FOREST DECLARATION ASSESSMENT 2025

Tracking progress on 2030 forest goals

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ABOUT THE FOREST DECLARATION ASSESSMENT

The Forest Declaration Assessment is an independent, collaborative initiative led by a coalition of civil society organizations and researchers, known as the Forest Declaration Assessment Partners. Since 2015, the Assessment has published annual updates on progress toward global forest goals. All findings undergo a rigorous peer review process conducted by experts across the globe.

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FUND

Chapter contents

Introduction

"Global forests remain in crisis" is not the headline we hoped to write in 2025. As the halfway point in the decade of ambitious forest pledges, this year was meant to be a turning point. Despite the indispensable role of forests, the verdict is clear: we are off track on halting and reversing deforestation by 2030.

Deforestation rates have scarcely budged since the start of the decade; sustainable supply-chain commitments remain the exception rather than the rule; forest finance is still a fraction of finance putting forests at risk; and governance barriers—from limited access to justice and decision-making for many groups to corruption to insufficient recognition in community land tenure rights—persist.

This moment in 2025 represents a dangerous confluence: halfway through a critical decade, yet in many countries, climate and environmental ambition appear to be retreating. Exploitative production models, overconsumption, weak governance, and persistent power imbalances fuel ongoing deforestation and degradation.

This crisis cannot fade into the background noise. Forests are non-negotiable infrastructure for a stable planet: they provide livelihoods for more than one billion people, shelter 80 percent of terrestrial plant and animal species, and help stabilize the global climate by helping to limit global warming to 1.5°C. Inaction on forest goals will also derail the Paris Agreement, the Kunming-Montreal Global Biodiversity Framework, and the Sustainable Development Goals.

Across the Assessment's four thematic chapters, the gap between current realities and the pathway to progress is clear. Yet there are compelling signs that change is possible, with promising initiatives across all themes demonstrating that reversing negative trends is achievable. But isolated successes will not be enough. Lasting progress requires systemic shifts: rules that create a level playing field rather than relying on voluntary pledges, companies and investors willing to move beyond cost-neutral fixes, policies and finance aligned across sectors instead of working in silos, and decision-making processes that are inclusive and participatory.

This year's Forest Declaration Assessment once again takes stock of where such shifts are beginning to emerge and where ambition must rise much further. The chapters that follow assess:

- **Chapter 1:** Global progress on deforestation, degradation, and restoration (Theme 1)
- **Chapter 2:** Whether production systems and supply chains are eliminating forest loss and how collaborative approaches are maturing (Theme 2)
- **Chapter 3:** Whether finance is aligning with forest goals, including public and philanthropic flows, carbon markets, private-sector risk management, harmful incentives, and supervisory action (Theme 3)
- **Chapter 4:** The state of forest rights and governance, including participation, tenure, and enforcement (Theme 4)

Each chapter distills where we stand relative to the 2030 goals, and the **Conclusion** highlights some of the systemic shifts that the world needs to see to advance them.

Though this report focuses on forests, it's worth noting that a vast array of terrestrial and marine ecosystems—grasslands, savannahs, deserts, wetlands, mangroves, oceans—are under similar threat from conversion, exploitation, and destruction. This report's focus on meeting forest targets should not imply that the protection and restoration of other ecosystems are not important. It merely reflects the prominence of, and our associated mandate to track, forest commitments.

Next year, we hope to write a very different headline: "Global forests on the path to recovery." This will require more than just incremental improvements—it demands bold, coordinated, and sustained action from all sectors of society.

CHAPTER 1

OVERARCHING FOREST GOALS

THEME 1

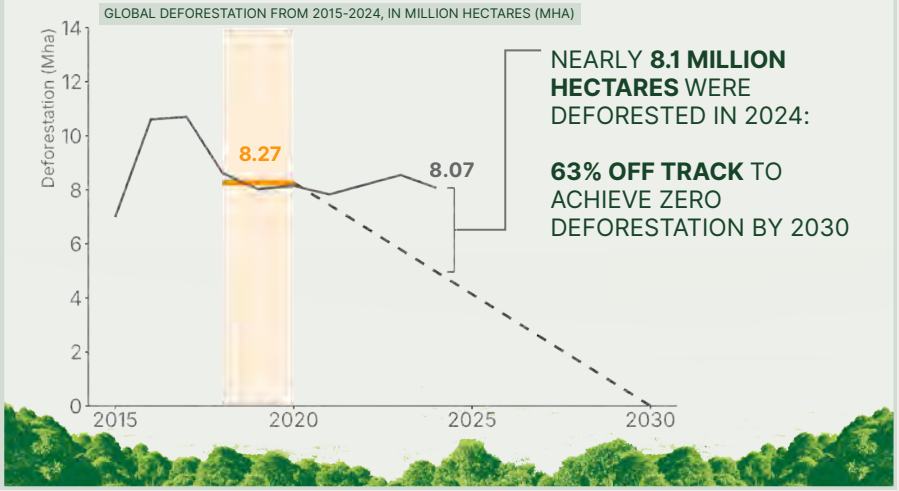
In addition to the organizations listed on the cover, this chapter has been reviewed and endorsed by the following organizations:

GLOBAL FOREST WATCH

IUCN

THE WORLD REMAINS OFF TRACK TO ELIMINATE DEFORESTATION BY 2030.

GLOBAL DEFORESTATION FROM 2015-2024, IN MILLION HECTARES (MHA)

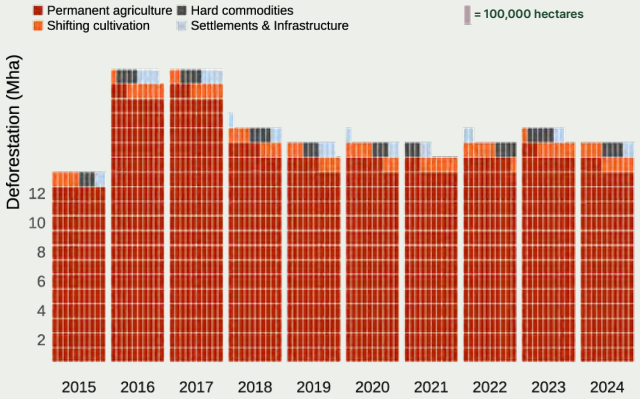


NEARLY **8.1 MILLION HECTARES** WERE DEFORESTED IN 2024:

63% OFF TRACK TO ACHIEVE ZERO DEFORESTATION BY 2030

IN THE PAST DECADE, 86% OF GLOBAL DEFORESTATION HAS BEEN CAUSED BY PERMANENT AGRICULTURE.

DRIVERS OF DEFORESTATION FROM 2015-2023 IN MILLION HECTARES (MHA)



Agricultural expansion the dominant direct driver of deforestation worldwide, with mining projected to increase pressures on forest ecosystems.

Corruption, weak law enforcement, land speculation, and market forces - both from domestic and international consumers - form a complex web of indirect drivers that must be addressed.

FIRES IN THE AMAZON EMITTED MORE THAN MANY INDIVIDUAL COUNTRIES IN 2024

8.8 million hectares of tropical moist forests were degraded in 2024. A major driver of this was forest fires in tropical moist forests in the Amazon basin, which emitted:

791 MILLION METRIC TONS OF CO2eq IN 2024

– exceeding the GHG emissions of an industrialized country like Germany.

FORESTED KEY BIODIVERSITY AREAS ARE STILL UNDER THREAT

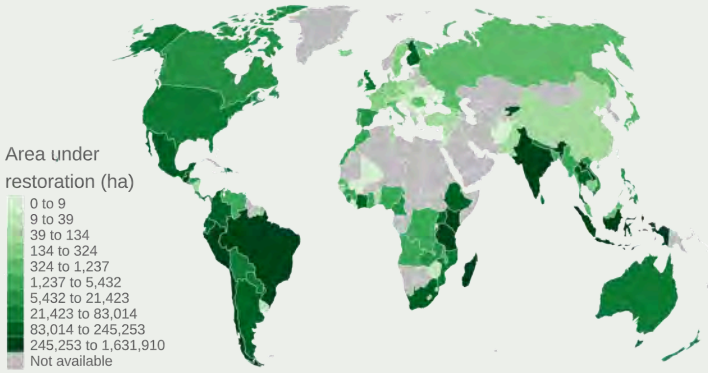
Protecting forest habitats is crucial for the forest dependent species and making progress toward global biodiversity targets.

47% INCREASE IN FOREST LOSS IN fKBAs FROM 2023-2024

FOREST RESTORATION EFFORTS PROGRESS, BUT MONITORING REMAINS A CHALLENGE

An estimated 10.6 million hectares of global restoration activities (as of Sept. 2025) represents a small fraction of the global restoration potential. Fragmented data hinders complete estimates.

AREA COVERED BY RESTORATION PROJECTS TARGETING DEFORESTED LAND & DEGRADED FORESTS, VIA RESTOR & BRRO



Chapter 1 contents

1. INTRODUCTION

1.1. Why track progress towards forest goals?

Nature loss and climate change are among the most pressing challenges facing humanity. Forests are essential for addressing these deeply connected crises. In 2012, more than 1.6 billion people worldwide lived within 5 km of forests[1] and benefited from the services they provide both in terms of health and well-being, as well as the provision of timber, food, fuel, jobs, and shelter.[2] This population of "forest-proximate" people includes approximately 60 million Indigenous Peoples who depend on forests both for their livelihood and for their cultural identity.[3] These ecosystems are home to the majority of wild species, including 80 percent of amphibians, 75 percent of birds, 68 percent of mammals, and about 60 percent of all vascular plants, mainly found in tropical regions.[4] Forests are crucial for regulating hydrological cycles[5] and, with their carbon sequestration abilities,[6] are also essential for regulating and stabilizing the global climate.[7] In addition to their climate change mitigation potential, the varying role of forests in achieving climate adaptation is increasingly recognized,[8] as well as in fostering food security.[9]

Yet forests continue to face widespread, persistent human-driven threats around the world. These impacts—in the form of deforestation, forest degradation and fragmentation, and human-induced or human-exacerbated wildfires—have dire consequences for the world's climate, natural ecosystems, and societies, including worsening inequalities for already marginalized groups.[10] There is also growing recognition of the vast economic value of forests, with one analysis estimating their total value—including ecosystem services—at USD 150 trillion.[11] This was nearly double the value of global stock markets in the year 2020, when the analysis was conducted. It is worth noting that the estimate primarily focused on the climate benefits provided by forests, while their role in regulating the water cycle and mitigating hydrological risks has yet to be fully assessed.

For these reasons, it is crucial to track progress on leaders' promises to protect and restore forests by 2030. Without the accountability provided

by annual progress assessments, these pledges risk becoming empty words, but the consequences of inaction are real and serious.

1.2 What has been pledged on forest goals?

World leaders pledged to eliminate deforestation and forest degradation and restore 30 percent of all degraded ecosystems—including forests—by 2030. This chapter answers the question: Are we on track toward those goals?

This report uses the phrase "2030 forest goals" to refer to the collective goals of globally eliminating deforestation and forest degradation, and restoring 30 percent of degraded forests by 2030, as established by international commitments such as the New York Declaration on Forests (2014), the Glasgow Leaders' Declaration on Forests and Land Use (2021), and reaffirmed both in the First Global Stocktake (2023) under the Paris Agreement and in the Declaration of the high-level segment of the nineteenth session of the United Nations Forum on Forests (2024).

The report also refers to Target 1 and Target 2 of the Kunming-Montreal Global Biodiversity Framework (KM-GBF) (2022). Target 1 presents multiple elements,[a] including the commitment "to bring the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity, close to zero by 2030." This analysis focuses on forest areas of high biodiversity importance, such as forested Key Biodiversity Areas (fKBAs),[12] and humid tropical primary forests. Target 2 is set to "ensure that by 2030 at least 30 percent of areas of degraded terrestrial, inland water, and coastal and marine ecosystems are under effective restoration." In this report, we focus our analysis on degraded forests and deforested land and apply the 30 percent target to these areas.

Are endorsers and signatories of these commitments making good on their promises to protect, conserve, and restore forests? This chapter provides an assessment of progress as of 2024—nearly halfway through the decade—to conserve and restore forests. At both global and regional levels, and for all indicators with a defined target (e.g., zero gross deforestation by 2030), we assess the respective geographic area's status as "on track" or "off track" (**Box 1.1**) to achieve 2030 forest goals using the most up-to-date annual data.

a See Explanation of the Target and its Elements in the Guidance Document for Target 1 of the KM-GBF. Available at: https://www.cbd.int/gbf/targets/1

1.3 How do we track progress?

This chapter assesses key indicators of progress toward the overarching forest goals of halting and reversing deforestation and forest degradation by 2030. Much of the quantitative data presented in this report, including country-level data, is housed in the Forest Declaration Dashboard, an interactive tool that tracks progress across multiple indicators aligned with Assessment themes and articles of the Glasgow Leaders' Declaration. The Dashboard provides comprehensive methodologies and calculations behind each indicator, visualization tools for exploring data trends, and time series analysis of key metrics.

Drawing from quantitative global and regional datasets, where available, we track progress on:

- Deforestation
- Loss of humid tropical primary forests
- Tree cover loss in forested Key Biodiversity Areas
- Degradation of tropical moist forests
- Area of forest under restoration
- Regrowth of tropical moist forests

The methods and features of these indicators are outlined below and detailed in **Annexes A** and **B**.

GLOBAL DEFORESTATION AND LOSS OF HUMID TROPICAL PRIMARY FORESTS

This chapter assesses global and regional progress toward achieving zero gross deforestation by 2030.

Various definitions of deforestation are applicable in different contexts. In this report, deforestation is calculated as the area of the tree cover

loss[13] in primary and non-primary forests due to permanent drivers such as settlements and infrastructures, permanent agriculture, and the production of hard commodities;[14] as well as the tree cover loss in primary forests[15] driven by shifting agriculture.[b] Typically, shifting agriculture is classified as a non-permanent driver of tree cover loss due to the short-term nature of crop cultivation.[16] However, in this report, we treat shifting agriculture's impacts on primary forests as permanent due to the specific characteristics of these forests. Primary forests are mature natural forests that have not been completely cleared and regrown in recent history,[17] and as a result, usually host richer native biodiversity and larger carbon stocks than non-primary forests.[18]

The impact of clearing due to shifting agriculture on these irreplaceable ecosystems[19]—including the release of the irrecoverable carbon that they store[20]—is effectively "permanent" within the timescale of the political commitments tracked in this report. It can take decades or even hundreds of years to re-establish the structure and the ecological function that characterize a primary forest.[21]

All references to "deforestation" refer to "gross deforestation," which is the land use change from forests to non-forest attributed to permanent drivers, irrespective of any forest gains that may have occurred in the same time interval for which deforestation is estimated. See **Annex A** for more details.

The estimates presented in this report are only some of the several deforestation estimates. As explained in this Global Forest Watch comparison of global vs. national forest assessments, there's no single "right" way to measure forest change. Different methods serve different purposes and provide valuable complementary insights.

While the methodologies adopted by the Forest Declaration Assessment are in line with the World Resources Institute's Target Tracker, other non-governmental initiatives operating at the national or regional level produce their own data using locally tailored methodologies. For instance, MapBiomas Brazil, MapBiomas Colombia, MapBiomas Amazonia, as well as MapBiomas Indonesia, Auriga Nusantara, and Simontini in Indonesia produce estimates of national deforestation that differ from the data published in this report, as explained in this Global Forest Watch blog. Initiatives differ in approach and scope, but they all serve essential functions for forest monitoring, policymaking, and reporting.

Likewise, national governments maintain their own forest monitoring and reporting systems, often tailored to local conditions and policy needs. Official governmental data for forest cover and deforestation at the national level is published every five years in the Global Forest Resources Assessment (FRA) report, curated by the Food and Agriculture Organization of the United Nations (FAO). The 2025 FRA is expected to be published too late in 2025 for inclusion in this year's Forest Declaration Assessment.

This report assesses deforestation at the global and regional scale, as well as loss of primary humid tropical forests,[22] and the respective emissions of carbon dioxide equivalents,[23] based on independent data sources and a globally consistent methodology—both of which are essential for reliably assessing progress toward global deforestation commitments. See **Annexes A** and **B** for a full list of definitions and methodology.

FOREST LOSS IN FORESTED KBAS:

Following the call of Target 1 of the KM-GBF to bring the loss of area of biodiversity importance close to zero by 2030, we track progress on the area of tree cover loss in fKBAs, since these areas are recognized to be of great importance for forest-dependent species.

b Following Sims et al. (2025), drivers are defined as:
- Settlements & infrastructure: tree cover loss from roads, settlements, urban areas, or built infrastructure (not linked to other classes).
- Permanent agriculture: long-term tree cover loss for small- to large-scale agriculture and includes oil palm, cacao, orchards, nuts, rubber, seasonal crops, pasture. Agricultural activities are considered "permanent" if persisting after clearing and are not a part of a temporary cultivation cycle. Clearing may involve fire.
- Hard commodities: loss from mining (small- to large-scale) or energy infrastructure (power plants, oil/gas facilities, refineries, power lines, solar/wind, hydro dams, etc.).
- Shifting cultivation: small- to medium-scale clearing for temporary cultivation, later abandoned and followed by regrowth; may involve fire.

DEGRADATION OF TROPICAL MOIST FORESTS:

Forest degradation is taking place across latitudes and forest types, but the definition of forest degradation remains debated,[c] making the monitoring of degradation dynamics particularly challenging.[24] Furthermore, data on tree cover loss driven by wildfires, logging, and other non-permanent drivers[25] does not recognize what are natural dynamics occurring in some forest types (e.g., wildfires in boreal forests) from direct and indirect human impacts (e.g., extended forest fires in humid tropical forests), nor does the data account for long-term impact of logging practices that, in the short-term, may or may not result in forest degradation. A global dataset accounting for these additional impacts—and therefore suitable for monitoring forest degradation across all latitudes and forest types—has yet to be developed.[26] As a consequence, the choice of degradation indicator focusing on tropical moist forests is not so much deliberate as it is dictated by available data.

The Tropical Moist Forest (TMF) dataset[27] adopts a widely recognized definition for monitoring the structural degradation of tropical moist forests.[28] The methodology involves the analysis of the temporal dynamics of forest disturbances that differentiate forest degradation from deforestation.[29] All forest disturbances—both natural and anthropogenic—whose impacts were observed over a period of less than 2.5 years (900 days) are considered degradation processes, and impacts exceeding that period are instead classified as deforestation.[30] For further details on the methodologies, see **Annex B**.

AREA UNDER RESTORATION:

Over the past decade, efforts to restore forests and other natural ecosystems have gained momentum. Early initiatives, such as the Bonn Challenge, sounded alarms for governments to scale up action. However, coordinated and systematic monitoring of restoration efforts has lagged. Information about restoration projects and their outcomes is often not captured, and available information is siloed and fragmented, which makes it difficult to track comprehensive progress toward global restoration commitments.

Significant efforts are now underway to address this challenge. Contributing to the goals of the UN Decade on Ecosystem Restoration (2021–30), the Food and Agriculture Organization (FAO) initiated the Framework for Ecosystem Restoration Monitoring (FERM), a central repository for restoration monitoring. With the adoption of Target 2 of the KM-GBF, FERM has become a crucial tool for Parties to the Convention on Biological Diversity to track progress and report on the headline indicator "2.1 Area under restoration."[31]

While contributing to FAO-led efforts and in coordination with the FERM-team, civil society organizations—first under the Global Restoration Observatory and now through the Forest Declaration Assessment—have coordinated independent monitoring efforts by integrating restoration data from multiple monitoring databases. In previous years, this report presented estimates of the area under restoration catalogued by Restor, the Restoration Barometer, and the Brazilian Reforestation and Restoration Observatory.[32] However, these estimates did not account for potential spatial overlaps among different platforms.

To address this limitation, we retrieved anonymized, spatially explicit data from Restor and the Brazilian Reforestation and Restoration Observatory on restoration projects targeting deforested land or degraded forests through activities such as reforestation, agroforestry, and natural regeneration (see **Annex B** for details). The georeferenced polygons of project areas were processed to remove overlaps and avoid double-counting, both within each database and across the two platforms. The total area under restoration was then calculated at regional and global scales.

Despite these efforts to combine data from multiple platforms, the results should be considered only an approximate "best guess" of global restoration progress. The figures may severely underestimate the true extent of restoration worldwide and are almost certainly insufficient to support decision-making.

c The lack of a widely agreed definition of forest degradation presents challenges also for official reporting efforts, including the Forest Resources Assessment (FRA) led by the Food and Agriculture Organization of the United Nations (FAO). To help address this, the FAO-FRA team is convening a Task Force of experts to work toward greater alignment on definitions of forest degradation.

REGROWTH OF TROPICAL MOIST FORESTS:

From a technical standpoint, tracking forest regrowth is more challenging than detecting forest losses because regrowth is a gradual process and rates can vary greatly based on biomes, environmental conditions, and the scale and severity of disturbance.[33] Additionally, challenges are posed by the differentiation of naturally regenerating forests and tree plantations. While great advancements have been made, an up-to-date estimate of natural forest regrowth at a global level is not yet available.

In this report, we present regrowth within tropical moist forests, which indicates the area of deforested land that has recovered after deforestation.

Box 1.1. What are "on track" and "off track"?

We evaluate progress on the forest loss and degradation indicators by comparing the latest available value of each indicator with two values: a baseline value and Assessment-defined annual targets for any given indicator. A multi-year baseline was chosen to smooth out any single-year anomalies, and 2018-20 was selected as the baseline period to represent the years immediately preceding the adoption of the Glasgow Leaders' Declaration.

The latest available value of each indicator is compared to the 2018-20 baseline period to calculate the percent decrease or increase (improvement or worsening, respectively) of a given indicator. The latest available value for each indicator is benchmarked against a pathway that delivers the 2030 objectives (e.g., reaching zero deforestation by 2030). While multiple reduction pathways are in principle possible, for all deforestation, tropical primary forest loss, and forest degradation indicators, a linear reduction pathway between the baseline value (i.e., the 2018-20 average) and the 2030 target (i.e., no loss) is established over 10 years, which implies a 10 percent reduction each year relative to the baseline.

We indicate whether the world, regions, and individual countries are "on track" or "off track" toward 2030 forest goals as of 2024. The world or a region is considered "on track" for an indicator when its 2024 target is met. The world or a region is considered "off track" for an indicator when it falls short of its 2024 target for that indicator. We express the degree to which a given geography is "off track" on its target through a percentage, which indicates how much that geography deviated from its 2024 target.

1.4 What are this chapter's key messages?

In 2024, the world lost nearly 8.1 million hectares of forest to deforestation, underscoring how far we remain from achieving the 2030 forest goals. And every year the curve isn't bent, we fall further behind. The loss of humid tropical primary forest accounted for 6.7 million hectares, releasing 3.1 billion metric tons of greenhouse gases—nearly 150 percent of the annual emissions from the United States energy sector.

Deforestation continues to be driven overwhelmingly by the expansion of permanent agriculture, which has accounted for about 85 percent of global deforestation over the past decade. Because deforestation commodities are both consumed domestically and exported internationally, deforestation represents a systemic problem; national land-use policies and practices are deeply intertwined with global demand. This highlights the urgent need for structural change in how production and trade are regulated, monitored, and ultimately governed.

Bright spots show that rapid change is possible. Countries like Brazil and, until 2021, Indonesia demonstrate how sudden and significant reductions in deforestation rates can be achieved. Political will, secure land tenure, participatory land-use planning, and targeted finance underpinned multi-year successes—even if some of these gains are now under threat. These experiences highlight the systemic shifts that this report calls for mandatory action, integrated policy, and inclusive, multi-stakeholder governance.

Forest degradation, though less debated and documented than deforestation, is escalating just as rapidly. In 2024, 8.8 million hectares of tropical moist forests were degraded—more than double the annual level compatible with halting degradation by 2030. The Amazon Basin was particularly hard-hit by fire-induced degradation, a vivid example of how anthropogenic climate change and poor forest management practices can turn natural disturbances into co-drivers of ecosystem collapse. Yet degradation remains a blind spot in national targets and monitoring systems, particularly outside tropical regions. Addressing this requires a paradigm shift: integrating degradation metrics into monitoring frameworks to ensure that forest health—not only forest cover—is safeguarded across all latitudes and forest types.

