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Mitigating systemic risks arising from tropical deforestation

How the Tropical Forest Forever Facility can help

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Summary

Over the last year, the world has witnessed a series of extreme weather events suggesting that the natural systems that underpin our economies are beginning to fail. Protecting the climate-stabilizing effects of tropical forests must be an element of any strategy to build resilience to such events. Although not every region suffers the immediate and direct effects of tropical deforestation, all are affected by the global systemic risks that it poses to predictable weather patterns, food, water and energy security, public health and safety, and financial stability. Looking ahead, a "super El Niño" year promises to inflict further misery on those affected by the increases in heat waves, droughts, floods, and wildfires associated with such events and to exacerbate systemic risks. Closing the forest finance gap is key to mitigating those risks in the future, and the Tropical Forest Forever Facility could fill a key niche among the most promising solutions for doing so.

The importance of tropical forests to global goals related to climate, biodiversity, and land degradation

Tropical forests play an outsized role in regulating the Earth's climate, harboring its biodiversity, and supporting the productivity of agricultural and other working lands. Halting and reversing tropical deforestation and land degradation is thus a challenge that cuts across the three Rio Conventions.

Climate. Tropical deforestation causes 11% of annual global greenhouse gas emissions, and conserving and restoring tropical forests offers one of the most cost-effective mitigation options (IPCC, 2019). Ending forest loss must be an important element of any strategy to address the significant systemic risks attributable to greenhouse warming alone. Accordingly, the first Global Stocktake of the UNFCCC emphasized the importance of halting and reversing deforestation and forest degradation by 2030 to meet the goals of the Paris Agreement (UNFCCC, 2023). In addition to their role in global climate mitigation, forests also affect local climate in ways that are important to adaptation by buffering the effects of greenhouse warming such as higher temperatures and extreme weather events (Seymour et al., 2022; Reek et al., 2026).

Biodiversity. The UNCBD's Global Biodiversity Framework similarly sets 2030 as a target "to bring the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity, close to zero" (CBD, 2022). Tropical forests harbor the preponderance of the Earth's terrestrial biodiversity, including 62% of terrestrial vertebrate species (Pillay et al., 2021), while requiring less than 10% of global biodiversity finance (Deutz et al., 2020). A recent national security assessment by the U.K. government (2026) describes how the risks of biodiversity loss and ecosystem collapse, including the Amazon and Congo Basin rainforests specifically, threaten global food security.

Desertification and land degradation. Tropical forests are also critical to achieving objectives articulated in the UNCCD 2018-2030 Strategic Framework, including "to combat desertification/land degradation…" and "to mitigate…the effects of drought…" (UNCCD, 2017). As elaborated below, tropical forests influence how moisture travels through the atmosphere and falls as precipitation, and how deforestation can disrupt rainfall patterns in ways that increase the risk of drought.

II The importance of tropical forests to climate stability across scales

The importance of tropical forests to global goals is well recognized in global agreements. Less well known, and not yet incorporated into local, national, and international policies, are the complex ways through which tropical forests contribute to climate stability in ways other than through the global carbon cycle.

Deforestation and degradation of tropical forests risk triggering catastrophic climate shifts. Tropical forests are among a set of Earth system components (also including ocean currents and permafrost, for example) that can amplify climate risks through non-linear, irreversible shifts in their functions (Hansen et al., 2026). Potential disruptions include the risks of crossing regional "tipping points" with global consequences, such as the Amazon rainforest converting to a degraded ecosystem with significantly less biodiversity and carbon storage beyond an uncertain threshold of deforestation (Lovejoy and Nobre, 2018), recently estimated to be between 22–28 percent (Wunderling et al., 2026). Short of a single, basin-wide tipping point, more local thresholds are being crossed that reduce resilience and increase the risk of transition to a persistent state of degradation (Brando et al, 2025). Risks include initiating self-perpetuating "cascading impacts" on biophysical or socioeconomic systems, such as when repeated fires reduce the capacity of forests to sequester carbon, or when simultaneous droughts in multiple agricultural breadbaskets affect the global food system (Hansen et al, 2025).

