



TROPICAL FORESTS MECHANISM: A NEW APPROACH FOR FUNDING FOREST CONSERVATION

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TROPICAL FORESTS MECHANISM: A NEW APPROACH FOR FUNDING FOREST CONSERVATION¹

Executive Summary

This technical note details a Tropical Forests Mechanism (TFM), aimed to support nature finance at scale to guarantee the maintenance and enhancement of tropical forests worldwide. The mechanism is expected to complement and add to the Brazilian government's Tropical Forests Forever Fund (TFFF) announced at COP28, to secure funding to protect tropical rainforests in the Amazon region, Congo Basin, and Southeast Asia.

The TFM can serve as a model that sets the rules and procedures for distributing annual payments among tropical countries and guides the domestic use of resources within participating countries. The TFM focuses on 'hectares of forests' rather than 'tonnes of carbon' as its primary metric and key performance indicator (KPI), supporting the provision of environmental services such as carbon storage, biodiversity conservation, climate regulation, water retention, and benefits to forest stewards and inhabitants. Unlike traditional carbon markets, the approach avoids challenges related to additionality, leakage, and permanence, allowing for an effective conservation effort. Funds raised would be used to provide annual payments to tropical countries based on their total forest area, irrespective of their historic deforestation rates and future permanence commitments.

Indeed, the TFM could be capitalised by resource-intensive sectors and provide additional support to conservation in the three regions that hold most of the world's 1.2 billion hectares of tropical forests. Annual payments of US\$ 30/ha would be sufficient for tropical countries to allocate this capital domestically, providing incentives to maintain and enhance their forest stocks, resulting in a funding need of US\$ 36 billion per year. If the oil and gas sector were to contribute a minimum of US\$ 1 per barrel of oil produced, this would result in ca. US\$ 30 billion per year (a fraction of the US\$ 7 trillion in subsidies received annually by the sector), covering nearly all funding needs.

To participate in the TFM, countries must have deforestation rates lower than 0.5% of their total area, decreasing annually. Any deforestation observed in the previous year would be penalised with a reduction in payments worth 100 times the annual value (i.e., US\$ 3,000/ha). This penalty reflects the time needed for these forests to recover to maturity.

Each participating tropical country will define its own programs for the allocation of proceeds, according to their own circumstances, but respecting the rule of 1:100 for incentives and disincentives. In addition, allocations should also comply with the Cancun Safeguards on REDD+.

In this sense, the TFM can add up to a Global Pledge for Tropical Forests, through which companies would actively contribute to conserving the world's tropical rainforests, fostering a global alliance for sustainability and environmental stewardship.

Background

The growing recognition that protecting tropical forests requires financial incentives on an unprecedented scale is driving the search for new methods to attract and deploy funding for forest conservation worldwide. Over the past six years, carbon markets have embraced ‘nature-based solutions’ to reduce emissions from land-use change. However, there is increasing concern that the funding scale and deployment speed inherent in this mechanism^{2, 3} may be insufficient⁴ to meet the sector’s urgent needs. In parallel, some countries have turned to debt capital markets as an alternative,⁵ with Brazil,⁶ Uruguay,⁷ Chile, and the Dominican Republic⁸ issuing climate-linked bonds to attract billions of dollars for climate change mitigation and forest protection.

At COP 28, in December 2023, the Brazilian government proposed the creation of a Tropical Forests Forever Fund (TFFF) to attract international capital and deploy it at the landscape level in tropical countries to accelerate forest protection and contribute to global net zero targets. It was proposed that the TFFF would be financed by a “fund of funds” that would invest capital in sovereign wealth funds and capture a spread to be transferred to tropical forest countries.⁹ Only after some years, the fund would have enough accumulated spread to provide meaningful transfers to forest countries.

The idea of a Tropical Forests Mechanism (TFM) is aimed to support nature finance at scale to guarantee the maintenance and enhancement of tropical forests worldwide. It is expected to complement and add to the TFFF to secure funding to protect tropical rainforests in the Amazon region, Congo Basin, and Southeast Asia.