Amid the 2024 losses of forest cover and forest integrity, restoration efforts reveal both untapped potential and emerging success. We estimate that, globally, an area of 10.6 million hectares is covered by restoration projects aiming to recover deforested land and degraded forest through a broad range of activities, ranging from active reforestation to agroforestry and natural regeneration. A second proxy of forest recovery, solely focusing on tropical moist forests, indicates that, from 2015-21, regenerating tropical moist forests expanded by more than 11 million hectares, with regrowth rates increasing sevenfold in Latin America and over fourfold in Asia. Though often excluded from official restoration targets, the regrowth of these forests already contributes significantly to carbon sequestration and ecosystem recovery—if protected from renewed clearance.

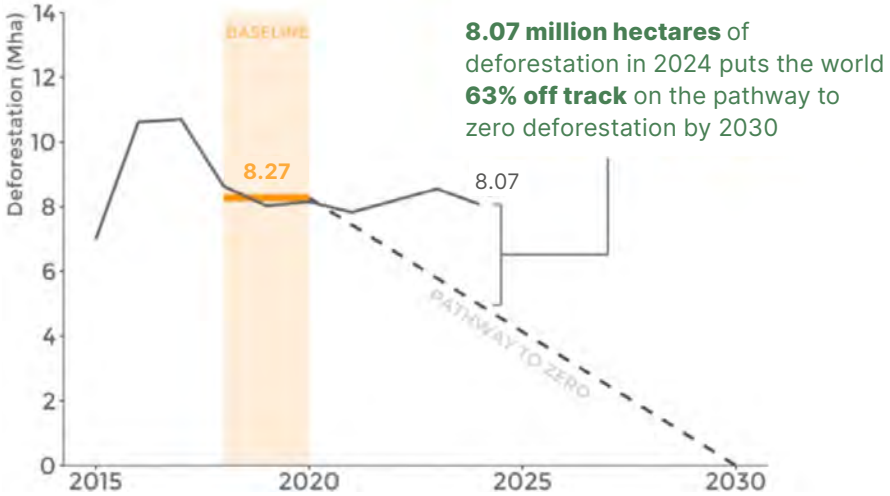
2. FOREST LOSS

2.1 Are we on track to halt deforestation by 2030?

The world is off track to halt deforestation by 2030. Last year, nearly 8.1 million hectares of deforestation occurred worldwide. That level of deforestation is much higher than it should be for the world to be on track to halt deforestation by 2030.

To be on track to achieve zero deforestation by 2030, no more than 5 million hectares should have been deforested globally in 2024. However, that target was exceeded by over 3 million hectares or 63 percent (**Figure 1.1** - **Box 1.2** explains why the deforestation figures presented in this report are larger than in previous reports). Despite year-to-year fluctuations, global deforestation remains near the levels at the beginning of the decade, when global forest commitments were agreed. Maintaining the current annual deforestation rate, the world will miss the 2030 zero-deforestation target by a large margin, undermining critical forest, climate, and biodiversity goals.

Figure 1.1. Global deforestation from 2015-2024, in million hectares (Mha)



Source: Own analysis using tree cover loss data (Hansen et al. 2013, updated through 2024) and drivers of tree cover loss (Sims et al. 2025, updated through 2024).

Box 1.2. Why are our 2024 deforestation estimates about 20 percent higher than previous years?

The deforestation time series presented in this chapter is approximately 20 percent higher than those we presented in 2024. This change is primarily due to updates in the data used to determine drivers of tree cover loss. As a result, estimates presented in this report are not directly comparable to those published in previous Forest Declaration Assessment reports.

Previously, tree cover loss was classified as deforestation primarily based on the Curtis et al. (2018) map of drivers of forest loss.[34] However, the 2025 assessment uses a new global map of the dominant drivers of tree cover loss (Sims et al. 2025),[35] which introduces multiple improvements over Curtis et al.:

- Higher resolution: The spatial resolution improved from 10 km to 1 km, enabling more detailed detection and classification of drivers.
- Improved classification of drivers: The aggregated driver "commodity-driven deforestation" (Curtis et al. 2018) has been split into two categories: "permanent agriculture" and "hard commodities." Additionally, there is now an "other natural disturbances" class.
- New treatment of fire-related loss: In the new model, areas burned by fire are only attributed to "wildfire" if they are not subsequently converted to other land uses. For example, if industrial agriculture expands into a burned area, the driver is now recorded as "permanent agriculture" rather than "wildfire."

This new classification of drivers of tree cover loss has been applied retroactively throughout the entire time series. As a result, the time series presented in this report is internally consistent. The latest data can therefore be compared to the baseline level, and trends and year-to-year fluctuations are considered accurate and unaffected by the change in classification methodology.

As in previous years, comparisons between Forest Declaration Assessment reports should be avoided because of annual updates made to the datasets used for forest loss calculations, which entail the recalculation of the entire forest loss time series. However, the methodological adjustments introduced this year are more substantial than in past iterations, making this distinction especially important.

Progress toward halting deforestation by 2030 is off track in most tropical regions.

In 2024, tropical deforestation accounted for 94 percent of global deforestation (**Figure 1.2**) and caused the release of 4.2 billion metric tons of carbon dioxide equivalents into the atmosphere.[36]

In the tropics, regional trends are heavily affected by the performance of a few countries. Year-to-year fluctuations in country data highlight how political will and good governance can dramatically improve forest conservation outcomes.[d] Political transitions have had immediate effects on forest protection. For instance, **Brazil** has demonstrated consistent reductions in deforestation rates since 2022, under an administration that has prioritized the conservation and sustainable use of forest resources over their exploitation.[37] Likewise, **Indonesia's** success from 2017-21 in reducing deforestation demonstrated how coordinated policy action—including moratoria on new palm oil concessions, improved fire management, and enhanced law enforcement—can yield significant results.[38] Recent shifts in deforestation trends underscore the importance of sustained political commitments to maintain hard-fought success.

Primary forests continue to be destroyed at alarming rates in the tropics. In 2024, 6.7 million hectares of tropical primary forest were lost globally, emitting 3.1 billion metric tons of carbon dioxide equivalents.[39]

Primary forests are irreplaceable ecosystems that have evolved over centuries or millennia.[40] They host an astonishing variety of species, ecosystems, and habitats that are found nowhere else on the planet,[41] and stock volumes of carbon that, once released, cannot be recovered in human timescales.[42] The destruction of primary forests (**Figure 1.3**) directly undermines the global plan to "make peace with nature" by halting and reversing the loss of high-integrity ecosystems and areas of high biodiversity importance, as formalized in Goal A and Target 1 of the Kunming-Montreal Global Biodiversity Framework (KM-GBF).[e]

d For country-level data, see Annex A, or explore the data on the Forest Declaration Dashboard.

e Goal A of the KM-GBF: The integrity, connectivity and resilience of all ecosystems are maintained, enhanced, or restored, substantially increasing the area of natural ecosystems by 2050; Human induced extinction of known threatened species is halted, and by 2050, the extinction rate and risk of all species are reduced tenfold and the abundance of native wild species is increased to healthy and resilient levels; The genetic diversity within populations of wild and domesticated species, is maintained, safeguarding their adaptive potential. Available at: https://www.cbd.int/gbf/goals

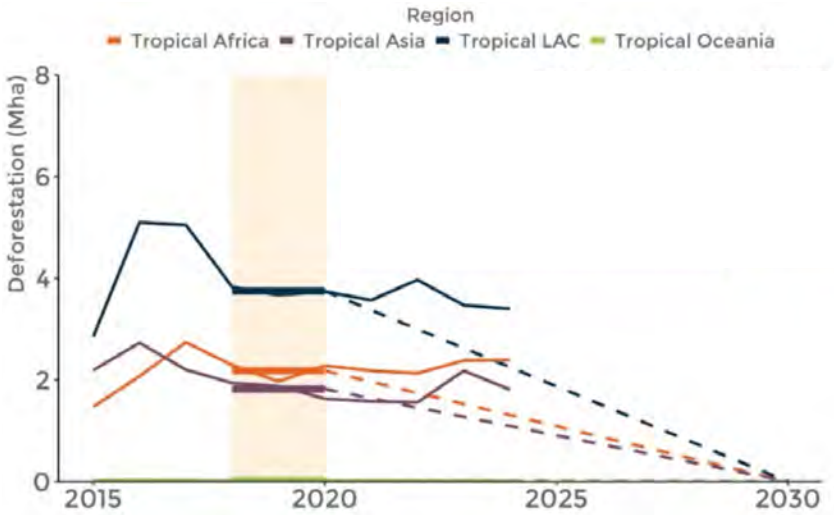
Primary forest loss was severe in Tropical LAC and Tropical Africa (**Figure 1.4**). Direct anthropogenic impacts were due to industrial and shifting agriculture, respectively (**Figure 1.5**). Agricultural expansion—related to industrial operations or family farming—is the main driver of deforestation in all tropical regions, followed by logging, as in the case of Tropical Asia. The impacts caused by forest fires on the humid tropical primary forests of Tropical LAC were tremendous in 2024, and the primary responsible for the spike observed in the region (**Figure 1.6**). Primary forests are not comprehensively mapped in non-tropical regions, leaving a blind spot in the monitoring of these critical ecosystems.[43]

In 2024, nearly 2.2 million hectares of tree cover were lost within forested Key Biodiversity Areas (fKBAs), marking an increase of 23 percent compared to the baseline level, and 47 percent from 2023.

The loss of tree cover in fKBAs destroys the habitats of species, which are species that depend on forest habitats for their survival or reproduction. This means that the world continues to be off track to achieve Target 1 of the KM-GBF.

Regionally, tropical forests are home to an astonishing diversity of species. However, in 2024, all tropical forest regions—except for Oceania—were off track by at least 50 percent to halt tree cover loss in fKBAs by 2030. Tropical LAC recorded a staggering 133 percent increase from the year prior. This means that the region lost an area nearly 3 times the maximum limit necessary to stay on track to conserve these areas of high biodiversity importance and the forest-dependent species that they shelter.

Figure 1.2. Tropical deforestation by region from 2015-2024, in million hectares (Mha)

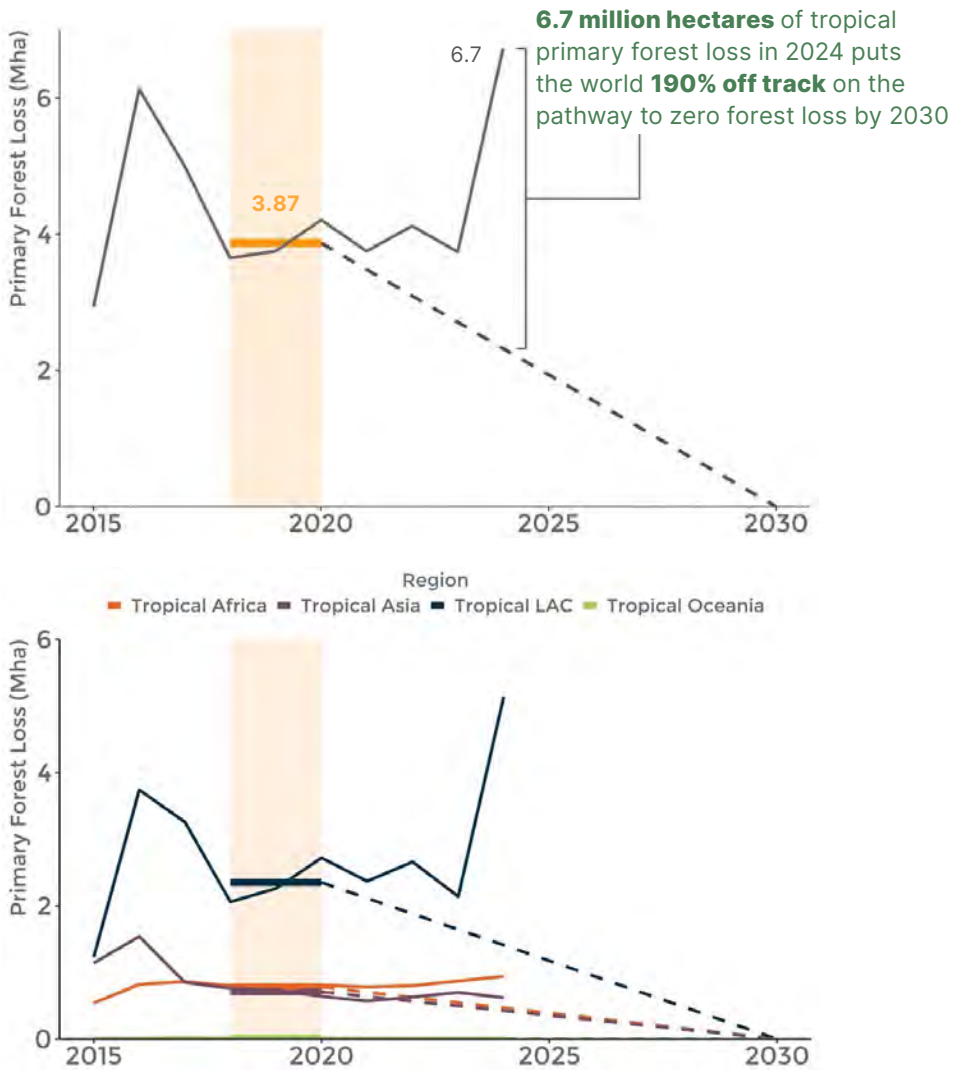


REGION	DEFORESTATION (MHA)	DEVIATION FROM TARGET (%)
Tropical LAC	3.4	+51% OFF TRACK
Tropical Africa	2.4	+82% OFF TRACK
Tropical Asia	1.8	+66% OFF TRACK
Tropical Oceania	0.01	-6% ON TRACK

Source: Own analysis using tree cover loss data (Hansen et al. 2013, updated through 2024) and drivers of tree cover loss (Sims et al. 2025, updated through 2024)

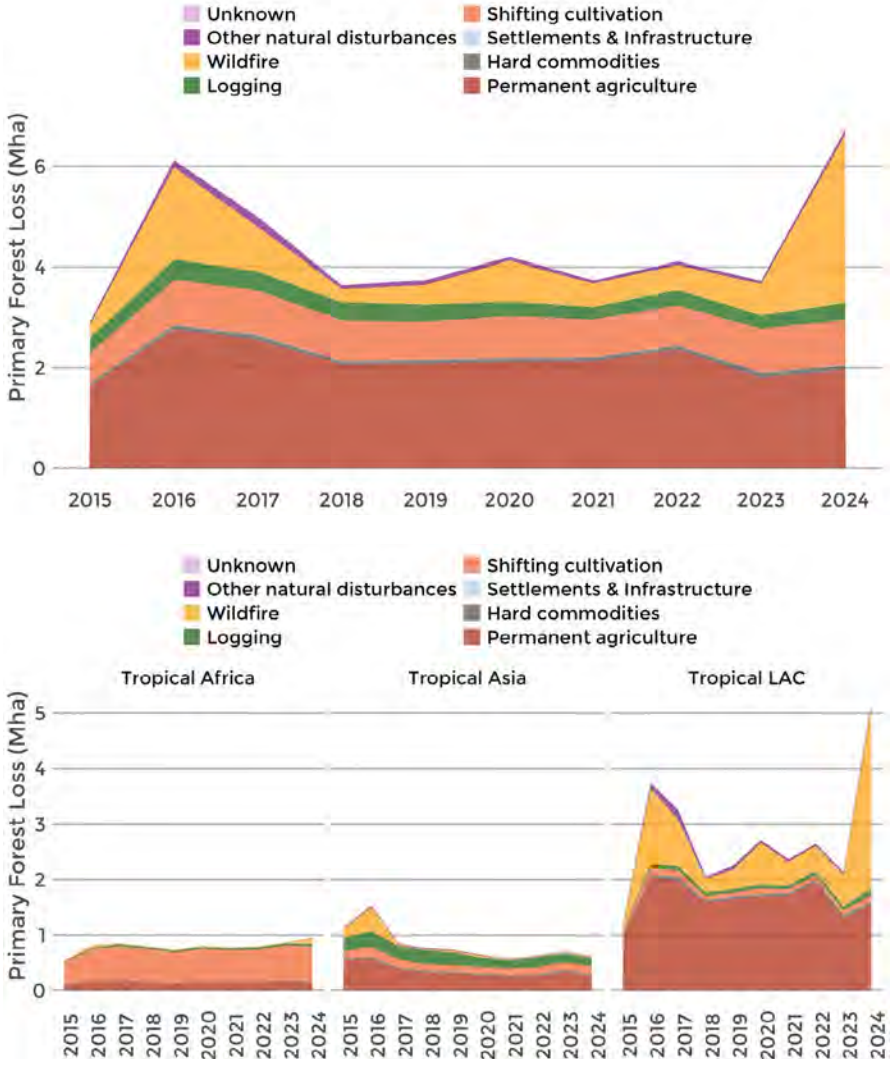
Target 1 of the KM-GBF: Ensure that all areas are under participatory, integrated, and biodiversity inclusive spatial planning and/or effective management processes addressing land and sea use change, to bring the loss of areas of high biodiversity importance, including ecosystems of high ecological integrity, close to zero by 2030, while respecting the rights of indigenous peoples and local communities. Available at: https://www.cbd.int/gbf/targets/1

Figure 1.3-1.4. Loss of humid tropical primary forests from 2015-2024, in million hectares (Mha), global (top) and by region (bottom)



Source: Own analysis using tree cover loss data (Hansen et al. 2013, updated through 2024) and extent of humid tropical primary forest for the year 2001 (Turubanova et al. 2018)

Figures 1.5-1.6. Drivers of loss in humid tropical primary forests, pan-tropically (top) and at the regional scale (bottom)



Source: Own analysis using tree cover loss data (Hansen et al. 2013, updated through 2024), the extent of humid tropical primary forests for the year 2001 (Turubanova et al. 2018), and drivers of tree cover loss (Sims et al. 2025, updated through 2024)

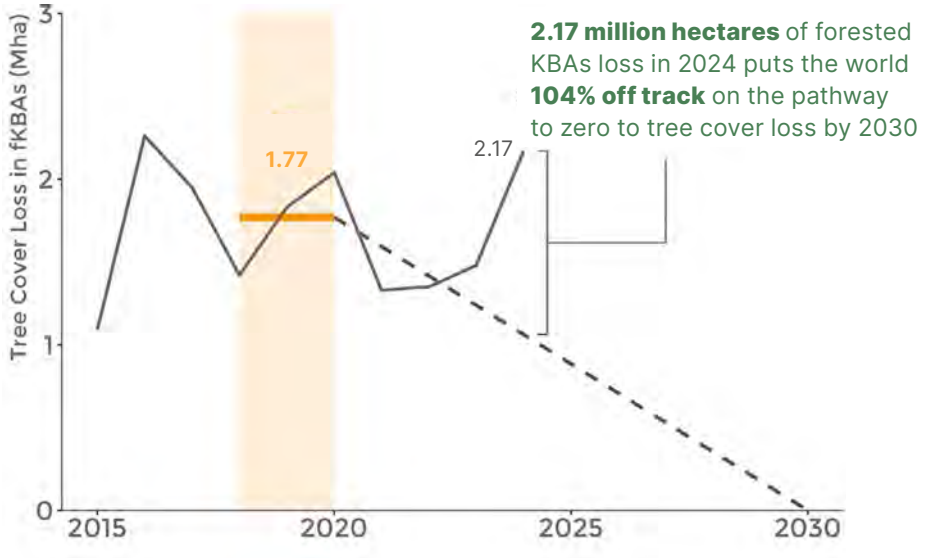
2.2 What drives deforestation?

In the past decade, 86 percent of annual global deforestation—on average—has been caused by permanent agriculture,[44] while other drivers, such as mining, add increasing pressure on forests.[45]

Permanent agriculture[46] is the main driver of deforestation globally (**Figure 1.7**). Other drivers of deforestation—like the production of hard commodities (e.g., critical minerals or other mined resources), settlement and infrastructure development, land speculation, and shifting cultivation within primary forests[f]—still drive a substantial amount of deforestation. For instance, mining can harm forests directly, indirectly, or cumulatively, with indirect and cumulative impacts thought to pose greater risks than direct impacts.[47] When indirect effects are considered, mining is estimated to affect up to one-third of the world's forest ecosystems.[48] Similarly, activities like the expansion of human settlements and infrastructure, in addition to directly driving deforestation, also lead to forest degradation. In turn, degraded forests are at much greater risk of later deforestation from agriculture or other development.[49]

In addition to the drivers of deforestation that satellites can detect, map, and quantify in terms of their respective impacts, myriad underlying drivers operate from the local to the international scale. These include corruption and poor law enforcement, weak land rights, and land speculation, as well as other criminal activities, which ultimately exert great influence on deforestation dynamics by shaping how, where, and to what extent forested lands are converted for agriculture, mining, infrastructure, and human settlements.

Figure 1.7. Tree cover loss in forested Key Biodiversity Areas (fKBAs)



Source: Own analysis using tree cover loss data (Hansen et al. 2013, updated through 2024) within the boundaries of forested Key Biodiversity Areas (Crowe et et al. 2023)

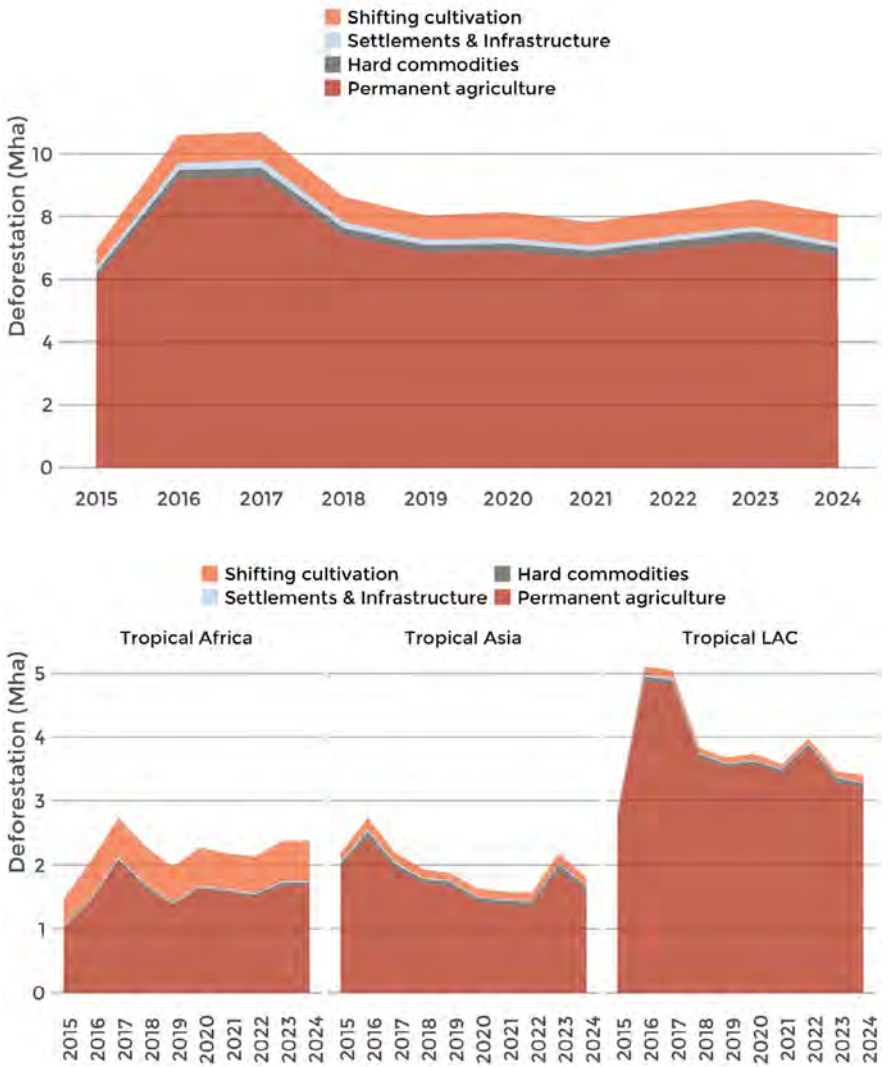
f Shifting agriculture is a common practice among small-scale farmers that can be practiced sustainably as part of traditional, rotational land management systems. However, when primary forests or other largely intact ecosystems are affected, the damage can be considered permanent

At the regional scale, the main driver of deforestation in the tropics is the conversion of forests to permanent agriculture (**Figure 1.8**). The relative contribution of other drivers varies across regions, with shifting agriculture in primary forests playing a larger role in Tropical Africa than it does in other regions. While the impacts of shifting cultivation on forest ecosystems are recognized, it is equally important to acknowledge its cultural significance and its role in sustaining local livelihoods.[50] This highlights the need for context-sensitive approaches to both forest monitoring and the design of land-use policies.