Tropical forests stabilize weather patterns across scales by affecting temperature and rainfall. By evaporating rainfall and transpiring water from below ground, they provide a natural air-conditioning function, with significant cooling effects on local temperature averages and extremes. The rough surface of the forest canopy creates turbulence in wind patterns that lift heat and moisture up and away. These plumes of moisture affect rainfall at continental scales, up to hundreds of kilometers downwind. The moisture also interacts with particulates and atmospheric chemistry to form clouds, which in addition to generating rainfall, reflect sunlight back out into space with a global cooling effect (Lawrence et al., 2022).

Tropical deforestation on average leads to warmer, drier, and less stable conditions (Lawrence and Vandecar, 2015). These effects are *in addition* to the effects of global greenhouse warming, often compounding the warmer, drier, and less stable conditions attributable to greenhouse warming alone. For example, deforestation in the southern Amazon has been linked to increasing length of the dry season (Leite-Filho et al., 2019). Eastern Amazonia, which has experienced more deforestation compared to western Amazonia, has greater fire risk and carbon emissions, and is now largely a net source of emissions rather than a sink (Gatti et al., 2021).

Deforestation can affect rainfall patterns regionally. For example, rainforest loss in West and Central Africa could affect desertification in the Sahel. According to one study, winds "originating either from the Atlantic and moving north-eastward over and through the forest and vegetation covered regions from the coast on up, as well as those moving into the Sahel from the East, are likely to provide the largest contributions of atmospheric moisture to rainfall in the Sahel" (Ellison & Speranza, 2020).

Deforestation can disrupt rainfall patterns globally. By affecting the Earth's energy balance, large-scale deforestation or afforestation/reforestation can cause shifts in atmospheric and ocean circulation patterns. These shifts can in turn affect precipitation patterns globally, potentially affecting water security in regions remote from where the land-cover change takes place (Portmann et al., 2022). The El Niño phenomenon discussed further below is an example of the complex interactions among land cover, oceans, and the atmosphere.

III The systemic risks of deforestation

Vulnerability to wildfire

Tropical deforestation and forest degradation increase the risk of wildfire. The share of forest loss caused by fire globally has been rising over the last few decades, and in 2024 fire became the leading cause of tropical primary forest loss, displacing agricultural expansion (Potapov et al., 2025). Although the warmer temperatures and altered precipitation patterns attributable to greenhouse warming have increased forests' vulnerability to fire across latitudes (Jones et al., 2022), in the tropics most wildfire is associated with human activities such as forest clearing and pasture management, which expand forest edge and canopy openings, leading to hotter and drier conditions. Exposure of forests to such hotter and drier conditions, particularly in years of severe drought such as 2024, increases vulnerability to repeated cycles of fire. These conditions elevate the risk of crossing tipping points such as the conversion of the Amazon rainforest to the less biodiverse and carbon rich ecosystem referred to above (Flores et al., 2024; Brando et al., 2025).

Water and energy security

Deforestation's disruption of rainfall patterns affects water security. A large body of research has documented the importance of forests in storing, releasing, and purifying water (Zhang & Wei, 2021). Until recently, the preponderance of that research has focused on the direct effects of deforestation and reforestation of upstream watersheds on downstream hydrology through terrestrial water flows, which can increase following loss of tree cover. However, recent research has highlighted the importance of moisture flows from forests mediated through the atmosphere and falling as downwind precipitation (Damania et al., 2025). These indirect effects have been found to dominate the effects of forest cover on hydrology, especially in tropical rainforest regions such as the Amazon and Congo basins (Ma et al., 2024).