Context

Tropical forests and other woodlands worldwide provide us with a wide range of services essential to life, including carbon sequestration, biodiversity conservation, water storage, climate regulation, and support for the livelihood of millions of people who depend on these ecosystems.¹⁰

The loss of tropical forests due to deforestation, agricultural conversion, and forest degradation severely affects these functions.¹¹ Additionally, climate change, mostly driven by emissions from fossil fuel consumption, is creating feedback loops and accelerating the pace of forest loss.

Today, there is a sense of urgency to find ways to stop forest loss, promote forest recovery, and secure funding for these efforts.

Carbon markets have been hailed as an important component of financing strategies for global forests. Such reliance on carbon markets, however, is insufficient to meet the scale needed to address tropical forest deforestation at the global level. Furthermore, carbon finance has a narrow focus on a single metric, as opposed to the wider range of objectives that society expects from forests.¹²

There is a need for a new approach to support tropical forest maintenance and enhancement across the tropics.¹³

Current Needs

Tropical rainforests today cover ca. 1.2 billion ha of land across the tropics, predominantly in the Amazon region, the Congo Basin, and Southeast Asia. While opportunity costs vary across these areas and the various alternative uses of land in these locations, there is a broad acceptance that a modest level of financial support, distributed at the landscape level and on a continuous basis, could provide the necessary incentives for forest maintenance, as opposed to conversion.

While the opportunity costs of forest conversion vary widely within these regions, there are vast areas of primary forests that are not currently under threat but play important climate and ecological roles.¹⁴ Overall, these forests help reduce the average cost of protecting the landscapes where they are located.

Based on our own modelling, we concluded that annual payments of US\$ 30/ha would be sufficient for tropical countries to allocate this capital domestically, providing incentives for most actors in these countries to maintain and enhance their forest stocks. Considering the total area of 1.2 billion hectares, this would require financial support of US\$36 billion per year to support all areas of tropical forests worldwide once deforestation is stopped.

The Tropical Forests Mechanism (TFM)

The Tropical Forests Mechanism aims to support nature finance at scale to guarantee the maintenance and enhancement of tropical forests worldwide, and proposes the establishment of rules and procedures for the allocation of resources raised among and within tropical countries.

The allocation among countries will be based on the total area of forests observed and maintained in each country every year, irrespective of historic deforestation rates and future permanence. In this way, we avoid the challenges of additionality, leakage, and permanence that haunt carbon credit schemes.

By adopting ‘hectares of forests’ (as opposed to ‘tonnes of carbon’) as its metric and main KPI, the TFM can more effectively support the continued provision of a whole range of environmental services, including carbon storage, biodiversity conservation, climate regulation, water storage, and benefits to forest stewards and inhabitants.¹⁵

Provided that they meet the eligibility criteria of the mechanism (see below), countries will receive US\$ 30 per year for each hectare of forest observed in their territory in the preceding year. Any deforestation, however, would be penalised with a reduction in payments worth 100 times the annual value (i.e., US\$ 3,000/ha). This penalty reflects the time needed for these forests to recover to maturity.

Prior to the disbursement of funds, forests will be monitored by national or international systems and submitted to peer review to guarantee their integrity. Countries would be incentivised to gradually increase forest cover, allowing them to receive higher annual payments over time.

Eligibility criteria for countries to access resources

For countries to be eligible for financial transfers, they need to satisfy three eligibility criteria:

- The deforestation rate in the preceding year must be lower than 0.5% of the country's tropical forest area;
- The deforestation rate must have decreased in relation to the previous year (or have reached an annual level of less than 0.1% of the country's entire tropical forest area); and
- The country must have an allocation system that ensures that most of the funds reach the ground to those living in and/or managing forests, respecting the ratio of 1:100 to account for deforestation.

Furthermore, the country must be supportive of Glasgow's Declaration on Forests and Land Use.¹⁶ For a country to participate, it must commit to include all its tropical forests, but in addition, it could also include other tropical biomes and ecosystems, such as the Cerrado and savannas.