Not all areas allocated to permanent agriculture are deforested land, nor do they necessarily drive biodiversity loss. In fact, permanent agriculture can also create opportunities for sustainable food production and for supporting rural livelihoods. Through approaches such as agroforestry, restoration-oriented practices, and zero-deforestation production models, agriculture can serve as a key strategy for protecting natural ecosystems and promoting biodiversity conservation. However, when agriculture drives the conversion of forested land—and thus becomes a driver of deforestation—addressing it is complicated by the fact that "permanent agriculture" is not monolithic but a large ensemble of many different drivers. Forests may be cleared for use as pastureland indefinitely or used for grazing in the short term before ultimately being converted to more profitable cropland. This conversion may be driven by small-scale subsistence farming or large-scale agriculture, for a range of objectives at varying levels of intensity.

→ Tropical deforestation is closely linked to domestic consumption, as well as to international trade of agricultural commodities (Figures 1.10-1.13). Understanding the relative contribution of commodities to forest conversion and the ultimate destination of deforestation-linked commodities is essential to designing adequate policy responses.

Figures 1.8-1.9. Drivers of global deforestation (top) and in the most deforested tropical regions (bottom)



Source: Own analysis using tree cover loss data (Hansen et al. 2013, updated through 2024) and drivers of tree cover loss (Sims et al. 2025, updated through 2024)

In some tropical regions, most deforestation is embodied in just a few commodity groups. In Tropical LAC and Tropical Oceania, the majority of deforestation is embodied in pasture products. In Tropical Asia and Tropical Africa, in contrast, deforestation is embodied in a wider variety of commodity groups (**Figures 1.10-1.13**).[51] Pasture products linked to deforestation in Tropical LAC are largely associated with domestic consumption — **Brazil** and **Argentina** are among the world's highest per capita beef consumers.[52] However, international demand for non-pasture commodities—particularly soy—also plays a role, as the production of these commodities has been found to displace pastureland and ultimately drive the clearing of new forest areas for cattle ranching.[53]

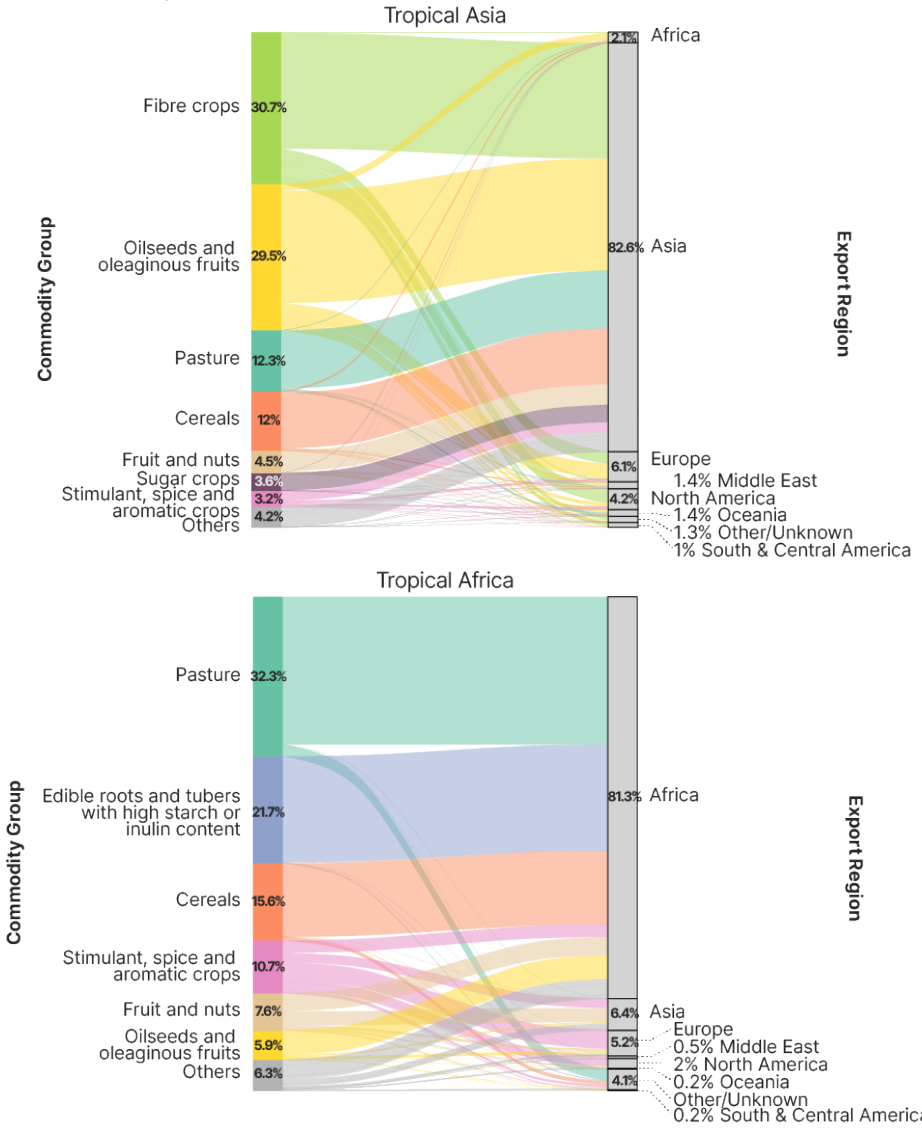
A previous estimate about the trade of commodities embodying deforestation indicated that about three-quarters of tropical deforestation was linked to domestic use.[54] Focusing solely on the physical flow of goods, this approach does not consider the trade of intermediate goods and services across multiple sectors and regions, which ultimately shape where commodities are consumed.

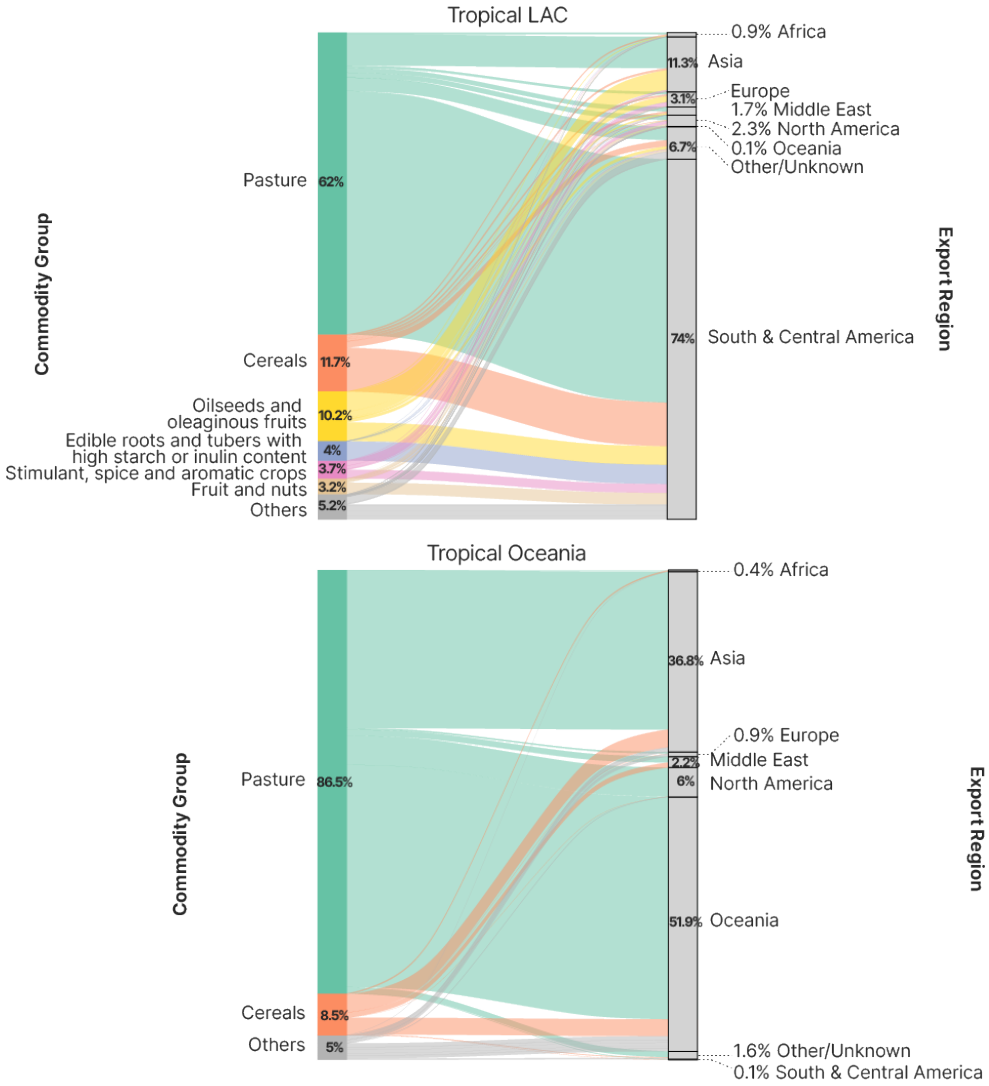
For instance, forests may be converted to soy plantations in a tropical country, with the soybeans exported to another country for use as cattle feed. Some of the beef from those cattle might then be re-exported and consumed in yet another country. In the end, the role of the beef-consuming country should also be recognized for driving tropical deforestation in the soy-producing country.

A recent study—still under peer review—accounts for these nuances by considering not only the physical flow of goods (as previous models did[55]) but also the monetary flows generated through commodity trade.[56] Preliminary results suggest that domestic consumption of certain commodity groups in tropical regions may be lower than previously estimated. This underscores the role of international trade in driving forest conversion in producing countries and the associated biodiversity impacts.

A recent study assessing the contribution of 24 economically developed countries to global forest biodiversity loss aligns with these results. The authors found that these countries—given their negative impacts on forest ecosystems—contributed extensively to forest biodiversity loss both domestically and internationally. The **United States** was identified as the main contributor to forest biodiversity loss outside its borders and ranked fourth for domestic biodiversity loss. Similarly, 18 of the 24 countries studied had a greater impact on biodiversity loss abroad than within their own borders. From 2000-15, they caused, on average, 15 times more damage internationally than domestically. Together, these countries were responsible for an average of 13 percent of the total range loss experienced by any forest-dependent vertebrate species globally during that period, in addition to their domestic impacts.[57]

Figures 1.10-1.13. Deforestation embodied in commodities by tropical region, and its trade across regions.



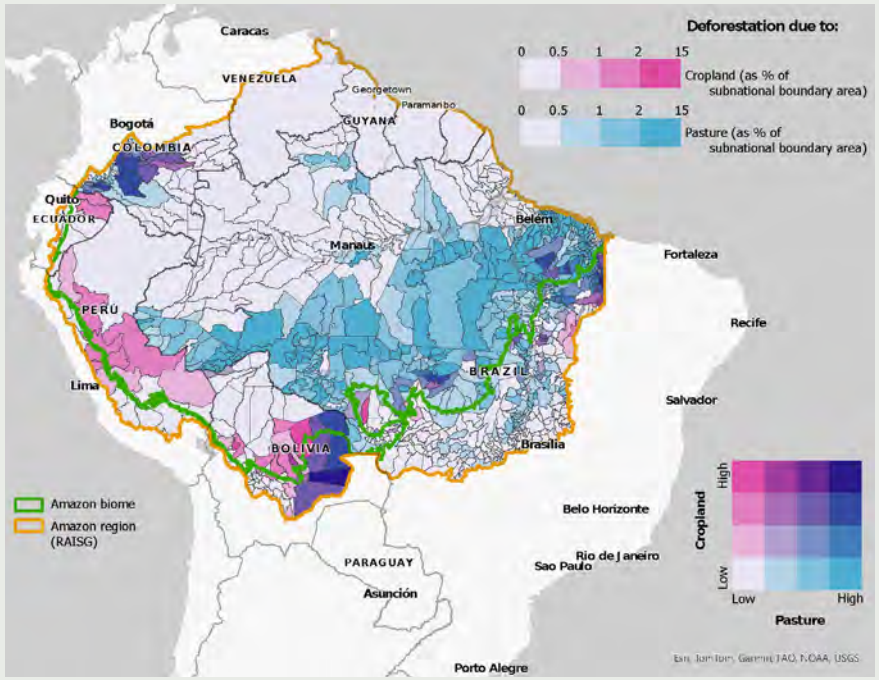


Source: Own analysis using data on the trade of commodities linked to deforestation (physical model from Singh et al. 2024, updated through 2022)
Note: Domestic use of deforestation commodities is included in the deforestation remaining in the same region where deforestation occurred. Commodities embodying less than 3 percent of total deforestation are grouped as "Others"

Box 1.3. Case study: "The right tool for the job"—the importance of granular data for addressing the drivers of deforestation at the national and sub-national scale

While datasets like the Global Forest Change[g] offer valuable, globally consistent data crucial for monitoring global targets, they cannot fully capture the complex drivers of deforestation at the local level. Addressing deforestation drivers demands a fundamentally different approach.

Figure 1.14. Croplands and pastures as the dominant drivers of deforestation within the Amazon, represented as a percentage of the sub-national boundary area



Source: Ribeiro et al. 2024

Subnational contexts vary widely and are shaped by unique local dynamics. Understanding these nuances requires more granular, locally specific data. Each dataset has a distinct role: global data for broad monitoring and national datasets to detect and address local dynamics. By focusing on these subnational complexities, we can better understand and tackle the drivers of deforestation.

An October 2024 analysis produced by Trase, Chalmers University of Technology, WWF, Stockholm Environment Institute, and the University of York offers the first Amazon-wide, sub-regional analysis of deforestation drivers—highlighting where, and why, forests are being lost.

Using satellite data and subnational agricultural production statistics, the analysis sheds light on the intricate spatial patterns of the main drivers of deforestation in the Amazon—namely, the expansion of pasture and cropland—and how these pressures compound in certain areas, particularly in the Bolivian and Colombian Amazon. Moreover, the study highlights the increasing pressures of other drivers such as mining (especially in the Guiana Shield), land speculation, and indirect land-use change. This spatially explicit information is crucial for developing tailored policies that can effectively address the root causes of deforestation while also protecting those who depend on agriculture for their livelihood.

While agriculture-driven deforestation declined in most Amazon countries from 2017-22, it remained steady in Brazil and increased significantly in Ecuador. Though cropland expansion accounted for just 22 percent of total deforestation from 2017–22 (versus 78% from cattle ranching), it is becoming a more prominent driver in countries like Bolivia, Ecuador, Peru, and Venezuela.

Sub-national patterns show distinct patterns within the Amazon: pasture expansion is a dominant deforestation driver in the eastern and central Amazon, while soy, maize, rice, and cassava cultivation are more prevalent in the southern, western, and northwestern areas.

A major constraint in tracking deforestation drivers is the lack of high-quality, spatio-temporal land-use data, which limits the ability to link forest loss to specific commodities or socio-economic drivers. Addressing this gap will require greater coordination among governments, researchers, civil society, and the private sector.

g Hansen, M. C. et al. (2013).

3. DEGRADATION

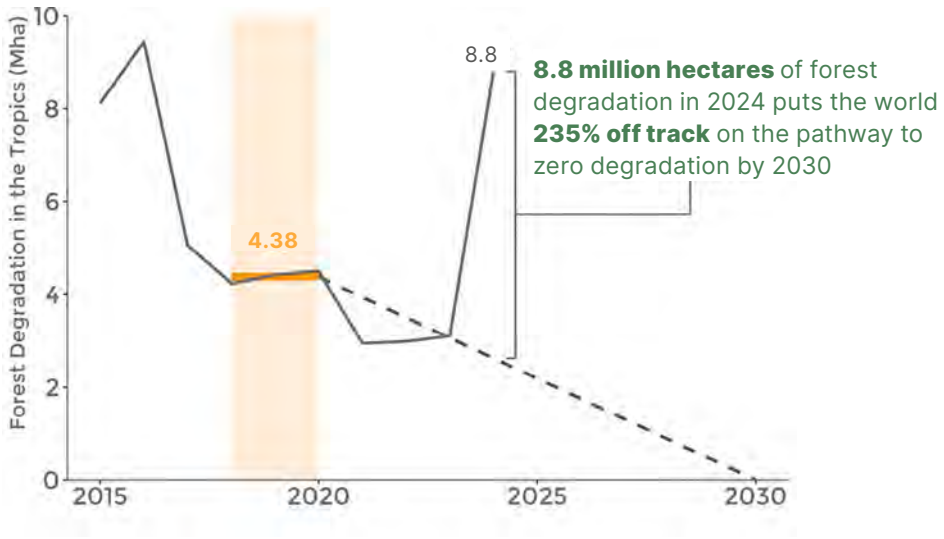
3.1 Are we on track to eliminate degradation by 2030?

In 2024, 8.8 million hectares of tropical moist forests experienced degradation, which is more than twice the annual level necessary to halt the degradation of tropical moist forests by 2030 (Figure 1.15). Fire-induced degradation in the Amazon Basin significantly contributed to a sharp increase in degraded tropical moist forests from 2023-24.

In 2024, fires in the Amazon emitted an estimated 791 million metric tons of carbon dioxide equivalents ($MtCO_2e$), which is about seven times the average of emissions by fires in the previous two years (117 $MtCO_2e$),[58] exceeding the total GHG emissions of an industrialized country like Germany.[59] **Bolivia** was severely impacted, losing about nine percent of its remaining intact tropical moist forests. Degradation in Bolivia was responsible for 32 percent of total CO_2e emissions from all tropical moist forests. **Brazil**, although it lost a smaller share of its forests (0.6%), experienced extensive degradation, impacting 1.66 million hectares—accounting for half of all degradation in the tropical moist forests of the Amazon Basin—and contributing 61 percent of pan-tropical emissions. Meanwhile, degradation in the Guiana Shield countries increased sixfold compared to the five-year average, and in **Venezuela**, it rose nineteen-fold.[60]

The Amazon rainforest is under mounting ecological stress, with 17 to 38 percent of its area already degraded.[61] Projections suggest that degraded forest area could reach up to 47 percent by 2050, driven by a combination of climate-related disturbances—such as extreme drought, variable rainfall, and storms—and human pressures like logging, fires, and land-use change.[62] In the southern Bolivian Amazon, for example, rainfall has declined by up to 20 millimeters annually since the 1980s.[63] Repeated disturbances are pushing forests along critical degradation pathways, leading dense tropical forests to transition to open-canopy ecosystems and white-sand savannahs, which are already affecting five to six percent of the southern Amazon.[64]

Figure 1.15. Forest degradation in tropical moist forests from 2015-2024, in millions of hectares (Mha)[65]



Source: Own analysis using TMF data (Vancutsem et al. 2021, updated through 2024)

There are many drivers of forest degradation, and examining proxies, such as the drivers of non-permanent forest loss, can provide valuable insight into these underlying causes (**Box 1.4**).

Although data presented in this report focuses on tropical moist forests, other tropical forest ecosystems and wooded savannahs[66]—including the Chiquitania, Cerrado, and Gran Chaco—as well as boreal and temperate forests[67] are also experiencing significant but poorly documented degradation. These biodiverse and carbon-rich regions face growing threats yet remain largely absent from monitoring efforts, risking the underestimation of broader landscape-scale impacts.

Degraded forests, particularly those that have lost over 50 percent of their canopy structure, face a higher risk of deforestation. In other words, degradation is a good indicator of future deforestation, with the likelihood of total deforestation and land use change increasing as degradation worsens. Data from Latin America, Africa, and Asia indicate that degraded forests that experienced deforestation after 2020 previously had significantly lower canopy heights and above-ground biomass compared to those that were not deforested. On average, degraded forests in Latin America exhibited a higher risk of deforestation than those in Africa or Asia.[68]

→ Tracking forest degradation remains a challenge in part due to definitional debates, but growing understanding of forest regrowth dynamics is revealing new opportunities for high-impact climate action.

While the meaning of deforestation is relatively solidified in policy,[69] there is still significant contention around how degradation is understood and defined.[70] What is generally agreed is that forest degradation involves the loss of ecological integrity,[71] which involves changes in forest structure, indicators for which include species composition and abundance, as well as ecological functions upon which the existence and resilience of a forest are based.[72] Yet there is a lack of consensus regarding the exact attributes and the magnitude of change necessary to qualify forest disturbances as degradation. Some governments and stakeholders also consider economic indicators of forest degradation alongside ecological ones.[73]

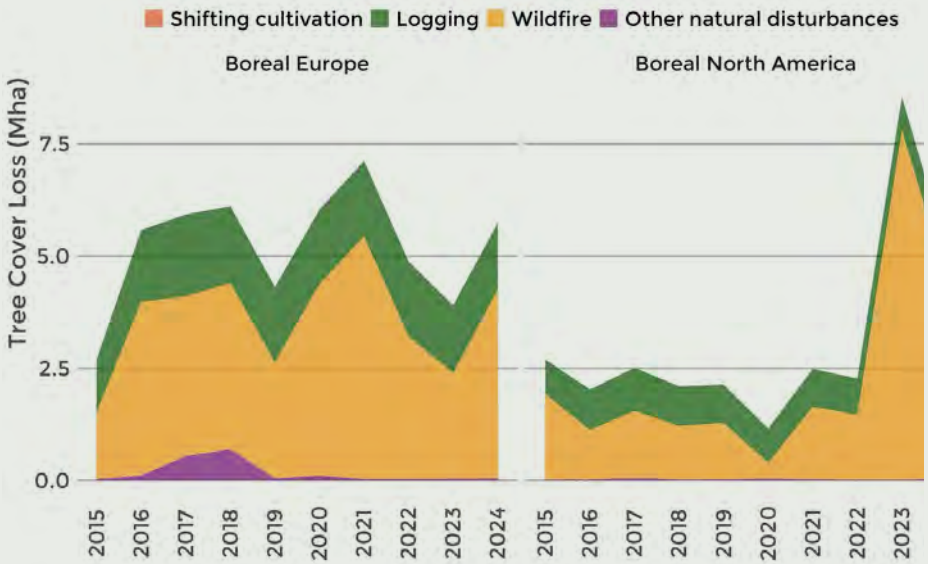
Monitoring degradation is difficult not only in primary forests but also in secondary forests that regrow after prior disturbance. These forests are often subject to repeated cycles of clearing and disturbance, which jeopardize their natural recovery. From 2015-23, an average of more than 260 thousand hectares of tropical moist forest were affected by natural or anthropogenic disturbances after having previously regrown.[74] This cycle of repeated disturbance and forest regrowth is increasingly recognized as a widespread dynamic in the tropics. A recent study assessing the age structure of tropical moist forests found that, based on forest cover data from 1990-2023, there are 51 million hectares of regenerating tropical moist forest. Notably, over half of this area is younger than five years and under high deforestation pressure, while only 6 percent (3 million hectares) is older than 20 years—most of it in the tropical Americas.[75] Protecting these young secondary forests is as critical as preserving primary and pristine forests. Young secondary forests play a major role in climate mitigation, with forests aged 20 to 40 years typically having the highest rates of carbon removal. While much attention is given to newly regenerating forests in natural climate solutions, protecting existing young secondary forests can deliver up to eight times more carbon removal per hectare than allowing new regrowth alone.[76]

Box 1.4. What drives non-permanent forest loss globally?

