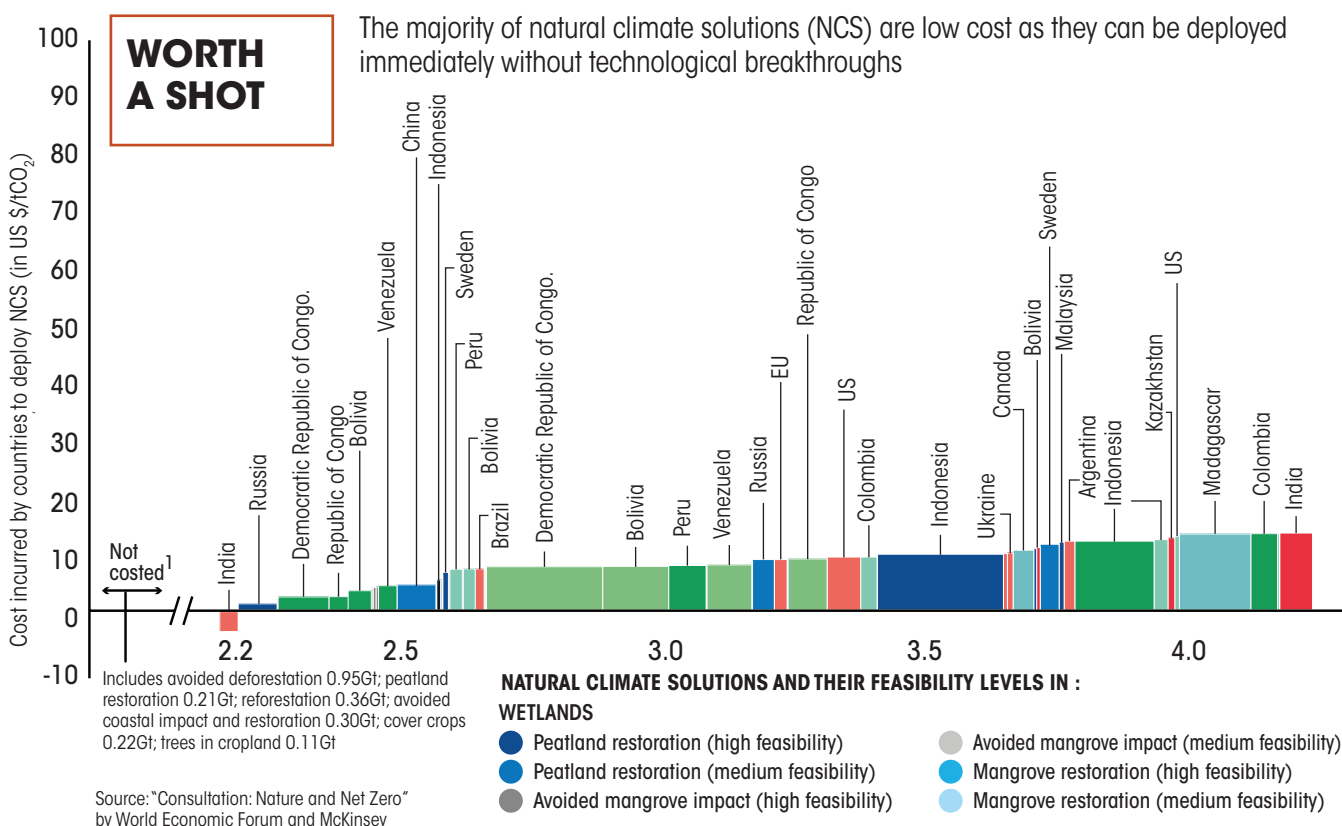
The report then says nature-based solutions will also generate a flow of funds to countries of the Global South as this is where the potential

for reforestation really lies. But this means getting the market architecture right so that it will support tradable credits to buy and sell nature for climate mitigation. This then is where climate negotiations are now going—step by step.