Forests are critical to urban water supplies. Nineteen of the world's 29 largest cities depend on precipitation generated by forests for more than a third of their municipal water. For example, in wetter years the city of Kinsasha's watershed receives more than 50% of its precipitation from the forests of the Congo Basin (Keys et al., 2018). One simulation of total deforestation of the Congo Basin projected a huge (42%) decrease in rainfall in the western Congo (Bell et al., 2015).

Deforestation also disrupts the rainfall that fills reservoirs behind hydroelectric dams. A recent analysis of Brazil's two largest hydroelectric power plants—Itaipu and Belo Monte, which together account for around 11% of the country's electricity generation capacity—found that forest-related rainfall changes are causing losses of 3,780 GWh in energy generation potential and around US$200 million in revenue annually (Pinto & Arbache, 2025).

Agriculture and food security

The effect of deforestation on temperature reduces agricultural productivity. The loss of local cooling services following deforestation increases the exposure of nearby crops, livestock, and agricultural workers to heat stress. Conversion of native vegetation in Brazil between 1985 and 2012 increased exposure to extreme heat, reducing soybean productivity by about 10% in the Amazon, and 4% in the Cerrado (Flach et al., 2021). Heat depresses labor productivity by reducing the hours it is safe to work outside: in deforested areas of Mato Grosso and Pará over the period 2008-2019, 45% of workers lost at least a half hour of daily safe work time compared to only 5% of workers in forested areas (Parsons et al., 2021).

The effect of deforestation on rainfall reduces agricultural production. Changes in precipitation patterns in Brazil are already compressing the rainy season, threatening the double-cropping system that drives the country's powerful agribusiness production model (Rattis et al., 2021). Soy and maize productivity in that double-cropping system are estimated to have been reduced by 6.6% and almost 10%/ha/year, respectively, in five Brazilian states within the Amazon and Cerrado regions (Batista et al., 2023). A study of the economic impacts of rainfall changes in the Southern Brazilian Amazon through 2050 found that continued agricultural expansion at the expense of forests would result in "massive" productivity losses to the soy and beef industries, and that the costs of reducing deforestation to avert that outcome would be dwarfed by the estimated US $1 billion in annual losses if rates of deforestation persist (Leite-Filho et al., 2024).

One study (Gebrehiwot et al., 2018) describes how the West African Rainforest (WARF, which includes parts of the Democratic Republic of Congo, Gabon, Congo, Cameroon, the mainland of Equatorial Guinea and the Central African Republic) transports moisture across the continent. The analysis suggests that deforestation in the WARF could affect both the amount and timing of rainfall and thus agricultural production in the Nile Basin. While more analysis is needed to confirm the relationships, it is quite likely that deforestation will be destabilizing to the climate across Africa.

More generally, a recent World Bank report summarized simulations of deforestation-induced rainfall loss in three tropical regions, which estimated that agricultural productivity would decline by approximately 0.6% per year in the Amazon and 0.1% per year in both the Congo Basin and Southeast Asia (Damania et al., 2025).

Deforestation-related temperature and rainfall effects on agricultural production are *additional* to the projected effects of greenhouse warming. Current models of climate impacts ignore deforestation or incompletely consider it. For example, one study of the effects of global warming and water scarcity projects that the probability of crop yield failures in global breadbaskets will be as much as 4.5 times higher by 2030 and up to 25 times higher by 2050 (Caparas et al., 2021); the lead author of the study confirmed that "direct effects of land-use change would have additional impacts" (personal communication, 10 June 2026).

Tropical deforestation threatens global food security through declines in productivity or productive area. Agricultural areas affected by tropical deforestation produce many of the world's globally traded food commodities, including soy, beef, palm oil, coffee, and cocoa. For example, approximately 90% of the Middle East and North Africa region's palm oil, 65% of meat and poultry, and 50% of soybean imports originate from tropical regions (Woertz & Keulertz, 2015). Gradual and/or sudden declines in productivity or contraction of areas under production, including shocks from natural disasters linked to forest loss, can lead to price increases that propagate through global supply chains (Planetary Guardians, 2025). One study estimates that deforestation-driven reductions in rainfall may shrink cocoa supply and increase cocoa prices by as much as 40%, raising European Union cocoa import costs to an estimated US$84 billion by 2050, nearly nine times higher than in 2025 (Bentley-McKune, 2025). In the meantime, climate effects on production caused cocoa prices to more than double in 2024 (CDP, 2025).