Non-permanent tree cover loss serves as a valuable proxy for identifying potential forest degradation pressures. Climate change and land use practices are increasingly turning temporary disturbances—like forest fires—into lasting damage.

Global data on the drivers of non-permanent tree cover loss—the loss that occurs in forests expected to regrow over time—provides critical insights into both anthropogenic and natural pressures that can also act as drivers of forest degradation. It's important to underscore that not all tree cover loss results in forest degradation, which entails a lasting decline in forest structure, function, or biodiversity; a process that may be partially or wholly irreversible.[77]

Figure 1.16. Non-permanent drivers of global tree cover loss



Source: Own analysis using tree cover loss data (Hansen et al. 2013, updated through 2024) and drivers of tree cover loss (Sims et al. 2025, updated through 2024)

As a result, data on non-permanent tree cover loss serves as a valuable, albeit imperfect, proxy for identifying potential forest degradation pressures, highlighting the complex interplay between temporary forest disturbances and long-term forest health.

However, while not all instances of non-permanent forest loss amount to degradation, many of the same drivers are capable of initiating or intensifying degradation processes. For example, non-permanent drivers of tree cover loss, such as forest fires and certain logging practices, can constitute, trigger, or accelerate forest degradation, especially when combined with additional stressors like droughts exacerbated by anthropogenic climate change.

Globally, wildfires were the primary driver of non-permanent forest loss in 2024, followed by logging and shifting cultivation. At the local scale, these drivers interact in subtle, context-specific ways, often reinforcing each other in either vicious or virtuous cycles. For instance, the role of agricultural practices in the occurrence of forest fires is well documented, particularly in Brazil, where the current administration introduced a new integrated program for fire management in 2024. The National Policy for Integrated Fire Management aims to address human-ignited fires while supporting a gradual replacement of the use of fire for agricultural purposes. The policy creates an entity responsible for harmonizing national fire management policies and a National Fire Information System. Most notably, the policy recognizes the role of fire in ecosystems and the traditional burning practices of Indigenous communities. It allows for prescribed burns to take place with restrictions—one of the key strategies for mitigating the occurrence of forest fires. Indigenous and traditional communities were actively involved in the development of the policy, which enabled Indigenous knowledge, practices, and governance approaches to be factored into its design.[78]

Over the past decade, forest fires—increasing in frequency and intensity due to anthropogenic climate change[79]—have posed a growing threat to forest ecosystems worldwide. While not all regions are heavily affected by forest fires, their impacts have been recorded across all latitudes. In 2024, wildfires were responsible for 4.1 billion metric tons of carbon dioxide equivalent.[80]

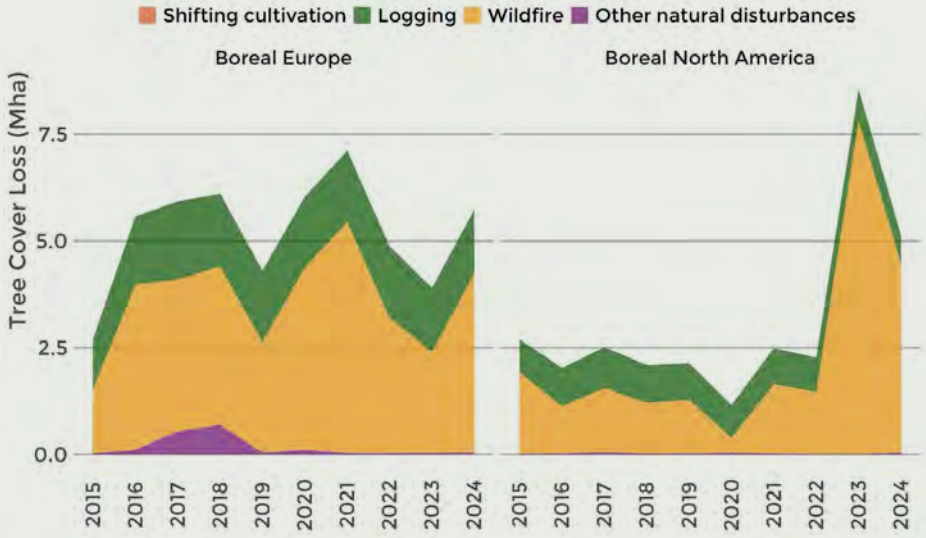
In boreal forests, large-scale forest fires are a natural phenomenon that are an essential part of the forest ecology, but in recent years, they have been increasing in scale and impact, particularly in boreal North America. Likewise, wildfires caused the loss of over half a million hectares of forests in temperate North America in 2024 alone, making them the second-largest driver of non-permanent forest loss in the region.

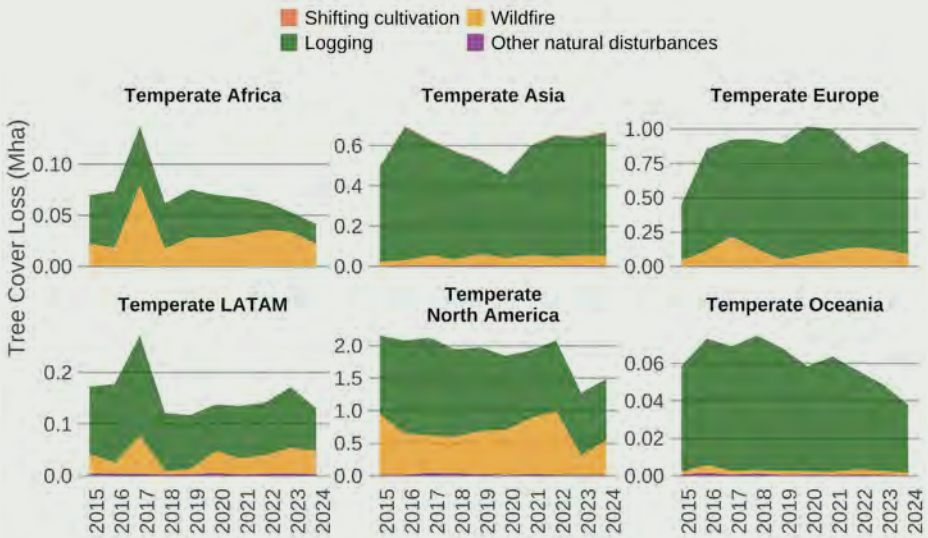
Logging remains the main driver of tree-cover loss in most temperate regions. In Temperate Asia, the impact of logging has been increasing steadily over the past five years, reaching 600,000 hectares in 2024, which accounts for 91 percent of forest loss to non-permanent drivers in the region. In Temperate Europe, logging represents 88 percent of tree-cover loss to non-permanent drivers, affecting a total area of 720,000 hectares.

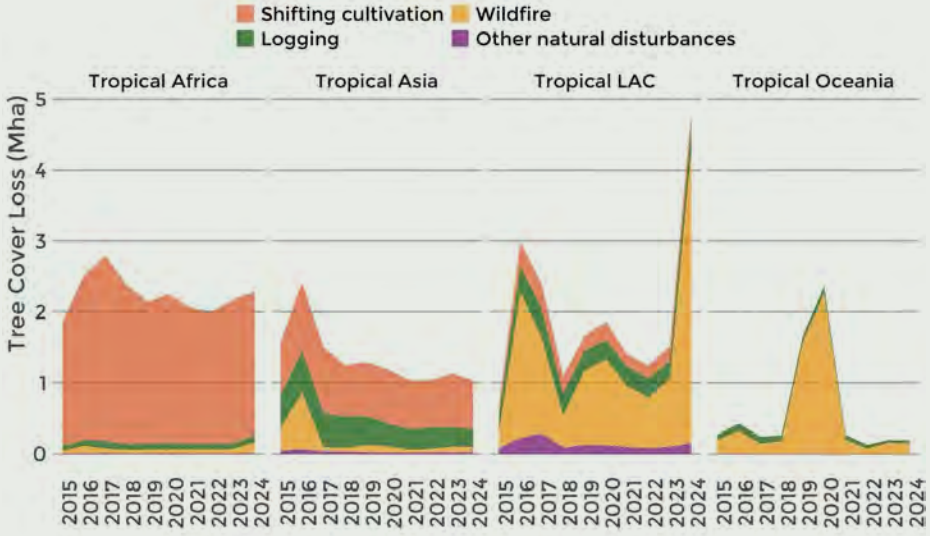
In tropical forests, the frequency and extent of wildfires are typically modest, particularly in humid tropical forests like the Amazon. However, over the past decade, all tropical regions except Tropical Africa have experienced at least one fire season, during which wildfires became the primary driver of non-permanent forest loss.

The tropical region most impacted by forest fires in 2024 was Tropical LAC, which lost over 4 million hectares to fires. Climate projections indicate that, without urgent mitigation and adaptation measures, fire-related forest loss could increase substantially by 2050 across these regions. This trend threatens to create a dangerous feedback loop of increased emissions and forest vulnerability.

Figures 1.17-1.19. Non-permanent drivers of forest loss at the regional scale







Source: Own analysis using tree cover loss data (Hansen et al. 2013, updated through 2024) and drivers of tree cover loss (Sims et al. 2025, updated through 2024)

4. RESTORATION OF FOREST ECOSYSTEMS

4.1 Has the world made progress on forest landscape restoration?

As of September 2025, we estimate that restoration activities targeting deforested land and degraded forests[h] are underway on 10.6 million hectares. This represents approximately 5.4 percent of the global reforestation potential[81] and 0.3 percent of the global biophysical forest restoration potential[82]—falling short of the 30 percent target set under Target 2 of the Kunming-Montreal Global Biodiversity Framework.

Most of the area under restoration—approximately 7 million hectares—is in tropical regions, while an estimated 3.3 million hectares are in temperate regions. In boreal regions, roughly 250,000 hectares are under restoration. The distribution of these areas (**Figure 1.20**) may reflect both the concentration of past and ongoing restoration efforts in tropical regions and the uneven representation of restoration efforts in the two monitoring databases used in this analysis: Restor and the Brazilian Restoration and Reforestation Observatory.

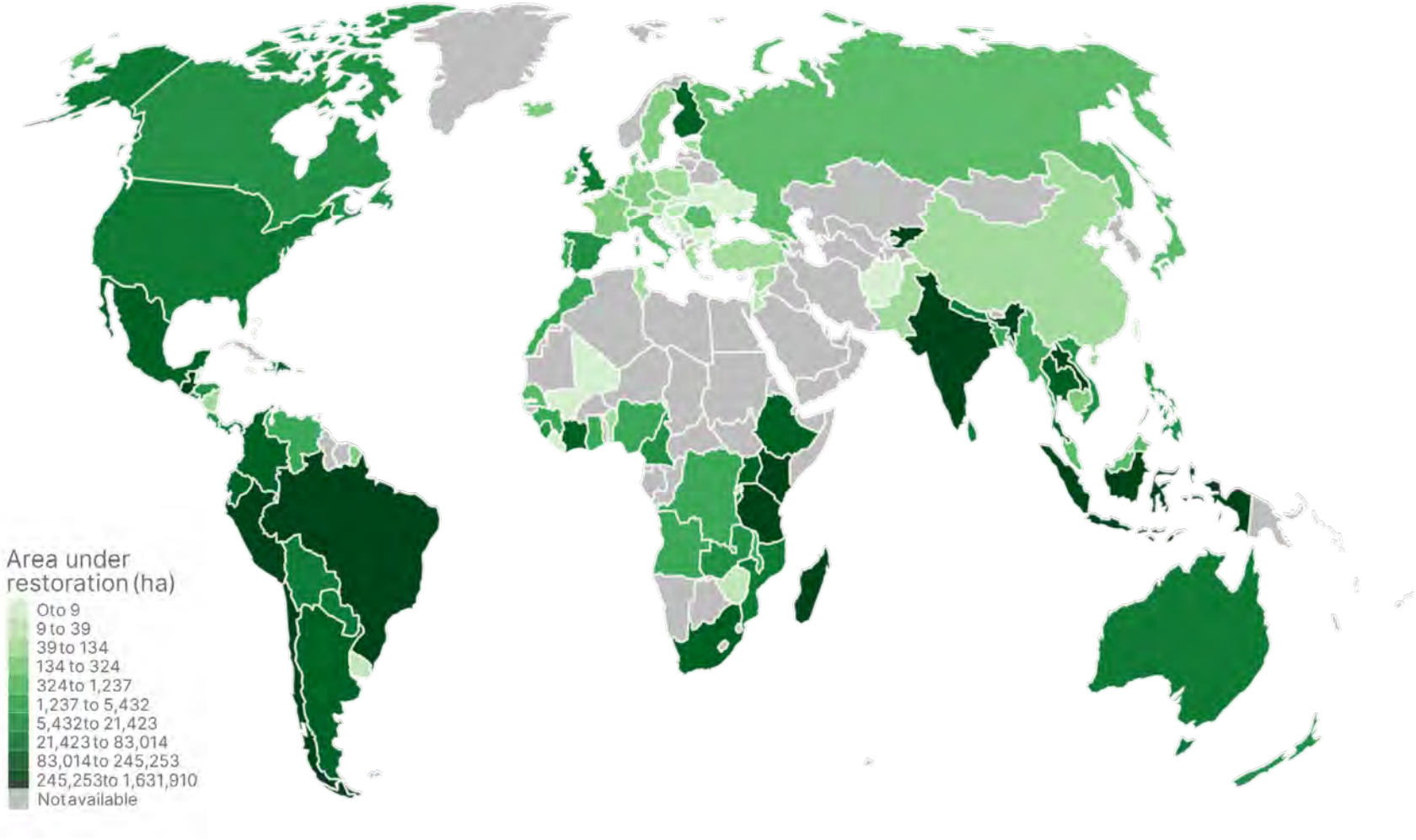
The estimated area under restoration covers a wide range of interventions. These include projects aimed at re-establishing forest ecosystems in deforested areas through reforestation, initiatives that support the recovery of degraded natural forests via natural regeneration, and measures designed to restore ecosystem services in productive landscapes—such as hedgerows, agroforestry systems, and other tree-based features. Given this diversity of interventions and the distinct ecological and social benefits they provide, the simple measure of hectares under restoration gives only a partial picture and tells little about the actual impacts of these efforts.

Restoration monitoring efforts have largely focused on a single metric—"area under restoration"—which impairs holistic monitoring of the many benefits delivered by landscape restoration approaches.

Each of the 23 action-oriented global targets in the Kunming-Montreal Global Biodiversity Framework (KM-GBF) is shaped around a varying number of elements that reflect the Framework's overarching goals and strategic directions. The restoration target of the KM-GBF, the Target 2, encompasses six key elements, which include the effectiveness of restoration activities, the enhancement of biodiversity ecosystem functions and services, as well as the connectivity and integrity of ecosystems being restored.[83] A recent analysis of the Monitoring Framework[84] reveals that none of the six elements of the restoration target are fully covered by the headline indicator "area under restoration", nor by the other component and complementary indicators defined for monitoring Target 2 of the KM-GBF.[85]

h Restoration monitoring databases were queried to retrieve information about projects implementing forest restoration activities. While our analysis focused on restoration projects that explicitly target deforested land and degraded forests, it is likely that the project areas include other ecosystems that may or may be not under restoration.

Figure 1.20. Area covered by projects explicitly aiming to restore deforested land or degraded forests, as included in Restor and the Brazilian Restoration and Reforestation Observatory



Source: Own analysis using a data subset from the Restor database and all polygons of area under restoration from the Brazilian Restoration and Reforestation Observatory

→ Monitoring platforms like the FAO-led Framework for Ecosystem Restoration Monitoring (FERM) offer opportunities to broaden monitoring efforts by integrating quantitative metrics with qualitative information on restoration practices. This integration could potentially pave the way for more comprehensive and meaningful restoration monitoring approaches.

The FERM—collecting both quantitative and qualitative information on restoration projects—has benefits that go beyond the reporting of the Target 2 headline indicator "area under restoration." For instance, the platform also serves as a repository for good and promising practices for ecosystem restoration that could inform both practitioners and policymakers about effective restoration approaches and their diverse benefits. Tapping the FERM's potential as a monitoring tool toward the global restoration target would require multiple metrics and diverse information for developing a comprehensive picture of restoration efforts and their outcomes.

→ The restoration of forest landscapes—as well as other natural ecosystems—goes beyond returning them to their natural state. It offers immense potential to increase human prosperity and ecological functions in tandem.

Ecosystem restoration offers an immense opportunity for creating multifunctional, restored landscapes that support human livelihoods in myriad ways.[86] Integrated approaches to restoration can support the achievement of goals across economic sectors by addressing the root causes of ecosystem degradation and social vulnerability. Given the diversity of socioeconomic and ecological contexts of the areas to restore, restoration activities need to be carefully tailored to meet local conditions. For instance, in landscapes converted to agricultural production, the Forest Landscape Restoration approach aims to deliver benefits for both people and nature without compromising food or livelihood security. In contrast, forest ecosystems with a low degree of degradation would require very different interventions, which may focus on the removal of disturbances or stressors to enable the natural regeneration of forests, instead of undertaking active restoration techniques based on tree planting programs.[87]

Restoration approaches, therefore, vary widely—they cannot be boiled down to simply returning a natural ecosystem to its original state without accounting for human use or management. Although the restoration of natural ecosystems is sometimes depicted as competing with food production or other livelihood activities, in fact, when designed carefully and in line with local priorities, restoration enhances economic prosperity and supports the livelihood of local communities. It is also crucial to note that restoration efforts are not meant to offset the impacts of deforestation and forest degradation, which can include irreversible damage to both people and nature. While restoration can be an essential tool for mitigating climate change (**Box 1.5**), recovering ecosystem functions and services, and supporting communities in previously deforested areas or degraded forests, it should only ever be considered a complement to, rather than a replacement for, preventing deforestation and forest degradation.

Given the multidimensionality of restoration practices and projects, a single metric cannot capture the diversity of restoration approaches. The metric "area under restoration" offers a one-dimensional view of a multifaceted process, simply quantifying the extent of land involved without offering insights into the quality, the type of benefits, and the effectiveness of implementation of restoration efforts.[88] It does not reveal whether interventions solely focus on biodiversity outcomes and the trade-offs they could generate, nor is it representative of the involvement of local communities and how these are benefiting from it or if ecosystem functions have been restored. Restoration is not a uniform activity; it varies based on ecological context, local needs, and cultural values. Yet, the area metric treats restoration as a generic, static target, ignoring these important nuances.

Box 1.5. The global reforestation potential is context-dependent and multidimensional

Reforestation is one of the techniques adopted in forest restoration and consists of the establishment of trees on land that has been deforested within the relatively recent past.[89] Reforestation is widely promoted as a key natural solution to climate change,[90] but estimates of its potential have sparked intense debate.

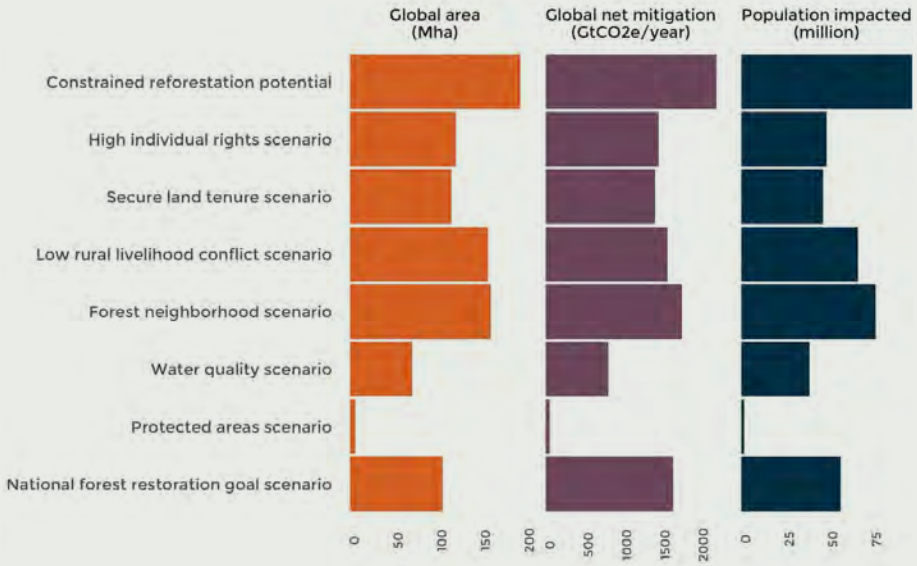
Early studies suggested that restoring forests could remove vast amounts of carbon from the atmosphere. However, critics argued that these figures were overly optimistic, often overlooking ecological constraints, land-use conflicts, and social justice concerns. Recent research has aimed to refine these estimates by incorporating more realistic assumptions about land availability, current land use, and the rights of local communities.[91]

The constrained reforestation potential is estimated at 195 million hectares (Mha), capable of removing 2.2 billion metric tons of carbon dioxide equivalent per year ($GtCO_2e$/year). This scenario excludes croplands, built-up lands, peatlands, wetlands, and areas where the albedo effect would offset any climate benefit of the reforestation—ultimately contributing to global warming.[92] Implementing reforestation at this scale would directly affect 98 million people, demanding that social safeguards are also taken into account.[93]

When these additional safeguards are applied—for example, excluding areas within a one-hour walk from communities facing high levels of deprivation, where people depend heavily on natural resources for food and fuel—the area suitable for reforestation is reduced to about 80 percent (158 Mha) of the constrained potential, affecting 67 million people.[94]

Similarly, ecological constraints—such as limiting reforestation to areas within 5 km of existing forest to improve habitat connectivity—reduce the suitable area to 161 Mha. If reforestation is limited to countries with formal restoration commitments,[i] the potential narrows further to 106 Mha.[95]

Figure 1.21. Global reforestation potential (million hectares, Mha) under eight scenarios, with corresponding climate mitigation potential (billion metric tons of CO_2 equivalent per year, Gt CO_2e/year) and population affected by reforestation activities (millions of people)



Source: Fesenmyer et al. (2025)

This multidimensional analysis highlights that reforestation—much like forest landscape restoration—is not merely a technical solution focusing on maximizing carbon removals but a deeply place-based, socioecological intervention. Respecting community rights, protecting natural ecosystems, and aligning with national governance frameworks significantly reshape what is both feasible and responsible.

Ultimately, when all necessary safeguards are applied to avoid harm to people and ecosystems, it becomes clear that ambitious forest restoration targets cannot be met through large-scale reforestation alone. A more nuanced, context-sensitive approach—including natural regeneration, forest protection, and landscape-level planning—is essential to align climate action with biodiversity conservation and the well-being of local communities.

i The study by Fesenmyer et al. (2025) considers commitments made through the Land Degradation Neutrality, National Biodiversity Strategies and Action Plans, Nationally Determined Contributions (Paris Agreement), or Bonn Challenge pledges.

4.2 How does natural forest regrowth contribute to restoration targets?

Regrowth of tropical moist forests has massively expanded since 2015, with a total of 11.34 million hectares of forests regrown from 2015-21.[96] Since 2015, the rate of regrowth has increased by nearly 750 percent in tropical LAC and by 450 percent in tropical Asia, which also sheds light on the complex cycles of degradation and natural regeneration occurring in forests.

Although the regrowth of tropical moist forest is not synonymous with its restoration, it provides leverage for long-lasting and effective restoration at lower cost and higher benefits for native biodiversity. Despite this, natural regrowth is typically not counted as progress toward forest restoration efforts, and in this report, it is presented as an indication of the extent of recovery within tropical moist forests. According to the definition adopted in this report,[j] the observed increase in forest regrowth stems from several factors, including heightened deforestation rates that create new areas for regrowth and the subsequent abandonment of deforested lands.[97] In both tropical LAC and tropical Asia, forest regrowth became particularly notable after 2016, a trend which may be linked to increased forest fires—that create opportunities for regrowth[k]—highlighting the complex cycles of degradation and natural regeneration occurring in forests.