Figure 1. Tropical forests mechanism

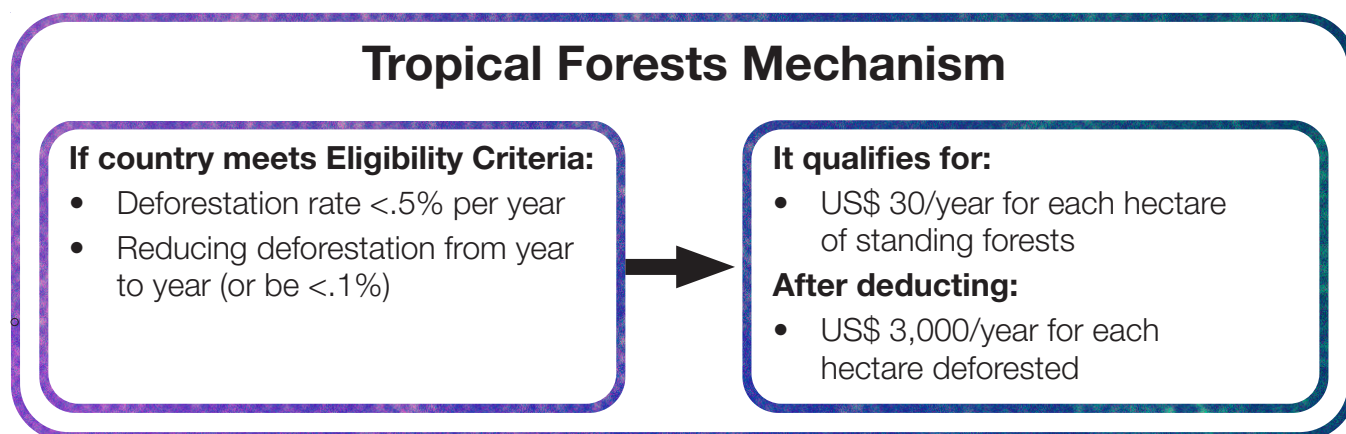
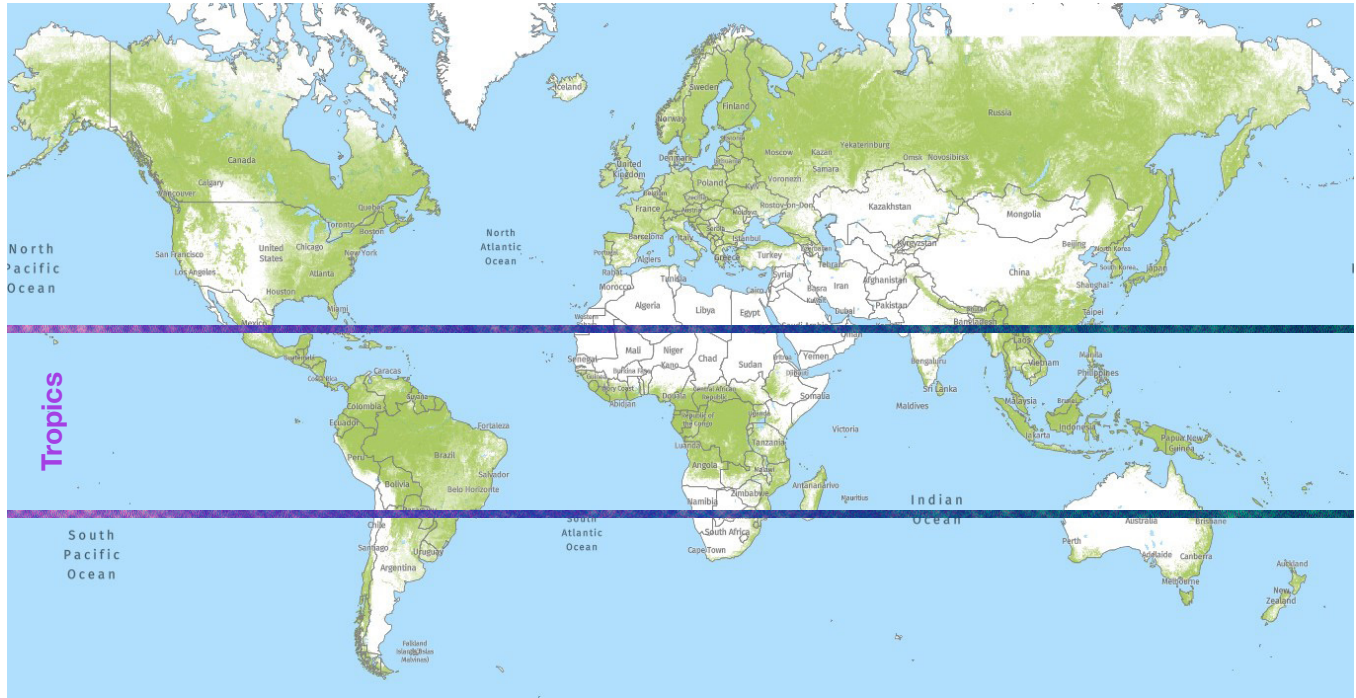