FORESTS NOT JUST A SINK

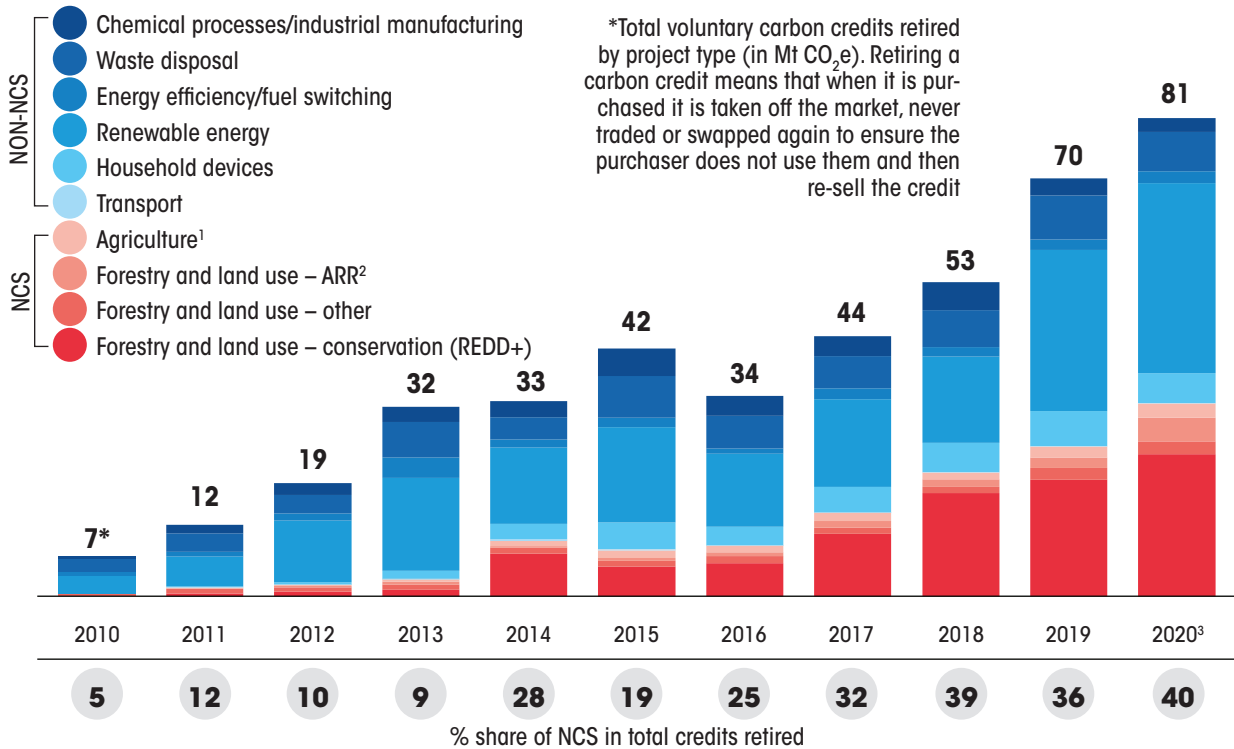
The problem is not the idea of using forests as carbon sinks but the fact that what is being seen as a low-cost solution is in the lands of the poor and in forests of the developing world. They are the habitats of poor communities. So the choice of trees and their management has to be driven from the objective of securing livelihoods and not primarily for fixing emissions. For these co-benefits—reduced deforestation, reforestation and land management as a way of putting economic assets in hands of the poor—nature-based solutions require deliberate design and real intent.

Currently, land—forests, grasslands and other biomes—absorb about 30 per cent of CO₂ emissions from human activity. However, estimates of its future potential vary greatly. This is because land sinks are under threat from fires and defor-