Over half of the tropical moist forests that recovered from 1985-2015 have regenerated naturally.[98]

A recent study highlighted that tree cover gains in the moist tropics during this period consisted of approximately 56 percent naturally regenerating forests—totaling about 20 million hectares of tree cover gain—and 27 percent managed tree systems. These differences in forest type—alongside environmental conditions such as climate, soil, or topography—were key drivers of the observed variation in carbon recovery rates.[99]

Naturally regenerating forests play a crucial role in mitigating the impacts of climate change, absorbing carbon dioxide from the atmosphere as they rebuild their woody structures,[100] yet they are at high risk of being cleared after regrowth.[101]

Naturally regenerating forests are also invaluable for biodiversity conservation, providing habitats that have been lost due to deforestation and forest degradation.[102] These forests, especially on unmanaged lands, develop canopy structures that more closely resemble intact natural forests compared to planted or managed forests, making them better suited for delivering biodiversity benefits.[103] However, naturally regenerating forests are vulnerable to both human and climate-related stressors, such as fires. Those located on managed lands face the highest risk of being cleared again after regrowth.[104] Allowing these secondary forests to mature is an important measure for maximizing the climate mitigation benefits of forest regrowth. To avoid clearing, measures taken to foster stewardship have been key to protecting and assisting natural regeneration.[105] Achieving global forest restoration goals will require robust monitoring, reporting, and verification systems that are also capable of detecting the natural recovery of secondary forests and safeguarding their maintenance.

j Forest regrowth is a two-phase transition from moist forest to (i) deforested land and then (ii) vegetative regrowth. A minimum of 3-year duration of permanent moist forest cover presence is needed to classify a pixel as forest regrowth (o avoid confusion with agriculture (Vancutsem et al. 2021).

k Fires are typically classified as drivers for forest degradation, not for deforestation, because forests have the potential to regenerate after fire events. Vancutsem et al. (2021) considers the duration of the disturbance event to differentiate forest degradation from deforestation, with a threshold of 900 days. In the case of intense fires accentuated by severe droughts—as those occurred in 2015 in tropical LAC and tropical Asia—the duration of the disturbance has likely exceeded the 900 days threshold, at least in some areas. When this has happened, the disturbance was labelled as deforestation followed by regrowth, even though the dynamic could also be identified as forest degradation, since no land use change occurred.

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CHAPTER 2

SUSTAINABLE PRODUCTION & DEVELOPMENT

THEME 2

GROWING DEMAND FOR COMMODITIES CONTINUES TO PLACE DIRE PRESSURE ON GLOBAL FORESTS

Commodity production—including crops, livestock, timber, and mined commodities like coal, metals, and minerals—remains the predominant driver of deforestation and ecosystem conversion. Existing approaches to minimize forest harm are severely underutilized.

56%
INCREASE IN CROP PRODUCTION FROM 2000-2022

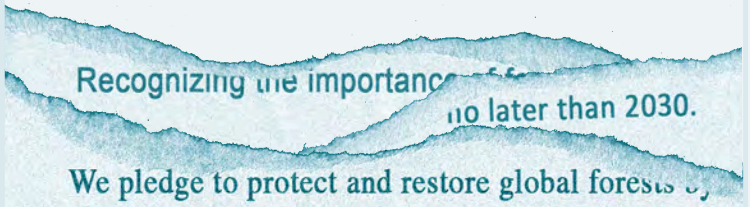
8.8Gt
COAL PRODUCTION IN 2024, PER IEA – A RECORD HIGH

2X
EXPECTED INCREASE IN CLEAN ENERGY MINERAL DEMAND BY 2040

GOVERNMENTS ARE NOT LIVING UP TO AMBITIOUS FOREST COMMITMENTS

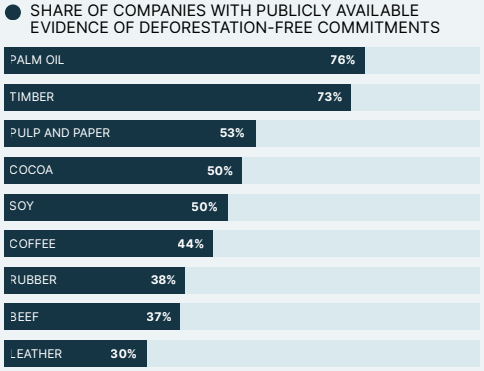
NDCs remain under-ambitious, and many policies are developed and applied in siloes. Conflict, debt, and trade disputes further threaten conservation efforts.

Weakening of regulations, delays in policy implementation, and reduced foreign aid may signal that previous momentum on forest goals may falter further.



CORPORATE DEFORESTATION PROMISES STILL LAG

Fewer than 1/3 of agricultural and forestry companies have commitments covering all forest-risk commodities, per Forest 500; some sectors show progress, but overall action is insufficient.



MINING SECTOR SHOWS AWARENESS WITHOUT ADEQUATE COMMITMENT

52% of mining and coal extractive companies reporting through CDP have a biodiversity and/or forest policy. Yet few set no-net-loss biodiversity targets, despite that an estimated:

77%
OF ALL MINES GLOBALLY ARE LOCATED WITHIN 50KM OF KEY BIODIVERSITY AREAS

MULTISTAKEHOLDER LANDSCAPE APPROACHES SHOW GROWTH

Reporting of corporates engaging with landscape and/or jurisdictional initiatives was higher in 2024 compared to 2020, though only one-third operate credibly with transparent governance.

356
COMPANIES DISCLOSE THEIR ENGAGEMENT IN LAs/JAs THROUGH CDP IN 2024, UP FROM 27 IN 2020

Chapter 2 contents

1. INTRODUCTION

1.1. Why look at sustainable production & development?

Pursuing sustainable development pathways and making commodity production more sustainable are essential for realizing global forest goals. Commodity production—including crops, livestock, and timber and wood fiber products as well as mined commodities like coal, metals, and minerals—remains the predominant driver of deforestation, ecosystem conversion, and forest degradation worldwide. In the past decade, 86 percent of annual global deforestation—on average—has been caused by permanent agriculture.[1] Rising production of these commodities (exemplified by a 56 percent increase in global production of primary crops from 2000-22[2]) results in the increasing loss of forests and biodiversity.

Mining and extractive supply chains have profound impacts on the world's forests and forest-dependent communities. The entire mining lifecycle—from mine site prospecting and development to mineral extraction, processing, transportation, storage, and eventual site closure—drives significant direct, indirect, and cumulative forest risks. Although mining itself occupies less than 1 percent of global land,[3] its operations disproportionately affect ecologically sensitive regions, exacerbating deforestation, land degradation, and biodiversity loss in critical areas.[4,5,6,7,8] Additionally, mining poses significant risks to the health, safety, and human rights of communities globally.[9,10,11,12] Demand for raw materials from mining is growing. Despite the Paris Agreement's goals to phase out coal-fired power generation by 2040,[13] global coal production reached a record high in 2024.[14] Under the current growth rate of renewable energy production, total demand for minerals used in clean energy technologies is projected to double by 2040.[15]

International trade demand, particularly from industrialized countries, continues to generate significant pressure on forests globally. From 2020-22, as the top importing markets for forest-risk commodities, the **European Union** and **China** were linked to approximately 40 percent of all deforestation embodied in the international trade of agricultural

commodities.[16] Further, from 2001-15, trade demand from developed countries for agricultural and forestry products drove a disproportionate level of forest biodiversity loss in other countries as compared to within their own borders.[17] Industrialized countries like China, the European Union, and the **United States** drive nearly half of the rising global demand for metals and minerals.[18]

Demand from domestic markets also drives significant forest loss. While the exact share of global deforestation tied to domestic consumption is difficult to estimate, global trade data suggests that deforestation risks related to the production of soft commodities are particularly high in **Brazil**, the **Democratic Republic of the Congo**, **Indonesia**, and **China**.[19] Trade flow data of forest-risk commodities suggests that, in 2020, the average share of forest-risk commodity volumes consumed domestically in producer countries was 83 percent for beef, 51 percent for rubber, 39 percent for palm oil, 36 percent for coffee, 24 percent for soy, and 14 percent for cocoa.[20] For more on the role of domestic consumption versus international trade in driving deforestation, see **Chapter 1**.

Many governments are working to balance multiple, conflicting priorities to promote economic growth and development while seeking to secure and protect their natural resources, in part through achieving climate and conservation objectives. Billions of people rely on forests and other natural ecosystems for their livelihoods, and some of their activities can lead to degradation or permanent deforestation. Alongside extractives, infrastructure and urban development are often the frontline activities that expose forests to other drivers of deforestation and forest degradation (see **Chapter 1** for more on drivers of deforestation and forest degradation).

While many drivers of deforestation and forest degradation are tied to economic development, there are ways to mitigate risks to forests by creating more sustainable models of forest stewardship and resource use, which may even be more efficient and economically beneficial compared to current models.[21,22,23,24] Amid growing backlash against sustainable development agendas, it is crucial to stress that sustainable production and development efforts strengthen economic resilience, reduce long-term risk, and provide competitive advantages. To achieve 2025 and 2030 forest goals, solve the biodiversity crisis, and reach the 1.5°C goal of the Paris Agreement—while also meeting the Sustainable Development Goals—it is imperative that leaders, both in the public and private sector, embrace sustainable production and consumption, and development models that balance forest protection with other development priorities, avoid privileging short-term gains over long-term benefits for all, and minimize harm to ecosystems.

1.2. What has been pledged on sustainable production & development?

Governments and companies alike have made multiple, non-binding commitments to address drivers of deforestation, particularly related to unsustainable commodity production:

- **The 2030 Agenda for Sustainable Development** (endorsed by 193 nations), which explicitly calls for sustainable forest management and protection.
- **The UNFCCC Global Stocktake**, which emphasizes the need to transition toward sustainable lifestyles and patterns of consumption and production while reaffirming the 2030 forest goals.
- **The 2021 Glasgow Leaders' Declaration on Forests and Land Use**, in which 145 governments pledged to halt and reverse forest loss by 2030, including through "facilitat[ing] trade and development policies, internationally and domestically, that promote sustainable development, and sustainable commodity production and consumption"[25]
- **The Global Biodiversity Framework**, in which signatory countries agreed on a pathway for achieving harmony with nature by 2050, including through "tak[ing] legal, administrative or policy measures" that encourage businesses to "progressively reduce negative impacts on biodiversity, increase positive impacts, reduce biodiversity-related risks to business and financial institutions, and promote actions to ensure sustainable patterns of production."[26]
- **The COP28 UAE Declaration on Sustainable Agriculture, Resilient Food Systems, and Climate Action**, in which 160 endorsing governments commit to collaborating on achieving food systems transformation in alignment with global climate goals, including

through setting and revisiting policies and public support to promote activities that increase productivity while reducing ecosystem loss and degradation.

- **The Minamata Convention on Mercury**, in which 152 Parties have committed to reducing the release of mercury into the atmosphere, soil, and water. The Convention indirectly addresses deforestation and forest degradation through seeking to regulate the artisanal and small-scale gold mining sector, which is a significant global driver of forest loss (particularly in the Amazon). International commitments and declarations addressing mining as a driver of forest loss remain limited, despite the New York Declaration on Forests addressing mining and extractives under Goal 3.
- **The Consumer Goods Forum's Forest Positive Coalition**, in which member companies aim to accelerate collective action to eliminate deforestation, forest degradation, and ecosystem conversion from key commodity supply chains.
- **The Agricultural Sector Roadmap to 1.5°C**, announced at COP26, brings together 13 leading agri-commodity firms to commit to deforestation-free supply chains aligned with climate goals and supportive of food security and livelihoods.[27]
- **The Amsterdam Declarations Partnership** consists of ten European countries seeking to eliminate deforestation linked to agricultural production and imports by 2025.[28]
- **United Nations Strategic Plan for Forests 2017-2030**, adopted by the UN General Assembly in 2017, seeks to achieve sustainable management of the world's forests and sets six voluntary and universal Global Forest Goals along with 26 associated targets for 2030, including halting deforestation and forest degradation.[29,30]

Several additional commitments have been made at the regional, national, or subnational level, such as the 2023 Declaration of Belém protecting the Amazon,[31] the Cerrado Manifesto[32] to safeguard **Brazil's** savanna (and its accompanying corporate Statement of Support[33]), and various regional pledges in Europe (e.g., specific commitments around soy in the **United Kingdom**,[34] **France**,[35] and **Denmark**.[36]

1.3. How does this chapter track progress?

This chapter assesses key indicators of progress toward sustainable production and development across three key dimensions:

- **Government progress.** Governments are the primary architects of economic development pathways and regulatory frameworks that either enable or prevent forest destruction. Without government action, even the most ambitious private sector or civil society efforts will struggle to achieve the scale needed for transformative change. We assess governments' progress in working toward sustainable production and development by examining:
  - Alignment of macroeconomic and political priorities with forest goals: Evaluating whether macroeconomic development policies and political priorities align with forest conservation and sustainable land use commitments. This includes adoption of policy frameworks to promote company-level progress on achieving deforestation-free (DF) and deforestation- and conversion-free (DCF) supply chains.
  - Implementation of key forest policies: Evaluating the extent to which governments implement policy tools that incentivize forest-positive land use, mitigate forest risks, and facilitate forest restoration.

- **Corporate progress.** Companies are key players in driving deforestation and forest degradation – both directly and indirectly – through their operations and supply chains, and they hold significant influence over land use practices across global supply chains. With vast financial resources and market leverage, companies can either perpetuate destructive practices or catalyze transformative change at scale by implementing sustainable sourcing policies and influencing supplier behavior. We assess corporate progress in working toward sustainable production and development by examining:
  - Progress in agriculture and forestry sectors: Examining adoption and implementation of supply chain commitments

with time-bound targets, risk assessment mechanisms, traceability systems, supplier management and support, and compliance verification.

- Progress in the mining and extractives sector: Evaluating how companies implement commitments and policies to contribute to the reduction of direct, indirect, and cumulative forest impacts from mining and other extractive activities, including through application of the mitigation hierarchy and adoption of biodiversity protection frameworks.

- **Multistakeholder partnerships.** The challenge of managing deforestation and forest degradation is inherently multistakeholder, transcending individual corporate and government boundaries. Efforts to address degradation and deforestation will benefit tremendously from cooperation and partnership between various actor groups (e.g., the public sector, private sector, civil society, Indigenous Peoples and local communities, etc.). Multistakeholder initiatives include public-private partnerships that address forest and commodity certification, assurance, supply chain traceability and disclosure data challenges, landscape and jurisdictional approaches, and platforms for alignment, collaboration, and governance across sectors, levels, and geographies. Our assessment framework examines:

  - Advancement of jurisdictional & landscape approaches: Evaluating their geographic scope and penetration in key forest regions, measuring the proportion of companies reporting engagement in collaborative initiatives, assessing outcomes in terms of forest protection, improved livelihoods, and sustainable production, where data is available.
  - Advancement of other multistakeholder partnerships: Evaluating advancements in public-private partnerships focused on supply chain traceability and data reporting & disclosure mechanisms, to support more transparent, collaborative, and transformative supply chains.

The analysis draws from quantitative global and regional datasets, where available, as well as country-level examples that demonstrate meaningful progress or concerning setbacks within the last year. Core indicators from this chapter (and other chapters in this report) are also presented on the Forest Declaration Dashboard, alongside data sources, methodologies, and an assessment of trends.

1.3. What are this chapter's key messages?

Despite prominent commitments, most governments are still far from aligning their land-use, economic, and trade policies with forest goals. NDCs remain under-ambitious, policies are developed and applied in siloes, and geopolitical turbulence is once again prompting governments to roll back ambitious regulatory advances. This is putting hard-won gains at risk. Still, countries like **Brazil**, **Colombia**, and **Indonesia** have shown that domestic reforms can yield results, but sustaining progress remains a major challenge, as recent forest loss trends show.

When it comes to the private sector, voluntary corporate pledges have positioned some companies as leaders in the effort to curb deforestation and conversion in supply chains, and have generated valuable insights, learning, and best practices. Yet, these pledges have not curbed forest and ecosystem loss at scale. Agriculture continues to be the largest driver of deforestation and conversion, while mining represents a rapidly growing threat to forests. While there are bright spots—such as growing ambition in palm oil and timber sector commitments, and increased adoption of robust certification schemes in mining—forest-risk sectors remain composed far more of laggards than leaders.

Multistakeholder landscape approaches are demonstrating proof of concept, with several jurisdictions showing promising results. But proof of scale has not yet been achieved: fewer than half of landscape approaches are operating with transparent governance, public MRV, and shared sustainability goals. Overall, some efforts point to shifts—however tenuous—in the right direction, from voluntary pledges to enforceable rules, and from siloed efforts to integrated, multistakeholder collaboration. Policies like the E.U. Deforestation Regulation, mandatory disclosure standards (e.g., ISSB), and the rise of science-based FLAG targets are beginning to realign market incentives. And after a decade or

more of development, corporate engagement in landscape approaches is increasing: more stakeholders are recognizing the value of landscape and jurisdictional approaches to break siloes and bridge producers, governments, corporate buyers, and investors to align inclusively on environmental & developmental goals, legal compliance, livelihoods, and traceability. Achieving forest goals will require governments and markets to accelerate and scale what's already working.

2. GOVERNMENT PROGRESS

2.1. Are governments aligning their political & macroeconomic priorities with forest goals?

Across multiple international commitments, forests are consistently recognized as vital to sustainable development and climate goals. But considering the high rates of forest loss and degradation and the limited ambition expressed in national climate plans, this recognition is not yet matched by effective real-world actions.

The inclusion of forest targets in countries' Nationally Determined Contributions (NDCs)[a] is an important indicator of how forests are incorporated into countries' economic and political priorities. A 2024 analysis revealed fragmentation of forest-related targets and measures and inconsistency across jurisdictions. Fewer than half of the assessed NDCs included a specific emissions mitigation target for forests, and only 28 percent set a quantitative deforestation target;[37] these figures do not account for whether the targets are ambitious enough to meet the 2030 zero deforestation goal. In 2025, countries have an opportunity to demonstrate leadership through their participation in COP30 and by submitting high-quality NDCs[38] with strong forest-based targets.[39]

In 2025, geopolitical and economic turbulence are compounding long-standing pressures on forests. Conflict, debt burdens, and trade disputes all threaten conservation efforts. Weakening of environmental regulations, delays in policy implementation, and reductions in foreign assistance suggest that recent momentum on forest goals may falter.

Diverse economic pressures—from debt burdens to global market competition[40] to armed conflicts[41]—often steer countries toward increased exploitation of their natural resources. Macroeconomic disruptions like trade disputes, tariff-driven slowdowns, and high interest rates heighten fiscal stress for both developed and developing countries. In response, some governments, under pressure to stimulate rural

a It's important to note that NDCs do not necessarily reflect domestic land-use planning, fiscal policies, or broader political commitments. Still, in the absence of a more holistic tracking mechanism, they serve as one piece of insight into countries' prioritization of forests.

economies or attract investment, may fast-track industrial agriculture, logging, or mining, jeopardizing forest protection.

Similarly, shifting trade patterns highlight how economic disruptions can create complex and often negative ripple effects for conservation efforts worldwide. For instance, shifting economic policies in major economies like **China** or the **United States** may lead to increased production of forest-risk commodities (e.g., soy) in certain regions (e.g., the Amazon), which could have major consequences for forests.[42]

There is an ongoing risk that environmental regulations will be weakened in the name of stimulating trade, attracting investment, or otherwise boosting economic activity—a trend that has surfaced during times of global instability, such as during the COVID-19 pandemic.[43,44,45] Reporting suggests that during the COVID-19 pandemic, governments from the five countries with the world's largest areas of tropical forest (**Brazil**, **Colombia**, the **Democratic Republic of the Congo**, **Indonesia**, and **Peru**), as well as a sub-national government in Canada, rolled back social and environmental laws, regulations and safeguards to give greater priority to economic and extractive activities.[46,47]

Additionally, the European Commission has recently delayed key Green Deal regulations and scaled back sustainable finance disclosures under industry and political pressure (see **Chapter 3** for more details on developments in sustainable finance and **Chapter 4** for more on policy engagement and lobbying activities).[48,49] Simultaneously, international conflicts can indirectly harm forests. Projections from a 2023 study estimate that the Russia-Ukraine war, through its impact on global food systems, could trigger up to 8.5 million hectares of cropland expansion and drive significant biodiversity loss.[50] Recent political shifts have also led to significant environmental protection rollbacks. In the **United States**, the Trump Administration has issued executive orders to expand logging operations on federal lands, roll back land protections, and fast-track environmental reviews.[51]

International support for forest programs is also diminishing due to cuts in official development assistance (ODA).[52] For example, the UK has announced a GBP 3.1 billion reduction in ODA by 2027, raising concerns about its status as a forest champion;[53,54,55] and in the U.S., USAID has been officially closed, with approximately 83 percent of its programs canceled and its conservation work—including a USD 70 million freeze in Colombia's Amazon finding—halted.[56]

Together, these shifts don't signal new threats, but rather a re-emergence and intensification of known patterns: short-term national economic and political interests displacing longer-term forest and environmental sustainability goals. Amidst ongoing uncertainty, governments hoping to demonstrate leadership can double down on forest commitments through bold ideas and action.

➔ **In previous years, several countries—like Brazil, Colombia, and Indonesia—have demonstrated that effective domestic reforms can deliver meaningful forest outcomes. Yet, sustaining this progress is a significant challenge, illustrated by concerning forest loss trends in these countries.**

Brazil and **Colombia** achieved notable reductions in deforestation in 2023.[57] These positive trends were due, in part, to the new political leadership's heightened prioritization of environmental protection through strengthened monitoring and enforcement.[58] However, in 2024, there was an uptick in forest loss in both Brazil and Colombia,[59] highlighting the need for sustained domestic policy actions, reinforced by coherent international incentives. Early evidence from 2025 suggests that Colombia's efforts to get back on track have already begun to bear fruit: following agreements with local communities and enhanced enforcement activity, deforestation fell 33 percent in the first quarter of 2025.[60] The Colombian government reinforced these efforts through a series of concrete measures announced in May 2025 to further address deforestation, strengthen environmental management, and mitigate security risks to government employees working to protect ecosystems throughout the country.[61]

Forest loss trends in Indonesia illustrate a similar challenge in maintaining forest progress and the importance of sustained political commitment. From 2017-21, the country achieved sustained success in reducing the rate of forest loss, largely due to strengthened law enforcement and fire management.[62] More recently, this progress has slowed due, in part, to a lack of government regulations to protect forests within existing company concessions, combined with policies that promote legal land clearing within these concessions.[63] Recent developments in Indonesia

also highlight the role of civil society in pressuring governments to stay on track to achieving their forest commitments: in June 2025, after significant public outcry, the Indonesian government opted to revoke several nickel mining permits on an island archipelago that has already experienced deforestation due to land clearing for nickel mining operations.[64]

→ Some international and regional initiatives show promise for incentivizing sustainable production and forest conservation.