Tropical deforestation disrupts supply chains through impacts on transportation routes. A recent analysis highlights the vulnerability to drought of the soy supply chain from the Amazon due to drought-induced disruptions to river flow and associated impacts on transportation routes. The study estimates that by mid-century, between US$300 million and almost US$1 billion in annual soy trade from just two inland river ports—Manaus and Santarém—could be affected during periods of critically low river levels (Bentley-McKune, 2026).

Public health and safety

Forest degradation adversely affects human health. Forest degradation affects the nutrition of local forest-dependent communities by restricting access to wild foods (Maseko et al., 2017). Deforestation also causes increased exposure to heat stress by raising average annual local temperatures by approximately 1-degree Celsius (Vargas Zeppetello et al., 2020), which almost doubles the effects of greenhouse warming. More dangerous to human health are extreme temperatures: in areas affected by nearby deforestation, the hottest part of the hottest days can be up to 8 degrees Celsius warmer (Wolff et al., 2021), affecting morbidity and mortality as well as causing cognitive impairment (Masuda et al., 2021). Combined with greenhouse warming, such increases would expose more than 6 million Brazilians to heat-related health impacts by 2100 under a moderate emissions scenario, and more than 11 million if global emissions continue to rise (Alves de Oliveira et al., 2021).

Deforestation and forest degradation affect air quality and the risk of pandemics. Fires affect the respiratory health of human populations through exposure to smoke inhalation. The 2015 fires in Indonesia were estimated to have caused some 100,000 premature deaths in the Southeast Asia region (Koplitz et al., 2016). Deforestation and forest degradation facilitate the zoonotic disease spillovers that cause global pandemics; halting deforestation is identified as a key element of a strategy to prevent such spillovers (Vora et al., 2022).

Deforestation exacerbates the risks of natural disasters. Moisture recycled by forests in the Brazilian Amazon are responsible for not only a significant portion of the precipitation in the country's agricultural zones but also account for between 13 and 32% of rain that falls in downwind countries in Latin America's Southern Cone (Keys et al., 2017). It is reasonable to attribute at least some portion of the recent catastrophic droughts (Argentina; Uruguay), forest fires (Bolivia and Brazil), and floods (Southern Brazil) to deforestation-induced disruptions to rainfall patterns at regional scale (Seymour et al., 2022). Upstream tree cover loss contributed to Indonesia's vulnerability to the compound rainfall-landslide-flood disaster that caused more than 1000 deaths and significant destruction of infrastructure in Sumatra in November 2025 (Wu et al., 2026).

Global financial stability

Deforestation poses risks to global financial stability. The notion that degradation of nature poses material risks to national and global financial systems is entering mainstream macroeconomic discourse. Experts are concluding that these risks should be considered "macro-critical" due to their effects on growth and productivity, fiscal stability and debt sustainability, and the exposure of banks, insurers, and investors to structural risks associated with vulnerabilities of particular sectors and geographies (such as the effects of deforestation on the agriculture sector in Brazil described above) (Wollenweber et al., 2026). Financial institutions holding assets in companies with revenues dependent on forest-related commodities, such as global food, beverage, and agriculture businesses, face higher risk, but few such institutions are identifying, quantifying, and disclosing such risks (CDP, 2025).