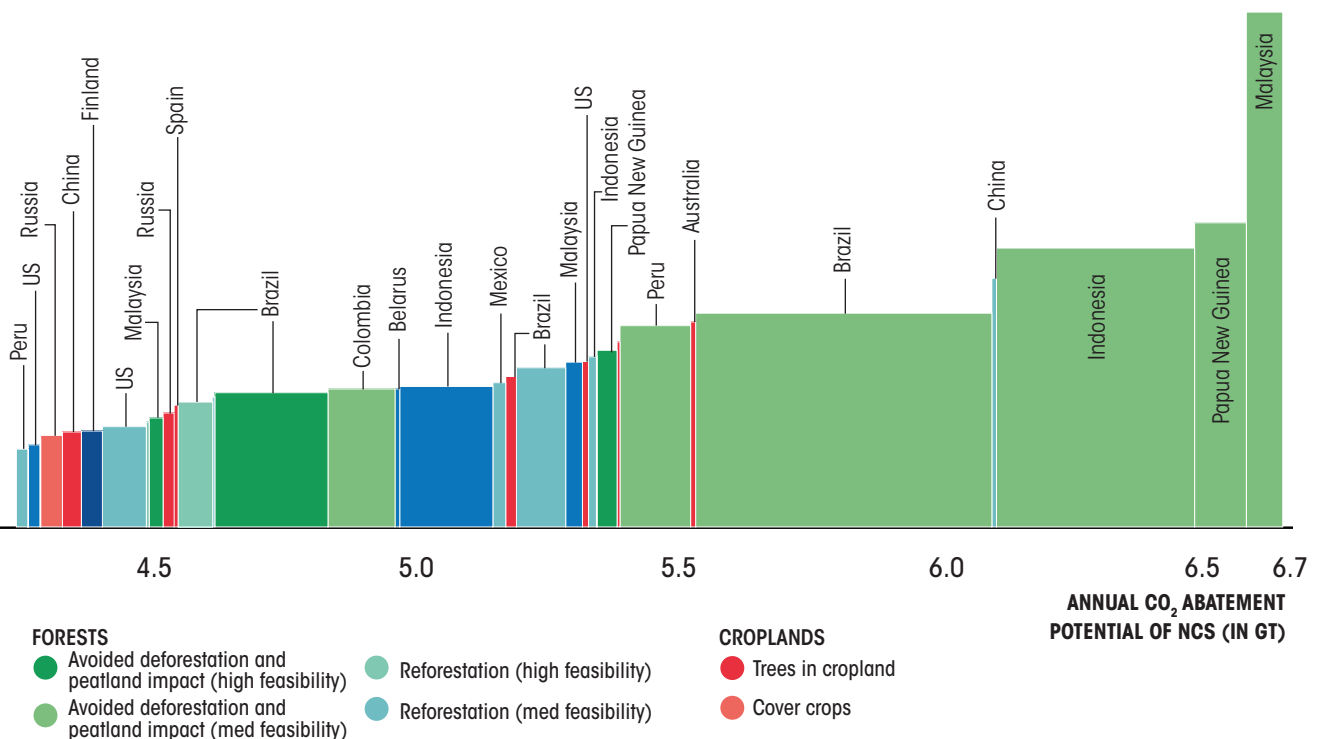


NATURAL HIGH

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 anaerobic digesters; ²afforestation, reforestation and revegetation; ³data from January–November; does not include forecast to year end



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estation, which are being exacerbated by climate change. IPCC's Sixth Assessment Report, the first part of which was released in August 2021, underscores this by saying that the relative efficiency of sinks will go down in coming years as emissions continue to rise. This is already evident. Forest fires are blazing across the globe as temperatures soar. In this way, the stored carbon of forests is released and forests become a source of greenhouse gas emissions, not a sink.

It is now estimated that Amazon rainforests are emitting more carbon than they are absorbing—the key cause is large-scale deforestation to clear land for the production of beef and other commodities. Worse, the same international trading interest and large businesses that hail nature-based solutions are often complicit in the key drivers of tropical forest felling. It is estimated that one-third of the world's tropical deforestation is driven by international trade in food commodities.

So, it is important that the future negotiations on the role of forests and nature as the solution for climate change not only focuses on removing emissions but also for building resilient economic activities for communities. Till now, this has not happened.

CAUGHT IN CARBON SCAMS

Instead, what the world has seen is a scam of carbon offsets, where individuals, corporations and even countries, buy credits to mask their fossil fuel emissions. They do this by investing in growing forests or paying someone to grow forests somewhere. There is little accountability in terms of how this is done or if it actually works. A recent investigation by CarbonPlan, a US based non-profit, found that there was systematic over-crediting of forest offsets in California's programme. Nature Conservancy, a

Washington DC-based group, was also compelled to start an internal review of its portfolio of carbon-offset projects after *Bloomberg Green's* investigative journalists found that the group is facilitating the sale of meaningless forest credits to its corporate clients.

But the fact is nature-based solutions are too good for the countries to let go; they are using territorial sinks to mask their emissions from fossil fuels. Russia claims that its forests soak up 30 per cent of its CO₂ emissions, which means it needs to do little to cut back on emissions. As per a 2017 estimate by Giacomo Grassi, scientific officer at the Joint Research Center of the European Commission, published in *Nature Climate Change*, a quarter of the emissions reductions planned by countries in their nationally determined contributions (NDCs) came from forests as sinks. In 2019, researchers at the Potsdam Institute for Climate Impact Research in Germany found that of 167 NDCs, land sector is included in 121 of them but only 11 provide details that can be quantified.

Forest offsets as a way to buy carbon credits is also a growing business. According to the World Economic Forum-McKinsey report of 2021, nature climate solutions, as they call them, accounted for 5 per cent of carbon credits in 2010 and have increased to around 40 per cent by 2021 (see 'Natural high' on p51)

All this again points to the problem of lack of measurement, accounting tools and, most importantly, the question of the ownership of lands in which forests are being grown and carbon credits are being generated. So, even as nature-based solutions are critical for climate change mitigation, the world has not ensured that this win-win solution really works for people and forests. This should be the agenda for COP26, which at present seems to be missing the wood for the trees. [DTE](#) [@down2earthindia](#)