The package of legislation under the EU's Green New Deal—including the European Union Deforestation Regulation (EUDR), the Corporate Sustainability Due Diligence Directive (CSDDD), and the Corporate Sustainability Reporting Directive (CSRD)—served as a prominent example of alignment of political priorities with forests. Yet, it has since faced substantial political headwinds and rollbacks—such as the passing of the EU's Omnibus Law,[b] which has drawn criticism for potentially weakening environmental protections (e.g., those adopted under the CSRD and CSDDD) and shifting investment away from sustainable projects.[65] The EUDR, which came into force in June 2023 and is now set to apply to large- and medium-size companies by the end of 2025 and to micro and small enterprises by June 2026,[66], has faced ongoing efforts from companies, industry groups, some E.U. member states, and some producer countries to delay and/or weaken its provisions (see **Chapter 4** for additional insights on these developments).[67,68,69,70]

Developments from **Brazil** (and the broader Amazon region) signal political leadership and heightened prioritization of forest goals. The Tropical Forest Forever Facility (TFFF), a new funding mechanism championed by Brazil and supported by a dozen other tropical forest countries, holds significant promise if backed with adequate finance along with strong social and environmental safeguards (see **Chapter 3**). TFFF is designed to incentivize tropical countries to protect their forests by offering results-based payments for maintaining forest cover. It differs from traditional forest conservation funding models by acting as a revenue-generating investment fund rather than a grant-based system. Similarly, the Amazonia Forever program, launched in June 2023, is scaling up significant finance to coordinate and accelerate sustainable, inclusive, and resilient development in the Amazon region.[71,72] As of June 2025, the program has channeled more than 5 billion USD in support of more than 270 existing or under-development projects in the region.[73] This includes an investment of approximately USD 36.6 million to support sustainable agroforestry supply chains and the broader regional bioeconomy.[74] Meanwhile, the G20's increasing emphasis on bioeconomy strategies is a positive signal in how nature is valued in high-level economic talks.[75,76]

The recent progress made in the **European Union** and **Brazil** is under serious threat. For example, the EUDR and much of the other legislation associated with the EU's Green New Deal have seen significant political pushback. And in Brazil, recent legislative developments as well as the temporary suspension of the Soy Moratorium pose grave risks to achieving forest progress.[77,78,79] These examples serve as a blunt reminder that progress on forest goals is often tenuous; ambitious policies often generate significant political pushback and internal tensions that must be managed to maintain progress and stay on track. Chapter 4 provides more information on recent examples of policy pushback and rollbacks.

2.2. Are governments implementing key policies for sustainable production and development?

→ Governments have a wide range of proven policy tools to support forest protection and restoration. However, their adoption and implementation have been spotty and faced with recent setbacks.

A 2024 review of NDCs from forest-rich countries found that while many reference key forest policy measures, their inclusion is inconsistent and often limited. Mentions of sustainable forest management, protected areas, REDD+, and other relevant approaches vary widely, with some critical measures—such as deforestation-free supply chains—rarely acknowledged (**Figure 2.1**).[c] In addition, the meanings of terms such as "sustainable forest management" and "degradation," and as a result, their environmental rigor, often differ between countries.[80]

b See Chapter 3 for more information on the implications of the Omnibus Law for forest objectives.

c It's important to note that NDCs are not designed to be comprehensive reflections of national forest strategies, and countries are not required to include their forest plans within these submissions. As such, NDCs serve as an imperfect and incomplete proxy for forest policy, offering limited data. These figures point to policy intent but say little about actual implementation. Given ongoing global forest loss, it is likely that on-the-ground actions still fall well short of what is necessary (see Chapter 1).

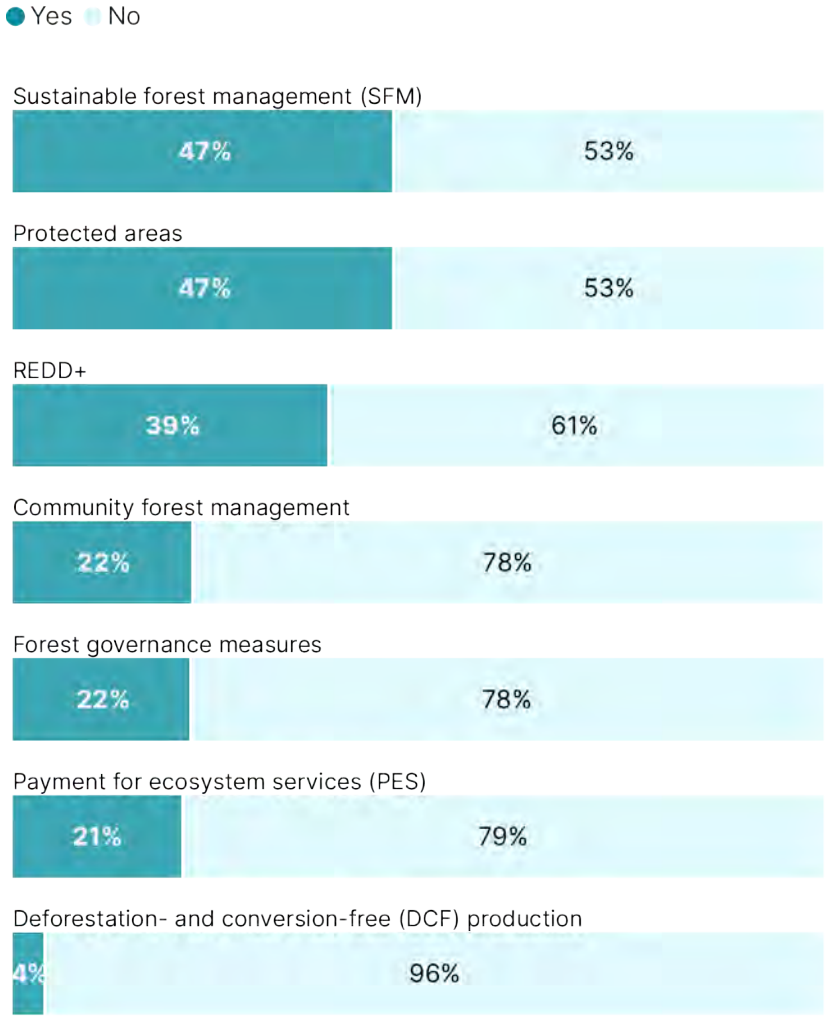
The EU's approach to EUDR implementation has also come into question, with some suggesting that its prioritization of non-binding partnerships under the E.U. Forest Governance & Value Chains Programme and the Team Europe Initiative (TEI) on Deforestation-free Value Chains represents a step in the wrong direction as compared to its previous approach to international cooperation on tackling commodity-driven deforestation, which relied more heavily on establishing Voluntary Partnership Agreements with partner countries.[81] Further, the recent E.U.-U.S. joint statement suggests that the regulatory burden will be loosened for US-based producers, potentially limiting the ability of the EUDR to minimize negative forest impacts from the US forestry sector.[82]

At the same time, some countries have already adopted and begun to implement strategies to strengthen their readiness for EUDR compliance, partnerships, and regulations for sustainable production (e.g., Thailand,[83] Ghana,[84] and Peru,[85] among others). For additional information on national- and regional-level regulatory and policy developments—and the role of different actors in shaping the design and implementation of these laws and policies—see **Chapter 4**.

→ There are examples of promising forest policies from around the world. When policies are well designed, well implemented, and adapted to local contexts, they can deliver measurable benefits for both forests and people.

These measures range from land use regulations (e.g., protected areas, moratoria—see **Chapter 4**) to fiscal instruments (e.g., subsidy reform—see **Chapter 3**), and other incentive-based mechanisms such as payments for ecosystem services and direct livelihood support. When policy measures are robust, context-appropriate, and designed in coordination with other related policies, they can serve a dual purpose of protecting forest ecosystems while improving rural incomes and livelihoods. **Table 2.1** provides of recent policy measures that hold promise for advancing sustainable production and development goals; this list is not, however, meant to be comprehensive of all types of relevant policy measures or of all recent policies enacted.

Figure 2.1. Policy measures for forests within assessed NDCs



Note: This assessment of forest-relevant policy measures included within 130 NDCs
Source: Rynearson, A. et al., (2024), https://wwfint.awsassets.panda.org/downloads/wwf_ndcs-for-forests-v8.pdf

Table 2.1. Promising policy measures for sustainable production and development

POLICY AREA	POLICY MEASURE	RECENT EXAMPLES
Supply chain regulation	Support for supply chain monitoring, traceability, and due diligence	In **Brazil**, several recently launched programs, policies, and platforms are supporting enhanced supply chain monitoring, traceability, and due diligence. These include: SeloVerde: launched in 2024, SeloVerde forms part of a national strategy for certification of products and services that meet social and environmental criteria, including those in the national Forest Code. SeloVerde includes a platform to support monitoring and evaluation of sustainable agricultural development policies and combat illegal deforestation in the State of Pará; this platform is linked to the national Rural Environmental Registry (CAR, in Portuguese).[86,87] National Plan for Individual Identification of Cattle and Buffalo (PNIB, in Portuguese): adopted in 2024, PNIB establishes a national target to achieve full traceability of cattle and buffalo supply chains by 2032.[88,89] Brazil's official traceability system for individual cattle head, the Cattle and Buffalo Individual Identification System, supports implementation of the PNIB as well as the Brazilian cattle sector's readiness for EUDR compliance.[90] Agro Brasil + Sustentável platform: Launched in 2024, the platform integrates government and market data to help producers meet domestic and foreign market socio-environmental requirements.[91]
	Regulating mineral supply chains	The Critical Minerals Policy Tracker summarizes critical mineral policies by country.[92] Among the recent policy measures listed are **Zambia**'s Integrated Mining Information System (launched in 2025)[93] and the **DRC**'s Traceability Procedures Manual for Tradable Mining Products (issued in 2014, updated in 2024).[94] Additionally, the **EU**'s Battery Regulation, which entered into force in August 2023 and is still in the implementation phase, could indirectly incentivize forest protection by mainstreaming circularity practices and minimizing mineral extraction.[95]
	Regulating artisanal and small-scale mining (ASM)	**South Africa**'s Mineral Resources Development Bill was approved for public comment in May 2025. The bill advanced ASM formalization through the introduction of a dedicated licensing regime for ASM operations.[96]
	Sustainable charcoal production	In March 2025, **Kenya**'s Ministry of Environment proposed stricter controls on charcoal production that would enhance regulation of licensing, packaging, and labeling while encouraging formalization of the sector and restricting production in areas of high ecological and cultural significance.[97]

Fiscal instruments and other incentive-based policies	Payment for ecosystem services (PES)	The **Canadian** government's Sustainable Canadian Agricultural Partnership, launched in 2023, is channeling finance toward developing a more sustainable agricultural sector in Canada, including an ecological goods and services payment approach to incentivize on-farm adoption of practices to better conserve and enhance the resilience of agricultural landscapes.[98]
	Ecological fiscal transfers (EFTs)	The government of Java (**Indonesia**) has worked to implement ecological fiscal transfers on the island to support efforts to reduce deforestation and protect biodiversity[99]
	Tax incentives	**Indonesia**'s government has offered significant tax incentives to companies that volunteer to support forest rehabilitation efforts in the new capital city of Nusantara[100]
	Green public procurement	**Ireland**'s Green Public Procurement Strategy and Action Plan (2024–2027) aims to drive the implementation of more circular procurement practices across the Irish public sector[101]
	Incentives for improved forest management	The **Republic of the Congo**'s 2020 Forest Code introduces a range of measures to support improved forest management, including fiscal incentives for forestry companies to adopt forest management certification from recognized international certification schemes such as the Forest Stewardship Council (FSC), as well as the national certification system (Congo Forest Certification Program – PAFC-Congo).[102] The RoC has also created Special Economic Zones (SEZs) to enable implementation of economic and commercial activities (including wood-based manufacturing) in non-oil sectors, with the ambition to keep more value-added economic activity in the country.[103]
	Financing of alternative production models	Between 2021 and 2023, public and private sources in **Brazil** channeled an average of 3.1 billion USD per year in support of the bioeconomy in Brazil; most of this finance went toward the forestry, bioenergy/biofuels, or biodiversity product (i.e., products from species native to Brazil) sectors.[104]
Conservation-based approaches and other land use planning	Direct support for forest restoration	The **EU**'s SUPERB (systemic solutions for upscaling of urgent ecosystem restoration for forest-related biodiversity and ecosystem services) project aims to restore forest landscapes across Europe and improve resilience to climate stressors. In North-Rhine Westphalia (**Germany**), it has supported reforestation efforts in areas experiencing large-scale dieback of Norway spruce forests.[105]
	Protected areas	The Ministry of Environment of the Government of **Maldives**, in collaboration with IUCN and the Global Environment Facility (GEF), is working to develop effective and equitable management models for 15 protected areas across the Maldives.[106,107]
	Community/social forestry	**Indonesia**'s social forestry schemes grant local communities the legal right to manage forest areas for conservation and sustainable livelihoods. In 2023, approximately 10,000 permits had been allocated across 6.4 million hectares.[108] Challenges include legal and bureaucratic complexities, financing constraints for social forestry initiatives, and village governance capacity issues.[109]
Overarching frameworks for sustainable production	Nature-friendly agricultural production practices	In 2024, **Tanzania** launched its National Strategy for Ecological Organic Agriculture 2023-30, which is designed to accelerate sustainable farming practices.[110]
		In 2023, **Brazil** launched its National Program for the Conversion of Degraded Pastures into Sustainable Agricultural and Forestry Production Systems to support the restoration of 40 million hectares of degraded pasturelands by 2040, promoting increased production of food, biofuels, and high-productivity forests through the adoption of sustainable production technologies.[111]

3. HAVE COMPANIES ADVANCED THEIR EFFORTS ON SUSTAINABLE PRODUCTION & DEVELOPMENT?

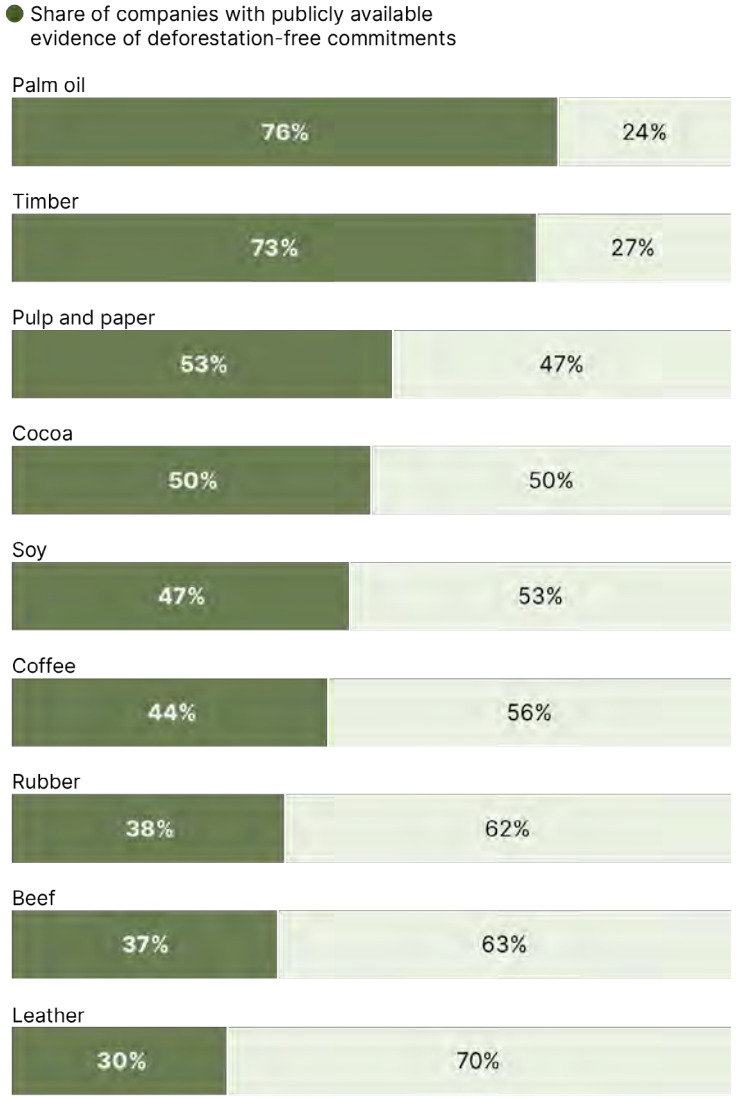
3.1 Progress in agricultural and forestry commodity supply chains

Although fewer than one-third of companies across agricultural and forestry supply chains have made deforestation-related commitments for all forest-risk commodities to which they are exposed, encouraging ambition can be seen in the palm oil, timber, and pulp & paper sectors.

Many companies have set 2025 as the target year for removing deforestation and other ecosystem conversion from agricultural and forestry commodity supply chains, as recommended by the Accountability Framework initiative (AFi), the Science Based Target initiative (SBTi), The Science Based Targets Network (SBTN), and others. While important progress has been made by individual companies and initiatives, the agriculture and forestry sectors have fallen short of the scale and pace needed to meet this goal and related goals around forest degradation (see **Chapter 1**).

Only 27 percent of companies in forest-risk commodity supply chains assessed by Forest 500 in 2024 have a deforestation commitment in place for all commodities to which they are exposed.[112] As summarized in **Figure 2.2**, commitment rates vary by sector; palm oil and timber have the highest levels of commodity-specific deforestation-free commitments, whereas rates remain much lower in the rubber, beef, and leather sectors.[113] Encouragingly, a stronger business case for corporate action is now emerging. The convergence of increasing regulatory obligations, investor pressure, and advances in traceability is transforming nature loss from a reputational issue into a concrete compliance, financial, and legal risk. Together, these shifts are reshaping corporate incentives and creating conditions for accelerated progress through the end of the decade.

Figure 2.2. Share of companies by sector with publicly available evidence of deforestation-free commitments



Source: Thomson, E., 2025, Companies profit, forests fall: everyone pays the price, Global Canopy, Oxford, UK

→ The growing adoption of Forestry, Land and Agriculture targets under the Science Based Targets initiative marks an important evolution in corporate deforestation commitments. By aligning corporate supply chain efforts with global climate pathways, they transform isolated pledges into integrated supply chain efforts into measurable and collective climate action.

The Science Based Targets Initiative (SBTi) provides a roadmap for companies in the Forest, Land and Agriculture (FLAG) sector to set near-term and net-zero climate targets.[114] As investors, regulators, and civil society are demanding greater transparency and accountability, SBTi provides companies with a credible and uniform framework to quantify and disclose land-sector emissions and mitigation efforts—including those linked to deforestation. As of July 2025, 302 companies had set and validated FLAG targets under the SBTi, more than 40 (or approximately 8%) of the companies in Forest 500's 2024 report—those companies with the greatest exposure to deforestation risks.[115] While only half (151) of these companies have also adopted a zero-deforestation commitment aligned with their FLAG target, FLAG Guidance requires companies to publicly commit to no-deforestation across all material commodities and emission scopes.[116]

As deforestation, forest degradation, and land-use emissions become recognized not just as reputational liabilities but as material financial risks, companies have growing internal incentives to act—protecting long-term profitability and shareholder value. In this context of rising regulatory scrutiny and investor demand, FLAG targets may prove more durable and effective than earlier efforts driven primarily by goodwill or public image. Additionally, the Taskforce on Nature-related Financial Disclosure (TNFD) supports companies to integrate nature-related dependencies into their corporate and financial risk management, providing a disclosure framework and guidelines for managing risks and opportunities associated with deforestation and conversion.[117]

→ The Science-Based Targets for Nature framework offers a robust framework for aligning company action with both local and global nature goals. The SBTN framework includes time-bound, quantitative targets on deforestation- and conversion-free commodity production and sourcing.

Launched in 2019, the SBTN builds on the SBTi and provides quantifiable, place-based targets for companies. The SBTN's three overarching Land targets allow adopting companies to track progress on key land use change indicators and can be adopted by companies operating in different segments of supply chains.[118] The Land targets were designed in collaboration with AFi and SBTi and represent an accelerated commitment to remove deforestation and conversion of natural land stemming from the production and sourcing of agricultural and hard commodities. Of the 17 companies participating in the SBTN's 2024 Validation Pilot, 9 completed the target-setting phase (Step 3), and 7 had all their required targets validated.[119] Of the 17 companies that participated in the Validation Pilot, 8 are on the Forest 500's 2024 list.[120]

→ Traders hold an important influence over forest-risk supply chains. Encouragingly, palm oil traders show signs of meaningful progress in implementing deforestation- and conversion-free sourcing, though progress on soy and cocoa remains limited.

A 2024 WWF-UK assessment of the world's largest soy, palm oil, and cocoa traders found that 7 of the 8 largest palm oil traders have adopted robust monitoring action plans to eliminate deforestation and ecosystem conversion from their supply chains.[121] In contrast, just one soy trader (out of 10 assessed) and none of the cocoa traders assessed met WWF's criteria for robust monitoring action plans. In a separate 2024 assessment, WWF found significant progress among palm oil traders in adopting robust deforestation- and conversion-free (DCF) commitments and assessed 23 companies (or 8 percent of the 285 companies approached) to be "leading the way," an improvement from 14 leading companies in 2021.[122] Yet, the assessment also found a glaring lack of transparency, with over half (157 companies) of the 285 companies approached opting not to disclose any information regarding their palm oil usage and sustainability efforts.

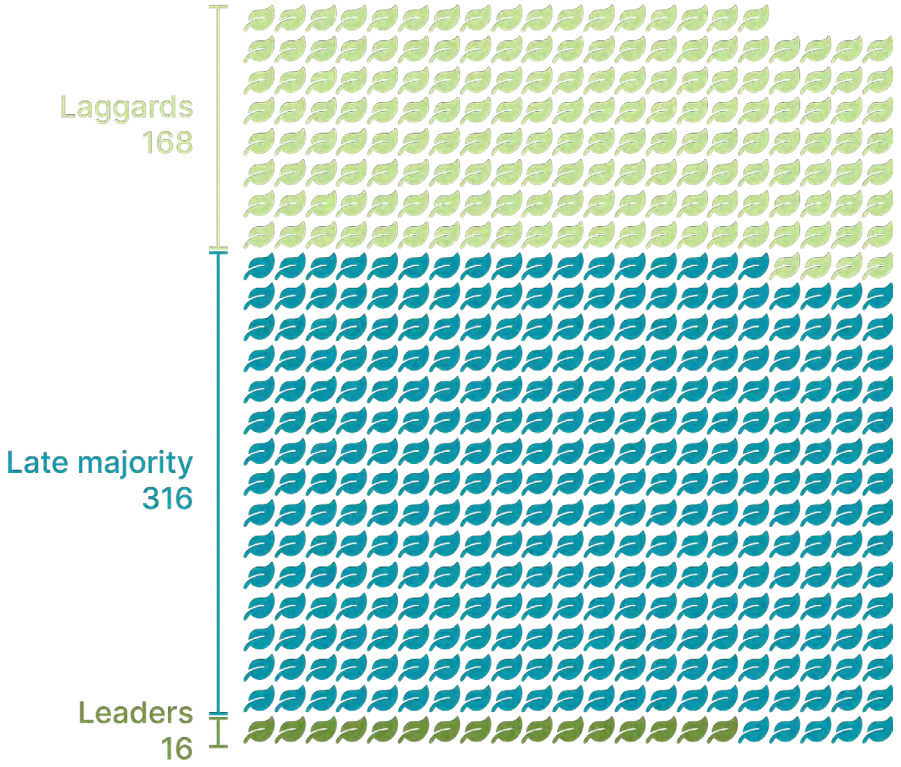
COFCO, a major Chinese trader of soy and corn, stands out for pairing ambition with action. It is one of only two traders globally to have adopted SBTi-validated FLAG targets as of end-2024, and it secured a USD 600 million sustainability-linked revolving credit facility tied to achieving those supply chain emission goals.[123] While most large traders have made some form of science-based or zero-deforestation commitment, widespread adoption of rigorous FLAG targets and time-bound implementation plans remains critical to shifting sector-wide practices.

→ Only 3 percent of companies assessed by Forest 500 are implementing strong deforestation commitments as expected, while 63 percent show shortcomings in their commitments or implementation. Forest degradation is not comprehensively tracked.