Current financial models and risk assessment tools are blind to deforestation-related risks and thus underestimate the impacts of forest loss on macroeconomic performance as well as the benefits of investment in forest resilience. A recent study simulating the effects of a partial ecosystem collapse of pollination services, tropical timber, and marine fisheries concluded that the macroeconomic implications of this loss of products and services, if incorporated into sovereign credit ratings, would result in an increase of $162 billion in annual interest payments across the 23 countries included in the sample (Agarwala et al., 2026). The failure of financial institutions to take these risks into account in assessing debt sustainability has perverse outcomes: a recent study estimated that countries entering into stabilization agreements with the IMF between 2000 and 2020 on average experienced a 9.2% increase in annual tree cover loss (Forster et al., 2024), thereby decreasing their resilience to future shocks.

IV How El Niño amplifies these risks

In El Niño years, the risks associated with tropical deforestation and forest degradation are compounded. The world is bracing for an historic El Niño event in the latter part of 2026 and into 2027. El Niño is a climate phenomenon that occurs every few years, characterized by warmer-than-average surface temperatures in the Pacific Ocean near the Equator. ("La Niña" refers to years when surface temperatures are cooler than average, and both are part of the El Niño-Southern Oscillation (ENSO) cycle.) Exacerbated by greenhouse warming, El Niño events are getting stronger and becoming more frequent, and in turn amplifying the severity of associated droughts, floods, heat waves, wildfires, and storms (Cai et al, 2023), thus further elevating the global systemic risks attributable to deforestation and degradation described above.

The combined effects of land cover change and El Niño on local temperature and rainfall remain poorly understood. In any case, the weakened resilience of degraded tropical forest ecosystems will exacerbate the impacts of extreme events attributable to El Niño on tropical communities, economies, and forests themselves.

Experience from recent El Niño events illustrates how its effects compound those attributable to greenhouse warming and tropical forest loss (See Box 1). The confluence of greenhouse warming, deforestation, and a super El Niño year could create conditions for a perfect storm of extreme weather events, amplifying the systemic risks described in the previous section.

The effects of El Niño events

Tropical forests' contributions to greenhouse gas emissions

- Extreme heat and drought experienced during the 2015–2016 El Niño led to significant losses of land-based carbon stocks in the tropics, with persistent effects in humid tropical forests in Africa and the Americas associated with increased tree mortality (Wigneron et al., 2020).
- During the same period, South America's intact tropical forests stopped functioning as a net carbon sink (Bennett et al., 2023).

Vulnerability to wildfire

- Fires in Indonesia increased by more than 400% during El Niño years (2015–2016, 2018–2019, and 2023–2024) compared with non-El Niño years, with more than half occurring in forests (32%) and peatlands (21.9%) (McAvoy & Vadrevu, 2025).
- Unusually widespread drought conditions and fires in the Brazilian Amazon in 2015 coincided with El Niño (Aragão et al., 2018). Across the Amazonia region, the El Niño event in late 2023 preceded drought and unprecedented forest loss from fires in 2024 (Finer & Bodin, 2026), increasing emissions from forest degradation by a factor of seven compared to the previous two-year average, and as a result, emissions from degradation surpassed those from deforestation for the first time (Bourgoin et al., 2025).

Water and energy security

- El Niño-induced droughts can reduce water levels in reservoirs, as observed in South Africa (Mathivha et al., 2024).
- In the Mekong subregion, variability in precipitation associated with El Niño affects groundwater availability (Le et al., 2021) while associated drought conditions can reduce hydropower generation (Chowdhury et al., 2021).

Agriculture and food security

- Limited rainfall and drought in ENSO years accounts for a significant share of the variability in production of maize in Northeast Brazil (38%) and Southwestern Mexico (20%). In West Africa, up to 41% of variability in wheat production is attributable to ENSO together with the Indian Ocean Dipole (IOD), while El Niño has also contributed to crop failures in Ethiopia (Anderson et al. 2019).
- Even in regions where El Niño results in above-average rainfall, such as some areas of South America, crops such as wheat can be negatively affected by disease and decreased sunlight (Anderson et al. 2019).