Figure 2. Tropical forests countries

Forests within the lines would be eligible for the program (as long as the host country has signed on to the Glasgow Declaration).



* Note: Tree cover (30% canopy density) in green
Source: Global Forest Watch

Domestic allocation of proceeds

Each participating tropical country will define its own programs for the allocation of proceeds, according to their own circumstances, but must respect the rule of 1:100 for incentives and disincentives. In addition, allocations should also comply with the Cancun Safeguards for REDD+.¹⁷

It is recommended that allocations include wall-to-wall transfers to all actors involved with forests in the country. Given the incentives and disincentives of the scheme, an inclusive distribution of proceeds would align interests and engage all stakeholders in promoting forest maintenance and enhancement, as well as preventing forest loss.

Worked example

To illustrate the economics of the mechanism, we use the example of Brazil (using approximate, round figures):

	Area (1,000 ha)	Unit payments (US\$/ha)	Potential revenue (US\$ 1000's)
Total forest area and potential revenue	495,000	30.00	14,850,000
Deduction due to deforestation	2,400	-3,000.00	-7,200,000
Net revenue for the country (US\$ Mi)			7,650,000

Therefore, while the country has the potential to receive US\$ 14.85 billion for its forests, the actual revenue is reduced by 52% due to current levels of deforestation (2.4 Mi ha/year). As the country reduces ongoing rates of deforestation and/or increases forest cover due to restoration, it becomes eligible for higher annual payments. This focus on controlling deforestation also aligns all stakeholders in the country, from landowners to enforcement agencies, to keep higher revenues coming into the country.

A possible example of the domestic allocation of resources within Brazil is shown as follows:

	Area (1,000 ha)	Unit Payments (US\$/ha)	Annual payments adjusted for deforestation (US\$ 1,000's) ^a
Deforestation adjusted revenue			7,650,000
Resource allocation			
Private lands (average)	210	10.00	2,100,000
IPLC lands ^b	195	10.00	1,950,000
Municipal environmental agencies	495	3.00	1,485,000
State environmental agencies	495	2.00	990,000
Federal environmental agencies	495	2.00	990,000
Total allocated (US\$ Mi)			7,515,000
Cash surplus (US\$ Mi)			135,000

Notes: a. The allocation figures above do not take into consideration any deductions related to deforestation occurring per land class in the previous year. When operational, any deforestation would result in a reduction of US\$ 3,000 per ha deforested, attributed to the land class where it occurred. b. IPLC = Indigenous People and Local Communities.

In the example above, all major stakeholders would benefit from the scheme, including municipal, state, and federal agencies that would be incentivised to enforce laws that prevent deforestation, so their budgets can increase accordingly.

Management and Governance

The TFM could be managed by a new agency or a facility in one of the multilateral organisations (the BRICS's New Development Bank, World Bank, GEF, etc.). Regardless of the agency that manages it, management needs to adhere to a clear charter, and its mandate must be agreed upon by the main parties. Such an agency or facility will be the recipient and trustee of the funds coming to the TFM.

