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COP30 AMBITION: A DEAL TO RE-CREATE AN AMAZON FOREST CARBON SINK

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The decline of deforestation in the Brazilian Amazon to its lowest level in 10 years presents a major opportunity to make the forests of the Pan-Amazon into the world's largest carbon dioxide removal system. The biggest question is funding: will there be enough buyers for the high-integrity forest carbon credits that are coming online from the states and regions of the Amazon?

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Figure 1. Annual deforestation in the Brazilian Amazon, 1988-2024 (INPE 2024). From 2005 through 2012, deforestation declined 78% below the 1996-2005 average through a series of largely punitive measures, but deforestation rose again. As deforestation slows once more, jurisdictional REDD+ programs are delivering the framework for extending this trend to slow forest degradation and re-establish tree cover on cleared land as they deliver the missing funding.

The stakes are high

The trees of the Amazon store the same amount of carbon as was released to the atmosphere by all human activities world-wide over the last decade. Will this huge pool of living carbon leak into the atmosphere faster and faster as droughts get stronger and fires drive a massive forest dieback? Or will Amazon societies receive the funding needed to implement a massive forest

climate solution, growing this carbon pool for decades (Figure 2)?

The opportunity is extraordinary. Eighty-three percent of the entire Amazon forest is still standing. Part of this remaining forest has been degraded by logging and/or fire. Secondary forest is regrowing on 21% of the region's cleared land, where soils and drainage are marginal for farming. These damaged and regrowing forests are the biological engines of what could grow into the largest carbon dioxide removal system in the world. They will become a major new Amazon forest carbon sink if they are protected from fire. This new carbon sink in recovering forests and tree-based production systems could rapidly grow to be the size of the carbon sink of intact Amazon forests, which has grown considerably weaker in recent years.

In a new study[1], we estimate the scale of the climate benefits of an Amazon-wide forest climate solution that is based upon the 18 multi-sector, low-emission development plans of Amazon states and regions that cover three-fourths of the forest (Figure 2). We assume replication of proven, successful approaches to forest fire prevention and control along with several other interventions that grow the Amazon's rural economy and that empower indigenous people and traditional communities with funding for programs that they design. We assume a steep slow-down of deforestation across all Amazon nations, a shift of the logging industry towards low-impact harvest techniques, and re-establishment of tree cover on degraded lands by incentivizing forest regeneration and tree-based production systems. We also assume a shift in cattle production to higher productivity as the region shifts back towards its traditional protein source: fish.

The Amazon forest climate solution could reduce net emissions by 2 billion tonnes per year, a little less than the EU hopes to attain by 2030. This carbon accounting does not include the effect of a more forested Amazon in securing the region's forest-dependent rainfall system and avoiding a major forest dieback.

The mechanism for delivering the necessary funding is fully operational

To implement the Amazon forest climate solution, $2-3b per year is needed. There are many steps states and provinces can take to attract the partners they need. Surprisingly, a near-term funding mechanism already exists and is operational. The international community needs to support this mechanism by recognizing the critical role that high-integrity forest carbon credits sold in the voluntary carbon market can play in providing crucial bridge funding to help solve the climate crisis, protect nature, and allow companies to contribute to climate solutions beyond their own decarbonization processes.

And where will the money go? The foundations of the Amazon forest climate solution are the multi-sector forest-positive strategies of subnational governments of the Amazon (Fig. 2). They are exemplified by the state of Pará, host of COP30. It has reduced emissions from deforestation 150 $MtCO_2$ /yr since 2021, a bigger reduction in GHG emissions than all but a handful of nations.

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Figure 2. National and subnational territories where jurisdictional REDD+ programs (dark green) are under development, where low-emission development forest plans have been developed (light green), and where forest plans are under development (orange).

To continue and deepen this progress, Pará and ten other Amazon states and provinces (Fig. 2) are hoping to sell high-integrity credits from their jurisdictional REDD+ programs for a decent price. Pará alone could issue 80 million tonnes worth of J-REDD+ credits each year starting in 2024[1]. This is twice the total volume of forest carbon credits worldwide that was transacted in the voluntary carbon market in 2023. The wave of J-REDD+ credits coming from the Amazon could overwhelm current demand.

Note: We are honored to be providing technical support to Pará and several other states and regional governments as they seek to complete their J-

REDD+ programs and implement their strategies.

But aren't forest carbon credits just hot air?

The decline in forest carbon credit transactions from 240 million tonnes in 2021 to 40 million tonnes in 2023 was driven, in part, by a loss of confidence in the quality of these credits. Many buyers pulled away from forest carbon credits because of widely-reported evidence that many forest carbon projects **overstate** their climate benefits. Some forest carbon credits are, indeed, hot air.

Surely all forest carbon credits must be similarly flawed, the logic goes. But, actually, that is not true. Credits from jurisdictional REDD+ programs **understate** their climate benefits as we demonstrate in the new study[2]. These programs are designed to drive the transition to socially-inclusive, forest-positive rural development across vast national and subnational territories. J-REDD+ credits are based upon collective emissions reductions from deforestation and forest degradation (hence the "REDD"); revenues from the sale of these credits fund sub-programs that are designed by and for indigenous peoples, traditional communities, smallholders, larger-scale farmers and underfunded government agencies.

Unlocking demand for J-REDD+ credits

To kick-start demand for J-REDD+ credits and generate the funding that can turn the Amazon forest into a giant net carbon sink, one option is to turn to the big emitters: fossil fuel combustion, mining, and cement production. Demand could grow in time for a launch at COP30 through a voluntary pre-competitive agreement among oil and gas producers, cement makers and mining companies to purchase and retire high-integrity forest carbon credits, starting with J-REDD+, that are equivalent to a small fraction of the company's emissions.

J-REDD+ represents an opportunity to deliver critical funding to farm and livestock regions in the Amazon and beyond–funding that market initiatives demanding deforestation-free commodities have been unable to deliver. European importers could help fund the decarbonization of food production systems by simply purchasing J-REDD+ credits from their sourcing regions. Such transactions could be recognized and reinforced by Article 6 of the Paris Agreement, which is taking shape at COP29.

The world desperately needs big, near-term reductions in emissions and protections for nature. A deal to make the Amazon forest into a giant climate solution that features the strategies already created by the region's states and provinces and funding mechanisms that are ready to deliver could be ready in time for COP30.

[1]Nepstad *et al.*, submitted