Public health and safety

- Across the tropics, crop failures and livelihood disruptions caused by El Niño are associated with infant and child malnutrition with long-term effects on weight and height (Anttila-Hughes, Jina & McCord, 2021; Irenso et al., 2022).
- Fires in Indonesia during El Niño years were closely associated with carbon monoxide (CO) pollution, especially in forested areas of central Kalimantan, western Sulawesi, and southern Java, with impacts on air quality and human health (McAvoy & Vadrevu, 2025).

Global financial stability

- The catastrophic forest fires suffered by Indonesia in 2015—fueled by forest degradation and exacerbated by an El Niño event—caused more than US$16 billion in losses to the national economy through impacts on property, economic activity and public health (World Bank, 2016).
- The economic effects of El Niño are approximately twice as large in tropical regions as in temperate areas, with particularly pronounced impacts in Africa and the Asia-Pacific region, with variable effects on growth (Smith & Ubilava, 2017).
- Lower-income countries are more vulnerable to El Niño due to lower preparedness and mitigation capacity, stronger teleconnections in the tropics, and greater economic dependence on agriculture. Global spillovers and cascading effects further amplify these economic impacts (Liu et al., 2023).

V The role of forest finance and the TFFF

Why tropical forests continue to disappear

Financial incentives drive forest loss and degradation. Tropical deforestation and forest degradation continue because under most circumstances, it remains economically advantageous to farmers and businesses to convert them to other uses or exploit them unsustainably, and politically advantageous for government officials to allow them to do so. Although forest protection laws and policies may be in place, markets largely continue to incentivize their violation. A key factor is that most of the ecosystem services provided by forests—including maintaining cooler temperatures and rainfall—remain unpriced in the marketplace and thus undervalued by public and private sector actors alike.

Multiple strategies to address these challenges are underway and have made important progress. For example, Indigenous peoples, whose superior stewardship of forests is well documented (Walker et al., 2020), have increasingly gained legal recognition of their territorial rights (RRI, 2023). Voluntary actions by corporate actors to get deforestation out of commodity supply chains have demonstrated some effectiveness in doing so while addressing equity considerations (Grabs et al., 2021). To address some of the limitations of voluntary approaches, transparency and traceability of sourcing of forest-risk products is being incorporated into conditions for access to consumer country markets, such as through the European Union Deforestation Regulation (Berning & Sotirov, 2023). High-integrity forest carbon crediting at jurisdictional scales is beginning to reward governments for progress toward halting and reversing forest-based emissions (FCLP, 2026).

The forest finance gap

The gap between available finance and what is needed to cover the investment and operational costs of tropical forest protection and restoration, and integrating trees into agroforestry systems remains large. The gap is estimated by the United Nations Environment Programme (UNEP) to be $66.7 billion annually (UNEP, 2025), and this number does not include an approximately $6.7 billion in concessional funding needed to establish the enabling conditions required to attract additional public and private investment (World Bank, forthcoming, as cited in FCLP 2025). While comprising only a small share of global needs for climate and biodiversity finance and offering a disproportionate economic return on investment, mobilizing the necessary funding requires action by national governments and international organizations.

At the same time, no plausible amount of funding targeted to forests will be sufficient to overcome land conversion incentives as long as the trillions of dollars flowing into business-as-usual agriculture, bioenergy, mining, infrastructure, and other land management systems—and pressures on governments to exploit natural resources to service sovereign debt—continue on their current trajectories. A systemic approach to forest finance, coordinated by national governments at the scale of entire countries and enabled by changes in global financial flows, is needed to address the systemic risks caused by deforestation and forest degradation.