Operationally, the TFM functions as follows: After the end of each calendar year, analysts at the TFM review globally consistent, satellite-based data on forest area change (e.g., 30-meter resolution, consistent definitions, using datasets such as national monitoring systems, Global Forest Watch, and MapBiomas). The results will be peer-reviewed to ensure transparency and credibility.

A review and dispute mechanism would allow tropical forest countries a set time to review the draft data regarding their own country's forest area change, raise any issues or challenges, and propose adjustments (which must be substantiated). Analysts will review any proposed changes and, working with an independent panel of remote-sensing and forest experts (contracted by the TFM), make final determinations of forest area change for the purpose of making payments.

After this process, the TFM allocates or disburses funds to the respective governments.

Capitalization of the Mechanism: Global Pledge for Tropical Forests

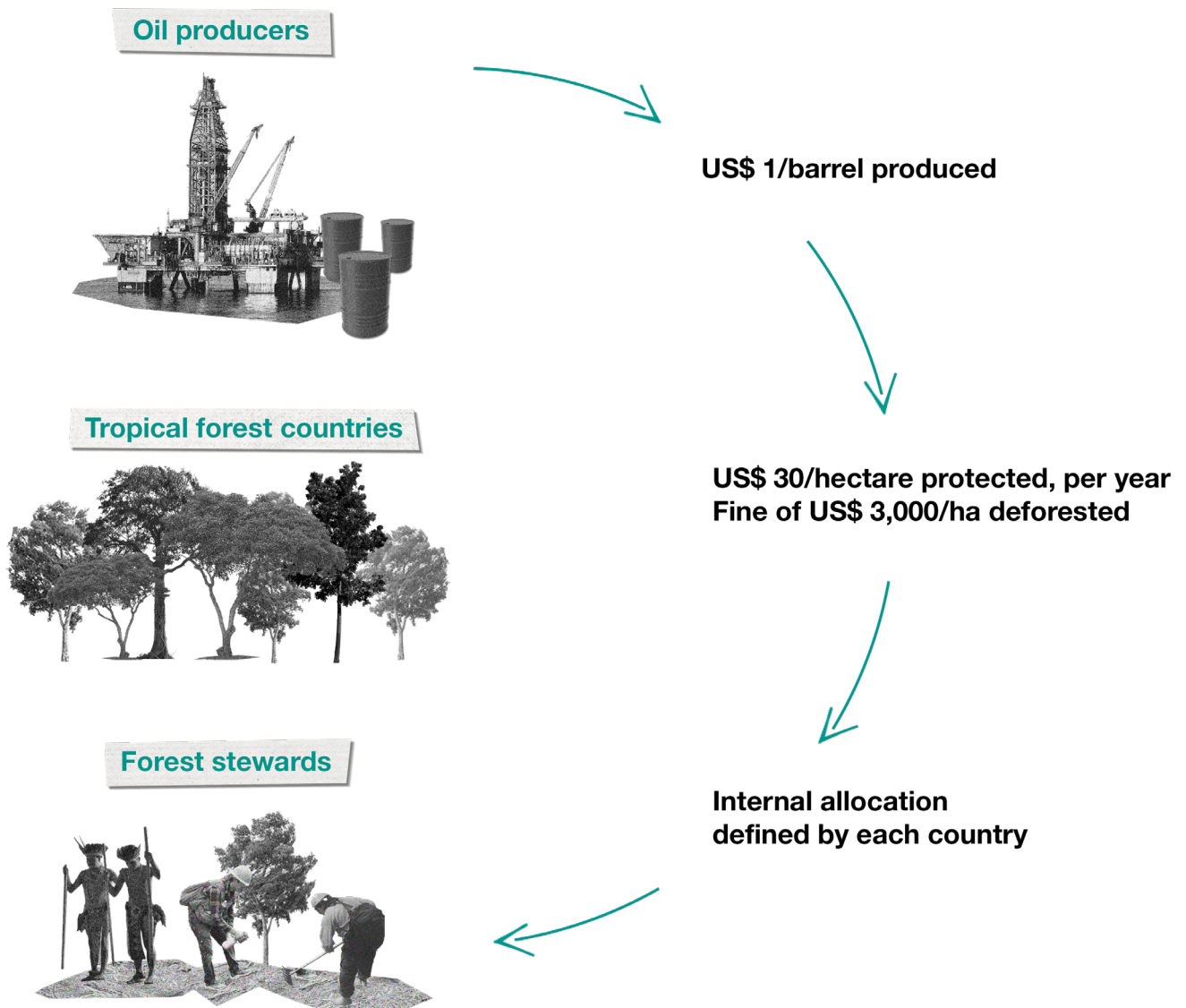
The TFM could be capitalised by global pledge by resource-intensive sectors: companies in these sectors, such as oil and gas, mining, and agricultural commodity trading, would be encouraged to make voluntary contributions per unit produced by these sectors. In the case of the oil and gas sector, it is proposed that it contributes a minimum of US\$ 1 per barrel of oil produced. This is a fraction of the average monthly fluctuation in oil prices (US\$ 8/barrel).¹⁸ Considering the current levels of production (2023), this would result in *ca.* US\$ 30 billion per year. While this is a large amount, it is only a fraction of the US\$ 7 trillion in subsidies received by the fossil fuel sector in the same year.¹⁹