In 2024, the 500 major companies in forest-risk commodity supply chains assessed by Forest 500 fulfilled, on average, just 16.2 percent of the criteria for implementation and reporting on zero deforestation commitments.[124] Just 3 percent (16 companies) of the companies assessed by Forest 500 were deemed to be "leaders" that provided evidence of adequate implementation, whereas 63 percent (316 companies) were assessed as the "late majority" due to their partial commitments and/or weak implementation. The remaining 34 percent (168 companies) were deemed to be "laggards" due to a complete lack of public deforestation commitments (**Figure 2.3**).[125]

To mitigate exposure to forest risks and achieve their commitments, companies must ensure processes are in place for traceability, monitoring, third-party certification, and supplier engagement. The 2023 OECD-FAO Business Handbook on Deforestation and Due Diligence in Agricultural Supply Chains offers guidance to companies on embedding deforestation and forest degradation considerations.[126]

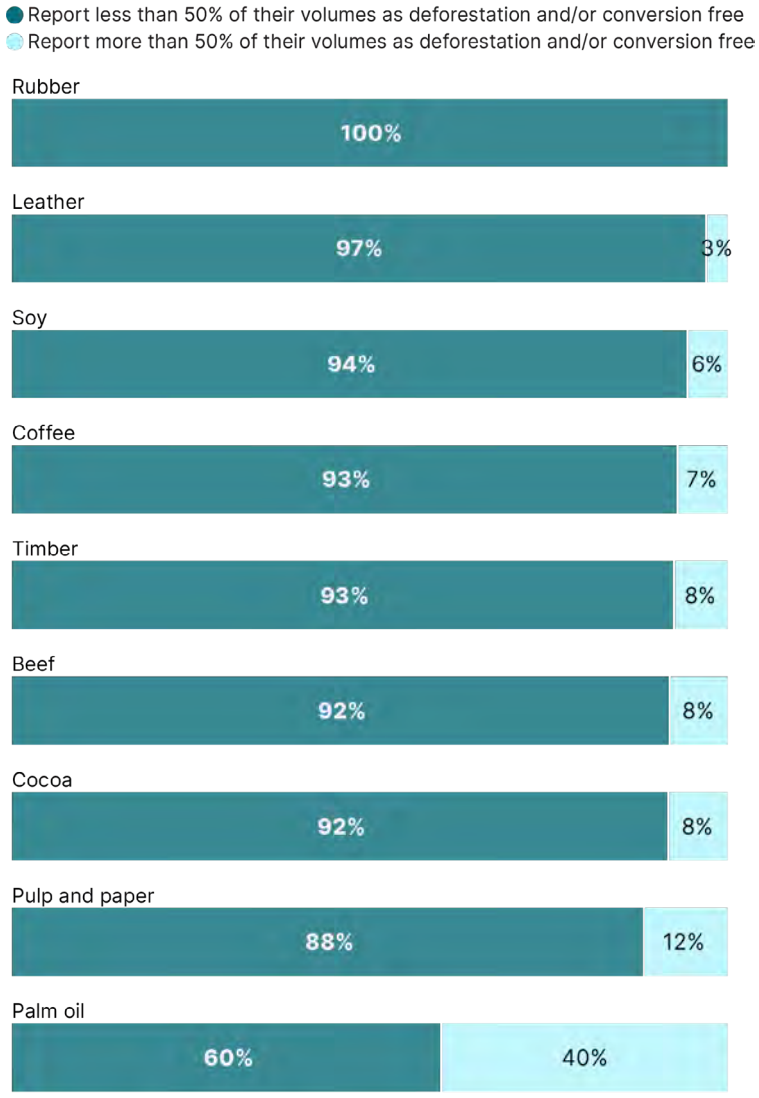
Figure 2.3. Leaders, late majority, and laggards on setting and implementing forest commitments, among Forest 500 companies



Source: Thomson, E., 2025, Companies profit, forests fall: everyone pays the price, Global Canopy, Oxford, UK

Despite the resources now available to support implementation, companies continue to move too slowly. Across all commodities assessed by Forest 500, just 22 percent of companies have published evidence of adequate implementation (i.e., taking credible steps to monitor impacts, engage suppliers, and report progress) for one or more commodities.[127] Approximately one quarter of companies (24.3%, or 598 companies) disclosing forest-related data to CDP in 2024 assessed their DF or DCF status for at least one commodity and disclosed a volume determined as DF or DCF. Of the companies that reported DF/DCF status[d], 81.9 percent determined volumes as DF/DCF through a third-party certification scheme providing full DF/DCF assurance, 37.1 percent determined volumes as DF/DCF through monitoring of production units, and 44.1 percent determined volumes as DF/DCF through monitoring of the sourcing area. Similarly, just 8 percent of Forest 500 companies in 2024 reported more than 50 percent of their commodity volumes as DCF; as illustrated in **Figure 2.4**, the palm oil sector stands out as the best performer, with 40 percent of companies reporting more than half of their commodity volumes as DCF.[128] Only 20.1 percent of sourcing companies disclosing through CDP report that they trace 100 percent of at least one sourced raw product back to its origin (production unit). Cattle products were the most frequently traced product to production unit among reporting companies, with 19.5 percent of cattle sector companies able to trace 100 percent of their volumes to production unit. Additionally, as illustrated in **Figure 2.5**, data suggests that companies across the palm oil, timber & pulp, and rubber sectors continue to lack adequate monitoring for deforestation and conversion in both their own operations and in their suppliers' operations.

Figure 2.4. Performance across companies by sector on disclosure of volumes as deforestation and/or conversion-free



Source: Thomson, E., 2025, Companies profit, forests fall: everyone pays the price, Global Canopy, Oxford, UK

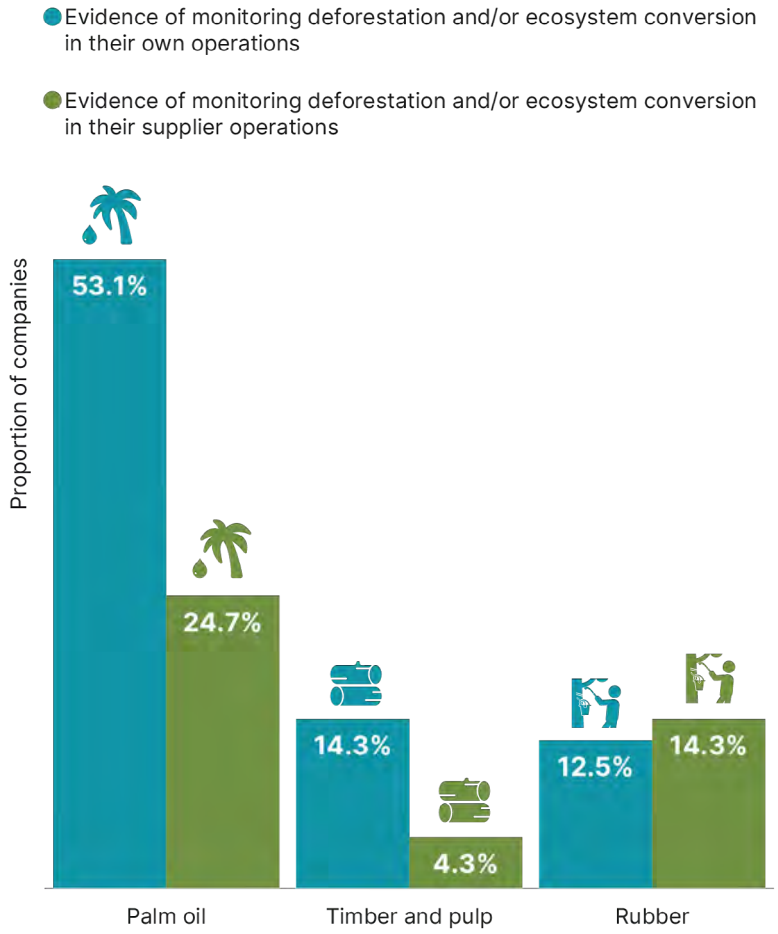
d Companies can use more than one method to determine DF/DCF status of their commodities when reporting to CDP

Progress on supplier engagement also varies by sector. Among companies assessed by CDP, 39.7 percent report working with direct (i.e., first-tier) suppliers, but only 23.5 percent engage with direct or indirect suppliers on no deforestation and/or no conversion of other natural ecosystems. Only 15.3 percent engage smallholders, with just 6.8 percent of companies engaging with smallholders through financial incentives (e.g., offering price premiums for certified products or products linked to best agricultural practices). According to ZSL SPOTT's 2024 assessments, the palm oil sector performs best on reporting of processes for prioritizing, assessing, and/or engaging suppliers on compliance with their policy and/or legal requirements, whereas the rubber sector performs worst among the three sectors assessed (**Figure 2.6**). Engaging indirect suppliers remains particularly challenging in agricultural sectors dominated by smallholders and intermediaries, like cocoa and palm oil, though landscape and jurisdictional approaches are increasing (see **section 4.1** in this chapter).

→ Companies are using third-party certification and auditing standards to mitigate their exposure to forest risks. These certification schemes cover significant market shares of certain commodities (e.g., palm oil, coffee, and timber).

In the agriculture sector, palm oil companies have achieved a high share of certification coverage, with around 20 percent of global production certified by the Roundtable on Sustainable Palm Oil (RSPO), the largest international standard for sustainable palm oil certification.[129] Similarly, around 26 percent of coffee was purchased as standard-compliant in 2021, with Fairtrade, Organic, and Rainforest Alliance being the most common certification schemes globally.[130] In the timber sector, Programme for the Endorsement of Forest Certification (PEFC) reports certification of 294 million hectares of forests globally, while approximately 166 million hectares of forests are Forest Stewardship Council (FSC)-certified as of September 2025.[131,132]

Figure 2.5. Share of companies by sector publishing evidence of monitoring deforestation and/or ecosystem conversion in their own operations and in their suppliers' operations

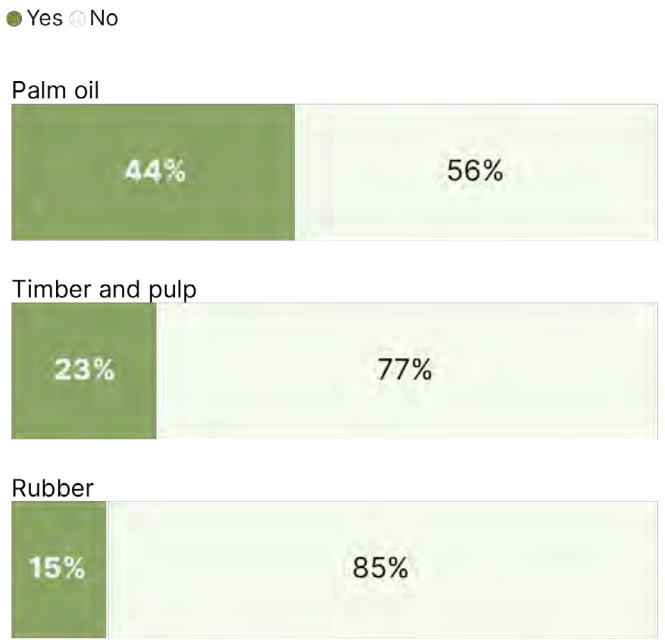


Note: The share of companies for the palm oil, timber & pulp, and rubber sectors that published evidence of monitoring deforestation and/or ecosystem conversion in their own operations and in their suppliers' operations

Source: ZSL SPOTT's 2024 assessments, available at https://www.spott.org/

Evidence suggests that well-designed, rigorous third-party certification, when properly implemented, can bring significant economic and environmental benefits in the forestry and agriculture sectors.[e] The most rigorous schemes are both members of ISEAL and are also ones that are ISEAL Code Compliant.[133] Commodity certification schemes can take different forms, often distinguished by whether they require the physical separation of materials with specific attributes (e.g., "identify preserved," "segregated," and "controlled mass balance" systems) or do not require physical separation (e.g., "non-controlled mass balance systems" and "book & claim systems").[134] Those employing a "segregated" approach (i.e., certified volumes are kept physically separate from non-certified volumes throughout the entire supply chain) are generally suitable for demonstrating product-level DCF compliance[135]—although achieving full segregation of certified and non-certified commodity volumes is often very costly and complex to implement within supply chains.[136,137] Conversely, certification schemes using a "non-controlled mass balance" approach (i.e., certified and non-certified volumes are mixed along the supply chain) are not considered adequate for product-level DCF compliance but may still contribute to responsible sourcing and broader corporate sustainability goals.[138]

Figure 2.6. Share of companies by sector reporting a process for prioritizing, assessing, and/or engaging suppliers on compliance with their policy and/or legal requirements



Note: The share of companies in the palm oil, timber & pulp, and rubber sectors that report a process for prioritizing, assessing, and/or engaging suppliers on compliance with their policy and/or legal requirements

Source: ZSL SPOTT's 2024 assessments, available at https://www.spott.org/

e Many of the studies on effects of forest certification assess counterfactual scenarios, hence the effect of certification depends on the baseline conditions (i.e., whether there would have been deforestation, forest degradation, or other issues in the absence of certification). This is relevant from a company perspective.

A systematic review of studies on the impacts of forest management certification schemes[f] found largely positive effects (70%) on forest degradation, depending on ecological conditions and logging methods. It also found minor positive (54%) and neutral (46%) effects on deforestation, depending on contextual factors such as tenure security and the availability of alternative livelihoods.[139] However, there is significant variation in the rigor of different certification programs. While there are many forest management certification programs globally, FSC is considered the most robust in terms of its requirements and policy scope.[140] Recent evidence suggests that FSC-certified areas in Gabon and the Republic of the Congo are experiencing improved numbers of medium- and large-sized forest mammals.[141] A global systematic review of FSC-certified areas found strong variation in the effects of certification on biodiversity depending on species traits, and an overall neutral effect of certification.[142] The Sustainable Forestry Initiative, which serves as the PEFC's national member for the US and also operates in Canada, has received criticism from civil society organizations for its failure to guarantee key sustainability outcomes.[143,144]

For agricultural commodities, a systematic review of studies on the impact of certification schemes (e.g., RSPO and Rainforest Alliance Sustainable Agriculture) found positive effects on deforestation, biodiversity, and wildlife across 76 percent of studies on coffee certification and 66 percent of studies on cocoa certification, but just 40 percent of studies on palm oil found positive effects of certification on these issues.[145]

3.2 Progress in extractive industries

Mining's forest impacts are increasing and are further projected to grow under business-as-usual scenarios, in part due to the growing demand for certain minerals and metals to supply the energy and digital transitions.[146,147,148,149,150] The growth in mineral production is leading to an increased overlap between mining sites and areas of high ecological value. An estimated 77 percent of all mines globally are located within 50 kilometers of Key Biodiversity Areas (KBAs).[151] Further, 8.6 percent of operational mines globally are located within KBAs, and 6.7 percent of mines in the exploration phase (i.e., mines that could soon become operational) are located within KBAs. Among all energy transition mineral mines globally, 7 percent overlap with KBAs.[152]

→ Mining sector companies show some signs of improvement in transparency but remain overall weak in adopting commitments, targets, and policies to address forest and biodiversity risks from their operations.

Overall, biodiversity (and forest) disclosure to CDP by companies engaging in mining/coal extractive activities increased from 39 companies in 2023 to 375 in 2024. Over half (57.7%, or 375/650) of all mining/coal extractive companies disclosing in 2024 reported biodiversity data. The increase in disclosure was predominantly due to an increase in companies requested to disclose on this topic and a change in how companies report through CDP.[153] Nevertheless, this finding signals a willingness and ability by companies across the sector to disclose biodiversity and forest data.

Despite some advancements in 2024 on data disclosure by mining/coal extractive companies reporting to CDP, the sector continues to lack sufficient rates of adoption of robust policies for forest or biodiversity risk mitigation (**Figure 2.7**). Just over half (52.3%, or 196/375) of mining/coal extractive companies disclosing to CDP reported a policy on biodiversity and/or forests, and of these, 86.7 percent (170/196) have made their policies publicly available. Yet, fewer companies reported commitments to avoid negative impacts on threatened and protected species (21.1%, or 79/375 companies) or to respect legally designated protected areas (16%, or 60/375 companies). The effectiveness of commitments and targets is undermined by their generality—very few companies aim for no net loss of biodiversity (7.5%, or 28/375 companies) or net-positive biodiversity gain (2.9%, or 11/375 companies), and only 13.1 percent of companies (49/375) have measurable and time-bound targets related to their commitments to reduce or avoid impacts on biodiversity. Further, only 21.3 percent integrate biodiversity issues into any aspects of their long-term strategic business plan, and only 33.9 percent provide details on their mining projects, such as type, location, and mining method(s) used.

f The study sample was largely limited to FSC-certified forests; the study found scarce empirical evidence of the impacts of other certification schemes (e.g., PEFC) on deforestation and forest degradation.

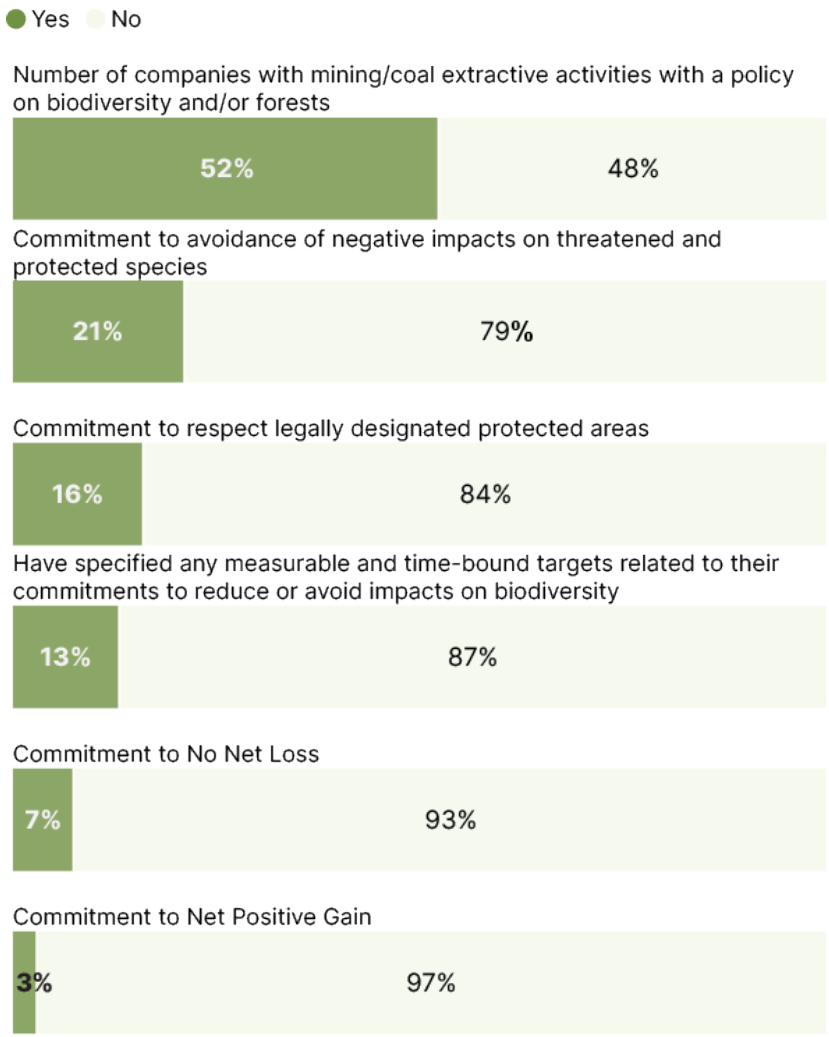
The World Benchmarking Alliance also provides insights into the extent to which the most influential companies (by share of global production volumes, influence over global governance processes, ecological footprint in developing countries, etc.) understand and address their impacts and dependencies on nature. Its most recent assessment (from 2022) found that of the 102 companies assessed from the metals and mining sector, the vast majority (80 companies) achieved a composite "ecosystems and biodiversity" score below 20, indicating very weak performance on indicators such as disclosure of proximity of operations to key biodiversity areas and efforts to achieve conversion-free supply chains across relevant high-risk commodities.[154]

➔ **Nevertheless, there have been important developments in the sector, including the publication of influential sector guidance on nature and the increasing adoption of specific and measurable targets.**

Despite slow overall uptake of forest-related commitments in the mining sector, recent developments suggest growing awareness and early movement toward more specific and measurable action. In January 2024, the International Council on Mining and Metal (ICMM) released a new Position Statement on nature, signaling a renewed focus and commitment from leading global mining and metals companies to contribute to a nature-positive future by 2030.[155,156] This was followed in March 2025 by new ICMM guidance for achieving No Net Loss or Net Gain of biodiversity, covering each stage of the mining lifecycle. The guidance serves as a critical resource for companies to translate their nature-positive commitments into implementation.[157] Additionally, in April 2024, the UN Secretary General launched the Panel on Critical Energy Transition Minerals, which published a report outlining seven Guiding Principles and five Actionable Recommendations to facilitate a more equitable and just energy transition.[158]

Meanwhile, the TNFD—after extensive consultations with scientific experts and market participants, and complementing its general guidance for nature-related disclosure—published sector-specific guidance for metals and mining in June 2024.[159] As of September 2025, 39 extractives and minerals processing companies had committed to publish TNFD-aligned disclosures.[160] This includes two companies from the construction materials sector, four from the oil & gas sector, and 18 from the metals & mining sector (non-oil & gas and non-construction).

Figure 2.7. Scope of biodiversity policies of mining and coal extractive companies reporting through CDP in 2024



Source: CDP (2025). Disclosure data shared directly with the Forest Declaration Assessment

In parallel, 89 mining sector companies had set near-term science-based targets under the SBTi as of September 2025, with 22 also setting long-term net-zero targets.[161] Under SBTi rules, companies with significant Scope 3 emissions—typical in this sector—must address those in both near-term and net-zero targets, helping to extend ambition across supply chains.[162] However, progress remains limited in part by sector-specific challenges in influencing and reducing Scope 3 emissions.[163]

→ Companies in mineral supply chains are increasingly adopting voluntary certification and auditing standards to ensure responsibly produced materials. Participation and performance of mine sites and facilities under certain robust certification schemes are growing. Yet, across the broader landscape of voluntary standards in the minerals sector, there is significant room for improvement in supporting companies to address forest and biodiversity risks from mining and mineral supply chains.

In the absence of strong regulatory action, voluntary sustainability initiatives in the minerals sector have expanded in membership, geographic spread, and commodity coverage over the last several years.[164] Voluntary initiatives aim to promote responsible supply chain practices through setting standards and/or other forms of guidance.[165] Most voluntary sustainability initiatives in the minerals sector are designed for large-scale mining (LSM), which occurs at much greater scales globally than artisanal and small-scale mining (ASM) and contributes to a greater level of negative forest impacts than ASM, although ASM poses a distinct and growing threat to tropical forests.[166,167]

Few of the leading mining standards include strong mandates for assessing indirect and cumulative biodiversity impacts, but engagement and performance of mine sites and facilities under some of the strongest responsible mining frameworks are growing.

A 2025 Forest Declaration Assessment briefing paper examined the capacity of voluntary standards to mitigate harmful forest impacts from mining.[168] It found that, with exceptions, voluntary standards and guidance often fail to directly address the specific risks to forests and the full life cycle of forest-risk activities inherent to mining activities from exploration through site closure, and that they lack sufficient multi-stakeholder representation. Further, it found voluntary initiatives alone face challenges in incentivizing companies to surpass regulatory minimum performance standards, a challenge compounded by limited market demand and low willingness to pay a premium for more responsibly produced goods.

The Consolidated Mining Standard Initiative (CMSI) is working to consolidate four prominent responsible mining standards into one standard.[169] This major development in the standards landscape could, in theory, increase uptake of best practices, improve data comparability, and make responsible sourcing easier for downstream buyers by reducing administrative burdens.[170] However, some have expressed concerns that the CMSI provides an overall weaker and less rigorous standard that falls below existing requirements under international law, and therefore risks "lowering the bar" and decreasing ambition and performance on environmental and human rights issues.[171,172,173]

A 2024 analysis found that six of the leading voluntary mining standards lack explicit language to identify impacts on natural forests, deforestation, and/or land use change, and in many cases do not provide sufficient supporting guidance on which indicators or methods to use to achieve compliance with adhering to the mitigation hierarchy and the No Net Loss of biodiversity.[174] A bright spot on forests, the Initiative for Responsible Mining Assurance (IRMA)'s Standard for Responsible Mining offers the most comprehensive framework for evaluating and mitigating biodiversity impacts from mining. And its reach is growing: as of September 2025, 39 mine sites were publicly reporting to be in the self-assessment stage of the IRMA assessment process, up from 31 sites in September 2023 and six in September 2020.[175] Additionally, 26 sites had begun or completed the independent, third-party assessment by September 2025,[176] up from 15 sites in September 2023[177] and 13 sites in October 2022.[178]

Another voluntary sustainability initiative, the Toward Sustainable Mining (TSM) framework,[179] has been adopted by 13 countries' national mining associations,[180] up from nine in 2022. While the TSM framework does not explicitly include forest requirements, it requires members to conduct biodiversity and environmental impact assessments, with risks and impacts to be managed through application of the mitigation hierarchy. In 2024, facilities achieved improved performance on all three indicators under the TSM's Biodiversity Conservation Management Protocol, with approximately 90 percent of facilities achieving Level A (overall "good

practices" including a senior management-level commitment to apply the mitigation hierarchy).[181] This represents significant progress since 2013, when facilities achieved less than 60 percent on all three Biodiversity Conservation Management indicators.