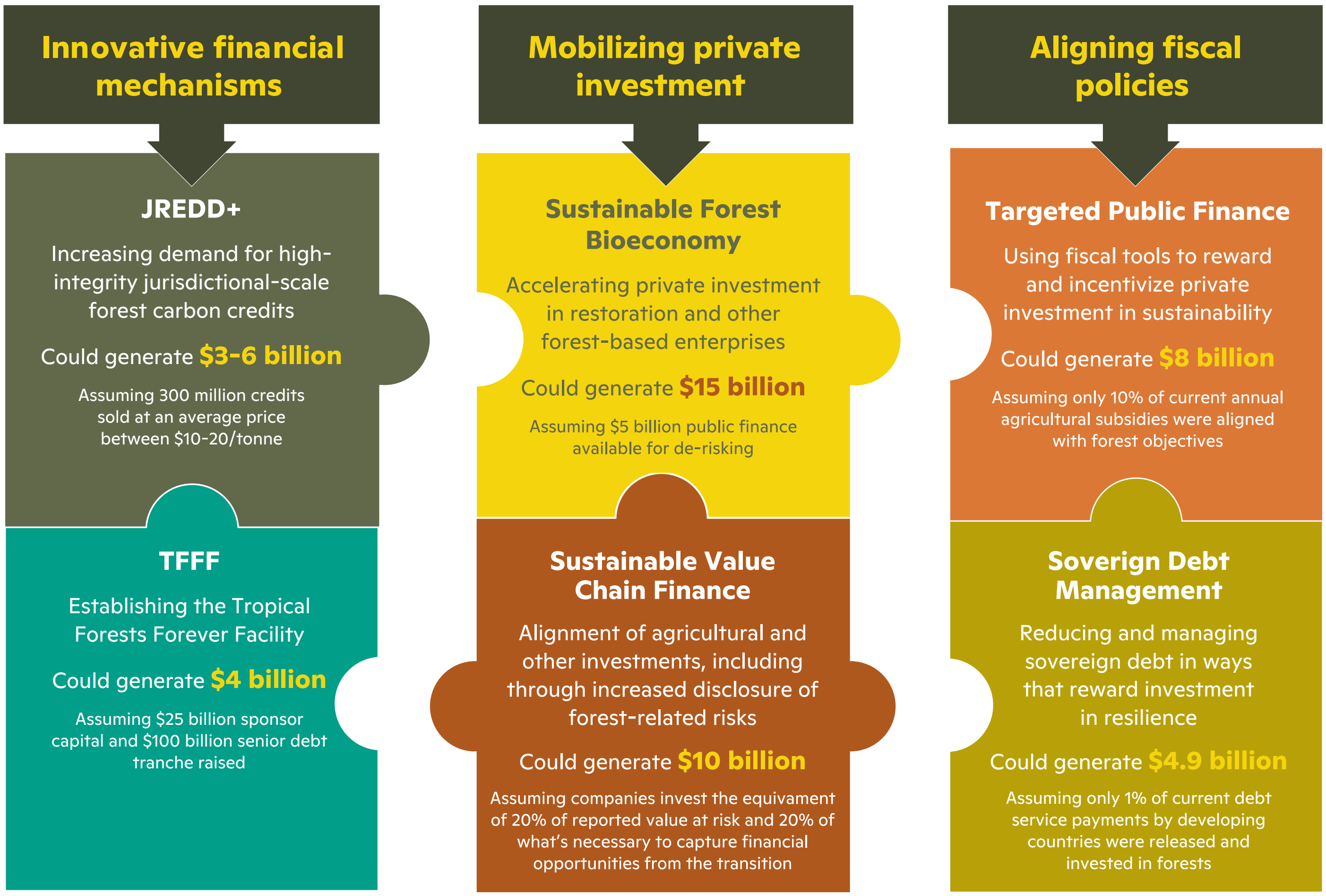
Six interlocking solutions

Feasible solutions are available. The Forest Finance Roadmap released in 2025 adopted just such a systemic approach to mobilize needed funding (FCLP, 2025). The Roadmap was charted by the Forest & Climate Leaders' Partnership, a high-ambition coalition of some 40 countries representing both the Global North and Global South and dedicated to accelerating progress on the goal to halt and reverse deforestation and forest degradation by 2030.