We propose an initial pledge of 6 years - from 2025 to 2030 - which is the critical period to achieve the goal of halting deforestation committed by 145 countries at the Glasgow Declaration on Forests and Land Use.

It is important to note that these contributions would not generate any type of credit or offset for biodiversity loss or GHG emissions and would not impact markets for carbon or ecosystem services.

A precedent exists in the USA for charging the oil and gas sector to be used for nature conservation. In 1964, the Lyndon Johnson administration established the Land and Water Conservation Fund and introduced a royalty on the Outer Continental Shelf federal oil and gas drilling leases (in some cases reaching 12.5% of lease revenue). This policy results in ca. US\$ 1 billion a year, which is directed to the maintenance of the Everglades National Park and other domestic natural ecosystems. The policy has been in place to the present day and has never been overruled by either the Republican or Democratic parties.²⁰

Figure 3. Tropical forest funding mechanism



Long-term Funding for Tropical Forests

While contributions from the oil sector and other commodities are essential for the initial operations of the TFM, in the long term, it is expected that the oil and gas sector will be phased out in alignment with a net zero future. At this point in time, the TFM would need to rely on other sources of funding.

This can be, at least partially, provided by an endowment fund created with the surplus funding provided in the early years of the TFM. As shown in the Brazilian example above, if the TFM were created today, the country would not be allowed to receive its full US\$ 14.8 billion in funding potential.

The US\$ 7.2 billion deducted from Brazil (because of current deforestation) could be placed in an endowment fund managed to provide long-term funding for tropical forest protection. Most countries would be in a similar position today, and the size of this endowment fund could be substantial. This would guarantee a source of capital to ensure forest protection well beyond the phase-out of fossil fuels.

Currently, when more financial mechanisms for the protection and maintenance of forests are needed to sourcing and deploying capital at scale, the TFM provides an alternative and complementary approach that could be pursued to avert catastrophic losses of tropical forests worldwide.

Endnotes

1. Based on the initial concept of the Tropical Forests Forever Mechanism of April 2023, created by Pedro Moura Costa (pedro.mouracosta@bvrio.org), Tasso Azevedo (tasso.azevedo@gmail.com), Beto Verissimo (Amazonia 2030), Mauricio Moura Costa (mauricio.mouracosta@sim.finance), and Beto Mesquita (beto.mesquita@bvrio.org).
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20. In addition, certain U.S. states, including Alabama and California (polar-opposite ends of the political spectrum), impose a state-wide assessment/fee on oil and gas, the revenues of which are dedicated in part or in whole to land conservation.