The Roadmap lays out six mutually reinforcing solutions. The solutions are illustrated as interlocking puzzle pieces (See Figure 1) to convey their mutually reinforcing nature. Three of the solutions—forest carbon crediting (J-REDD+), the Tropical Forest Forever Facility (TFFF), and attracting private investment into sustainable forest bioeconomy activities—seek to raise new sources of revenue to incentivize and finance forest protection and sustainable utilization. The other three solutions—shifting investments within non-forest value chains towards forest resilience, targeting public finance to forest-positive activities, and sovereign debt management sensitive to maintaining forest resilience—seek to redirect a portion of existing non-forest financial flows that are currently at best blind to their impacts on forests, and at worst actively drive forest loss.

Six Solutions to Close the Tropical Forest Finance Gap

from "Unlocking Forest Finance: A Roadmap for Action" Forest & Climate Leaders' Partnership (2025)



A first-year progress report on the Roadmap suggests that while implementation of several solutions is progressing, others are lagging behind, and all have headroom for accelerated action (FCLP, 2026)

The Tropical Forest Forever Facility

The Tropical Forest Forever Facility could play important direct and indirect roles in accelerating progress. The TFFF is an innovative financial mechanism designed to leverage sovereign and commercial capital to produce annual returns that can be used to reward tropical forest countries for protecting their forests (TFFF, 2025). The TFFF is poised to fill a key but currently unfilled niche in the forest finance puzzle: providing tropical forest countries with a reliable source of long-term revenue based on their performance in keeping existing forests standing. The TFFF's primary focus on protecting existing tropical forests is especially important considering the time—decades to more than a century—needed for such forests to recover the structures and functions needed for restoring biodiversity and other critical ecosystem services noted above after forest loss and degradation have taken place (Axelsson & Ilstedt, 2026).

Similar to J-REDD+, the TFFF is designed to disburse funding to governments for performance at scale, providing both incentives to improve forest management and revenues with which to do so. J-REDD+ and TFFF are complementary, relying on different sources of finance (carbon markets vs financial markets), rewarding different units of performance (CO_2 emissions reductions and removals vs hectares of forest), and operating at different timescales (nearer vs longer term). Together they could meet about half of the finance needed for tropical forest protection (FCLP, 2025). They are also potentially synergistic: the TFFF can build on the institutional infrastructure built for J-REDD+, such as forest monitoring systems and benefit-sharing arrangements in eligible countries for efficient and equitable implementation. Importantly, a core principle of the TFFF design is that at least 20 percent of payments must be directed to Indigenous Peoples and Local Communities (IP&LCs) (TFFF, 2025), which will require systems to be in place for channeling such payments. Governments can also utilize revenues from both instruments to leverage and create enabling conditions for finance from other sources, including private sector investment.

And although the first payments to tropical forest countries from the TFFF are still several years away, their prospect provides an incentive for the governments of more than 70 countries that collectively host more than a billion hectares of tropical and subtropical moist broadleaf forests (TFFF, 2025) to act now, and in doing so, ensure that they will be eligible for such payments once they become available. Necessary actions include those that directly address the drivers of forest loss and degradation, as well as the enabling conditions—such as robust forest monitoring systems and respect for the rights and support for the roles of IP&LCs in forest management—necessary to achieve the goal of halting and reversing deforestation.

VI Conclusion

A large and increasing body of evidence demonstrates that tropical forests are critical not only to sustaining local livelihoods and achieving global environmental goals; they also underpin the health of national economies, global food security, and even global financial stability. Deforestation and forest degradation pose a variety of systemic risks. Investments in forest resilience are small compared to the costs incurred when this critical component of Earth's natural infrastructure is allowed to fail. The TFFF comprises one piece of a forest finance puzzle that can synergize with other solutions to mobilize needed funding and shift incentives toward forest protection. It also provides a mechanism by which countries of the Global North and Global South can join forces, each doing their part to ensure that a livable planet endures for generations to come.

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