The Extractive Industries Transparency Initiative standard, which provides requirements for resource-rich countries to disclose information on the governance of oil, gas, and mineral resources along the value chain, is currently adopted by 54 countries. Of these, 10 countries are now at a "high" or "very high" level of implementation of the standard,[182] meaning they have, on average, fully met or exceeded the requirements across the standard's three components (stakeholder engagement, transparency, and outcomes & impact). The standard includes a requirement on "environmental and social impact of extractive activities," where countries are assessed on whether they have implemented a robust regulatory framework and monitoring efforts to manage the environmental and social impacts of extractive industries, and whether companies in the country are adhering to their environmental and social obligations.[183]

→ Collectively, downstream companies in mineral supply chains have made limited progress on addressing environmental impacts, with some company-level examples demonstrating positive practices.

Companies that procure rather than produce extractive commodities, as a collective, lack sufficient environmental commitments and do not sufficiently back existing commitments with concrete actions. For example, automakers and battery manufacturers in the electric vehicle (EV) sector are not conducting adequate due diligence on their supply chains, which continue to be linked to significant impacts on forests and forest-dependent communities.[184,185] Companies in the watch and jewelry sector have advanced in supply chain sustainability areas such as materiality analysis, monitoring, reporting, and disclosure but are still falling short on traceability, transparency, stakeholder engagement, and biodiversity risk mitigation.[186]

Some company-level cases provide examples of progress on the adoption of strong commitments and policies. Several of the world's largest technology companies (e.g., Apple, Google, and Microsoft) have worked to increase the use of recovered and renewable materials in their products.[187] For example, in April 2023, Apple announced a series of 2025 targets, such as achieving 100 percent recycled cobalt in all Apple-designed batteries and 100 percent recycled rare earth elements in all of its devices' magnets, in pursuit of its broader goal to produce the entirety of its products using entirely recycled and renewable materials.[188] According to its 2024 annual Environmental Progress report, 24 percent (by mass) of shipped Apple products came from recycled or renewable sources.[189] In the EV sector, Volvo introduced the world's first EV battery passport for one of its new vehicle models in anticipation of the EU's new Battery Regulation[190] and has signed an agreement with Chinese battery manufacturer CATL to increase the use of recycled materials in battery production of Volvo EVs.[191]

Complicating due diligence efforts by downstream buyers is that, as with many supply chains in the agricultural and forestry sectors, mineral supply chains lack the transparency and traceability necessary to effectively conduct due diligence and address environmental risks.[192] In part, this is due to the outsized role played by mineral commodity traders, who have historically not provided sufficient information to buyers on provenance and suppliers.[193]

Without improved due diligence systems, environmental commitments from downstream companies are unlikely to drive meaningful change in producer practices at scale or reduce forest impacts on the ground. The OECD's 2023 Handbook on Environmental Due Diligence in Mineral Supply Chains[194] provides downstream companies with a clear description of how to conduct due diligence on their mineral supply chains and mitigate direct and indirect forest risks. However, this new OECD Handbook has not yet been widely adopted by companies nor incorporated into voluntary sustainability standards, highlighting the need for greater investment to drive its mainstreaming across the minerals sector.[195] The SBTN's Land Targets require companies sourcing hard commodities linked to deforestation and conversion to commit to no-conversion of natural ecosystems from these commodities within their value chains. These targets also provide a specific, sector-appropriate, no-conversion target pathway for the mining, infrastructure, construction, and extractive (MICE) sectors.[196]

4. HAVE COLLABORATIVE/MULTISTAKEHOLDER INITIATIVES ADVANCED SUSTAINABLE PRODUCTION & DEVELOPMENT?

4.1. Landscape & Jurisdictional Approaches

Corporate engagement in landscape and jurisdictional approaches is increasing, particularly in the palm oil, cocoa, and pulp & paper sectors, though it remains low for beef and soy.[197] Yet only about one-third of disclosed landscape and jurisdictional approaches were assessed as operating "credibly" through transparent, truly collective action to achieve and monitor progress toward shared landscape sustainability goals.

Investments in supply chain monitoring and traceability are necessary yet insufficient on their own to achieve sustained progress on sustainable commodity sourcing.[198,199] Landscape and jurisdictional approaches (L/JAs) aim to align stakeholders—including governments, companies, and communities—around shared sustainability goals within key production regions. By harmonizing policies, incentives, and local initiatives, these approaches help address systemic drivers of deforestation. For companies, credible participation can strengthen their social license to operate, enhance supply chain resilience, and add value through sustainability premiums.[200]

In 2024, 34 out of 100 palm oil sector companies assessed by ZSL SPOTT published examples of implementing a landscape approach, up from 25 companies in 2023.[201] Just six out of 100 timber & pulp companies in 2024, and two out of 30 rubber companies, published examples of implementing a landscape approach in 2024.[202,203]

Among companies disclosing to CDP in 2024, 14.5 percent (356 companies) disclosed their engagement in L/JAs, up from 27 companies in 2020, the first year that landscape and jurisdictional approaches were integrated into CDP's Forests Questionnaire. Among states and regions disclosing to CDP in 2024, 41 disclosed their engagement in landscape and jurisdictional initiatives, up from 17 in 2020. Additionally, in 2024, 26.9 percent of companies disclosing to CDP participated in other external activities beyond L/JAs (e.g., engagement with communities or NGOs, involvement in industry platforms, funding research organizations, etc.) to support the implementation of policies and commitments related to deforestation, ecosystem conversion, or human rights issues in their commodity value chains.

Despite the positive trend in L/JA participation across companies, states, and regions, there remains significant room for improvement in the quality of both disclosure and design of these initiatives.[204] Around half of disclosures made through CDP from 2020-23 met credibility criteria, such as operating at an appropriate scale, aligning around shared goals, and using transparent monitoring systems. Only 85 organizations (3.5% of organizations disclosing to CDP in 2024) engaged in L/JA initiatives that have multiple goals and multiple partners, and under which progress is collectively monitored using a shared external framework, and the initiative area is disclosed. Pre-validated results of the 356 companies disclosing in 2024 indicate that the proportion of credible L/JAs reported may decrease as the overall number of reported multistakeholder initiatives goes up.[205] Common shortcomings of L/JAs include limited or vague public information; unclear or absent multistakeholder governance structures; lack of evidence that initiatives address drivers beyond individual supply chains; and failure to disclose collective monitoring frameworks or progress tracking tools. Nonetheless, a growing body of technical guidance is available to guide the design, implementation, promotion, and evaluation of these initiatives.[206,207,208,209,210,211]

Recent case studies from subnational jurisdictions in Mexico, Brazil, and Indonesia show how well-designed L/JAs can achieve promising results in addressing forest impacts from commodity supply chains.

In **Mexico**, the government of Jalisco state has coordinated with local and international stakeholders to tackle cattle-driven deforestation in the state through a landscape-based approach involving the implementation of silvopastoral systems and other good livestock practices. As a result, local producers are now able to sell their deforestation-free beef on the market.[212] In Indonesia, Rainforest Alliance has convened the Sintang Landscape Initiative since 2018, which aims to curb commodity-driven deforestation along the landscape of the Sintang district by strengthening protection and management of high-conservation value (HCV) areas, strengthening smallholder inclusion, and building local capacity to produce sustainable oil palm. The initiative has reportedly led to several

positive outcomes, including the implementation of monitoring systems across nearly 10,000 hectares of HCV areas in oil palm concessions.[213] The success of L/JAs hinges on context-specific design, strong political will, and continued research to better understand where, why, and how these initiatives can be most effective.

4.2. Other multistakeholder partnerships

In recent years, several successful models of international and regional multistakeholder partnerships—which are crucial to ensure that governments and companies are aligned in their approaches to driving increased traceability and transparency—have demonstrated the power of collaboration to advance sustainable production and development.

Multistakeholder partnerships are critical to support supply chain sustainability efforts. Collaborations between governments, companies, financial institutions, multilateral institutions, and civil society can support companies and producer countries in meeting legality and sustainability standards, while strengthening rural economies and improving market access.

Examples of successful multistakeholder collaborative models include the Africa Sustainable Commodities Initiative, the IDH-led Cocoa Roadmap in Cameroon, and the Global Platform on Sustainable Natural Rubber.[214] Likewise, since 2010, UNDP's Green Commodities Programme has coordinated national dialogues on sustainable commodity production.[215] Similarly, the Forest Positive Coalition, launched in 2020, has driven increased transparency across key forest-risk sectors (palm oil, soy, paper products, and cattle).[216] Of the coalition's 21 member companies, 83 percent publicly disclosed their deforestation- and conversion-free supply in 2024, demonstrating progress in reporting across all commodities.[217]

In anticipation of the implementation of the EUDR, the private sector, exporting governments, and other actors have made notable investments in supply chain monitoring and traceability. Positive developments include a new UNDP-UNCTAD partnership to support traceability in Latin American coffee,[218] and multistakeholder efforts in **Costa Rica**, **Ecuador**, and the Colombian Amazon to enable deforestation-free coffee and cocoa trade.[219,220,221] Despite these positive examples, the delay of EUDR application and the likely dilution of its impact through a weak country risk benchmarking system have generated uncertainty and slowed the pace of investments in ensuring EUDR-compliant, deforestation-free supply chains.[222,223,224]

In **Brazil**, the Pará Sustainable Cattle Program is building full traceability systems for cattle supply chains,[225] while the Soy on Track program provides a platform for soy producers, traders, and other supply chain actors to access tools, data, and technical information to comply with the Amazon Soy Moratorium and Pará's Green Grain Protocol.[226,227] In Argentina, the VISEC initiative is enhancing the country's readiness for EUDR compliance by bringing together public and private actors to monitor and reduce deforestation in the Gran Chaco region connected to soy and beef production.[228,229]

Multistakeholder research partnerships also play a supporting role. The UN Environment Programme (UNEP)-World Conservation Monitoring Centre (WCMC) TRADE Hub, a research collaboration between the UNEP and the WCMC from 2018-24, provided key data to support socially and ecologically sustainable commodity trade across eight countries.[230] Other initiatives like the Forest Data Partnership,[231] Open Foris,[232] and Trase's Facilities Data Map[233] continue to improve data availability and quality to support traceability, monitoring, and overall risk mitigation in commodity supply chains.

Endnotes for Chapter 2

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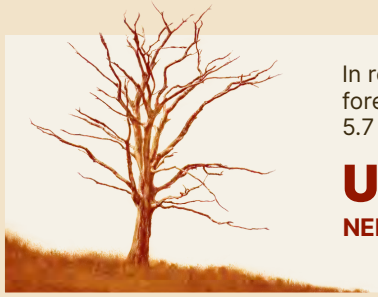
CHAPTER 3

FINANCE FOR FORESTS

THEME 3

FOREST FINANCE FALLS DRASTICALLY SHORT OF 2030 NEEDS



In recent years, international public finance for forest protection and restoration averaged USD 5.7 billion per year—far below the estimated:

USD 117-299 BILLION

NEEDED PER YEAR BY 2030

TOO FEW FINANCIAL INSTITUTIONS HAVE ADDRESSED PORTFOLIO FOREST RISKS

40%

OF FINANCIAL INSTITUTIONS MOST EXPOSED TO COMMODITY-DRIVEN DEFORESTATION RISK IN THEIR INVESTMENTS HAVE A POLICY TO ADDRESS DEFORESTATION

HARMFUL INCENTIVES DWARF POSITIVE ONES BY 200:1.

Average annual direct financial support to agricultural producers during 2021-2023

USD 628.5 BILLION

Average annual finance directed towards agricultural subsidies linked to output or the unconstrained use of inputs such as fertilizer or fuel

USD 409 BILLION

Average annual payments for supply of environmental public goods by agricultural producers

USD 1.7 BILLION

Other producer support
USD 217.8 billion

FINANCE FOR INDIGENOUS & COMMUNITY TENURE ROSE, BUT REMAINS INADEQUATE

Annual funding for Indigenous Peoples', Local Communities', and Afro-Descendent Peoples' forest and tenure management increased by 41% from an average of USD 517 million (2018-2020) to USD 728 million (2021-2024). But even maintaining this improved pace would still leave a:

USD 2.9 BILLION SHORTFALL

AGAINST THE ESTIMATED USD 10 BILLION NEEDED BY 2030

DEBT TRAPS PUSH DEVELOPING COUNTRIES TOWARD EXTRACTIVE GROWTH

Debt burdens limit governments' ability to manage resources sustainably & enforce land-use laws, driving extractive growth. New initiatives (e.g., Bridgetown) seek to break this cycle.

DEVELOPING COUNTRIES' PUBLIC DEBT IN USD (2024) **31,000,000,000,000**

DEVELOPING COUNTRIES' NET INTEREST PAYMENTS ON PUBLIC DEBT IN USD (2024) **921,000,000,000**

MEDIAN DEVELOPING COUNTRIES' SHARE OF INTEREST PAYMENTS RELATIVE TO GOVERNMENT REVENUE (2024) **8%**

Chapter 3 contents

1. INTRODUCTION

1.1. Why look at forest finance?

Continued deforestation and forest degradation create a massive liability for the global economy and investors. Forests aren't just scenic landscapes. They are the engines of global prosperity: they create jobs,[1] support the livelihoods of billions of people,[2] ensure food and water security[3,4] are interwoven with Indigenous heritage,[5] safeguard against disease,[6] drive medical innovation,[7] and much more. Forests also contribute to generating up to USD 150 trillion a year in economic value—nearly double the value of global stock markets.[8]

If forests are to continue providing vital ecosystem services for climate, biodiversity, and sustainable development, an estimated USD 117-299 billion will need to be spent annually on forest protection and restoration by 2030 (USD 496 billion by 2050).[a] However, simply increasing funding or mobilizing additional funds will not halt and reverse the decline of forest ecosystems. Rather, a reorientation of the underlying socio-economic and political forces driving forest loss and degradation is required to redirect finance currently flowing into harmful activities toward forest protection.

Investing in the protection, restoration, and sustainable management of forests and mitigating harm from existing financial flows is not an act of goodwill; it is an insurance policy for long-term economic, financial, and political stability, sustainable development, and reliable supply chains. There is also a strong business case for financial investors to eliminate forest risks from their portfolios: Ignoring this liability can lead to grave physical and transition risks affecting reputation, legal liabilities, insurability, market stability, market access, and financial standing.[9]

a Figures are based on analyses by the United Nations Environment Programme (UNEP), the Climate Policy Initiative (CPI), and the Food and Agriculture Organization of the United Nations (FAO). In a forthcoming report on the state of finance for forests, UNEP estimates that USD 299 billion per year will need to be invested in forest-related nature-based solutions by 2030 (USD 496 by 2050) to achieve the climate, biodiversity, and land conservation targets of the Rio Conventions. CPI and FAO (2024) estimate that the forestry sector will need USD 117 billion annually by 2030 to halt deforestation and realize the full potential of forests for climate mitigation and adaptation, and nature conservation and restoration.

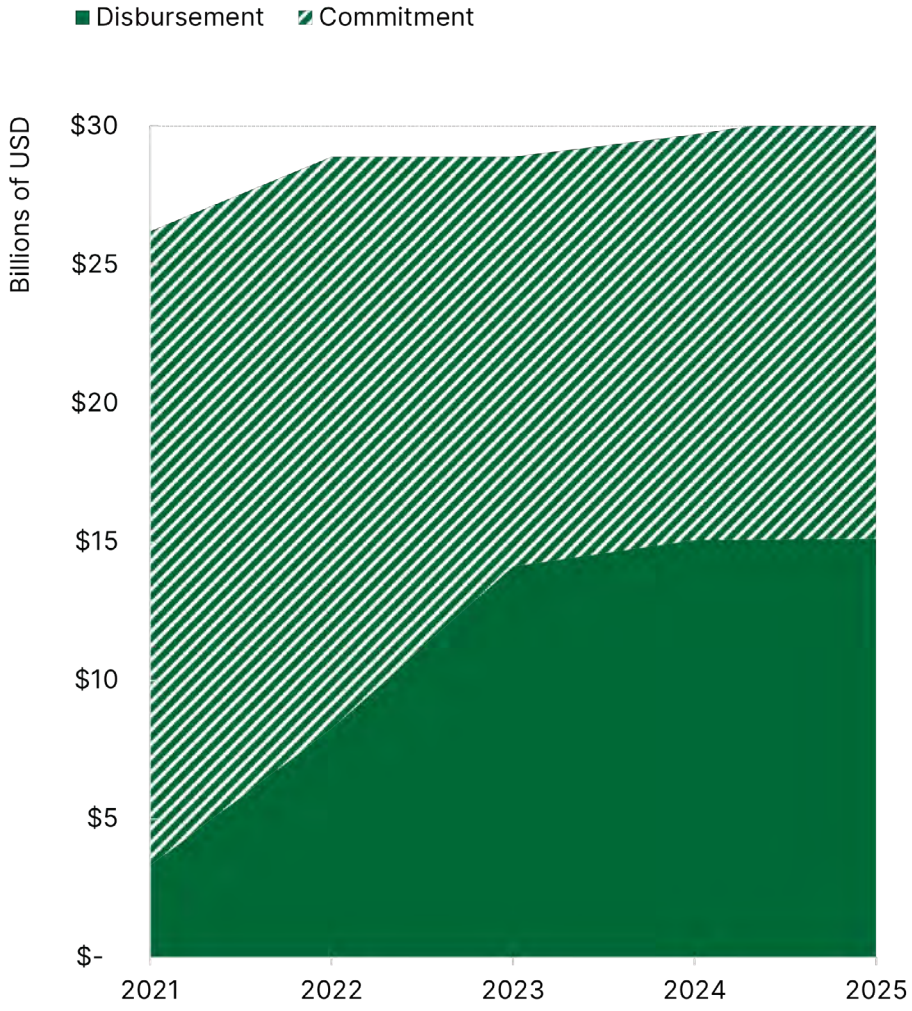
1.2 What has been pledged financially for forest protection and restoration?

Several funding pledges and initiatives related specifically to protecting and restoring forests were announced in the wake of the Glasgow Leaders' Declaration on Forests and Land Use (GLD) for the period of 2021-25. Financing commitments from governments, philanthropy, financial institutions, businesses, and other multistakeholder partnerships currently amount to USD 30.7 billion, of which USD 15.1 billion have so far been disbursed (**Figure 3.1**).[b]

Key forest pledges and initiatives include the Congo Basin Pledge (2021), the Global Forest Finance Pledge (2021), the IPLC Forest Tenure Pledge (2021), the Finance Sector Deforestation Action (FSDA) initiative (2021), the Innovative Finance for the Amazon, Cerrado, and Chaco (IFACC) initiative (2021), the Lowering Emissions by Accelerating Forest Finance (LEAF) Coalition (2021), the Forest, People, Climate (FPC) initiative (2022), the Libreville Plan (2023), and Brazil's inaugural investment commitment for the Tropical Forests Forever Fund (TFFF) (2025).

As pillars of global biodiversity, forests—which contain more than half of all terrestrial species of animals, plants, and insects[10]—could also benefit significantly from commitments under the Kunming-Montreal Global Biodiversity Framework (KMGBF). Under KMGBF Target 19, Parties pledged to mobilize USD 200 billion annually for nature by 2030.[c] Of this total, USD 30 billion should be provided by developed countries, including in the form of official development assistance.[11] Under KMGBF Target 18, countries pledged to reduce harmful incentives by at least USD 500 billion annually by 2030 and scale up positive incentives for biodiversity.[12]

Figure 3.1. Commitments and disbursements under key forest pledges and initiatives from 2021-2025



b Figures are based on analysis by Climate Focus of progress reports for key forest finance pledges. Figures cover pledges and disbursements until September 23, 2025.

c While the Organisation for Economic Co-operation and Development (OECD) tracks funding for biodiversity directly related to this target, there are no figures available specifically on finance for forest protection and restoration under GBF Target 19.

1.3 How does this chapter track progress?

This chapter assesses the extent to which global public and private finance is aligned with forest goals. We assess progress across four topics:

- **Significantly scaling up public finance and mobilizing private investment for forests.** This topic covers public international and philanthropic finance for forest protection and restoration, international REDD+[d] finance, finance provided to Indigenous Peoples (IPs), Afro-descendant Peoples (ADPs), and local communities (LCs), private investment in certified commodity supply chains and land-based climate mitigation, and finance mobilized from voluntary and international carbon markets.
- **Mitigating forest-related risks in the private sector.** This topic covers private finance used to support the production of forest-risk commodities and efforts by financial institutions and regulators to integrate forest and nature risks into financial decision-making.
- **Redirecting incentives, including subsidies, that harm forests and ecosystems.** This topic covers financial support to agricultural and fossil fuel producers and reforms to redirect harmful incentives.
- **Reforming the international financial system and addressing the vicious cycle of sovereign debt.** This topic covers efforts to reform multilateral and international public finance and overhaul sovereign debt.

This chapter relies on different finance datasets and existing analyses by Climate Funds Update, ClimateWorks Foundation, Ecosystem Marketplace, Forests & Finance, the Organization for Economic Cooperation and Development (OECD), Rainforest Foundation Norway, the United Nations Environment Programme, and UN Trade and Development, and by several Forest Declaration Assessment Partners including Climate Policy Initiative, Global Canopy, and WWF, and other qualitative assessments, where available.

The estimates presented in this chapter do not claim to be exhaustive due to limitations discussed in the methodological notes. Though this chapter aims to assess progress globally, it contains relatively more information on tropical forests and developing countries, in part due to a trend in available data and literature.

1.4 What are this chapter's key messages ?

The vast majority of global financial flows remain misaligned with global forest, biodiversity, and climate goals. In recent years, international public finance for forest protection and restoration averaged just USD 5.9 billion per year—two orders of magnitude below the estimated USD 117-299 billion needed annually by 2030. At the same time, environmentally harmful agricultural subsidies, at USD 409 billion per year, exceed green subsidies by a factor of more than 200. At USD 8.9 trillion in 2024, private finance still pours heavily and with limited safeguards into forest-risk sectors. Only half of the assessed jurisdictions have even partially integrated forest risks into financial oversight.

Examples of progress and potentially transformative solutions exist or are emerging to increase forest-dedicated finance and to redirect financial flows from activities that potentially harm forests to forest protection, restoration, and sustainable management. The innovative model of the Tropical Forest Forever Facility is poised to make private investments in tropical forests easier and less risky and could provide a reliable long-term source of funding. New Indigenous and community-led funds put much-needed resources in the hands of local decision-makers. Jurisdictional REDD+ programs have recently picked up speed, with some of them offering higher results-based payments.

d REDD+ stands for Reducing Emissions from Deforestation and Degradation plus additional forest activities such as sustainable management and the conservation and enhancement of forest stocks.

The growing uptake of the International Sustainability Standards Board (ISSB) reporting standards demonstrates the political feasibility of sustainability disclosure. In places such as **Brazil**, **Malaysia**, **Norway**, the **United Kingdom**, and the **European Union**, financial supervision is shifting to incorporate nature-related risks into public and private financial decision-making. The Bridgetown Initiative and a new UN Tax Convention could unlock additional resources for developing countries' sustainable development. Together, these solutions can create the right mix of self-reinforcing forces that change the logic of financial decision-making and put financial flows on a sustainable path.[13]

2. ARE GOVERNMENTS AND THE PRIVATE SECTOR SCALING UP FINANCE FOR FORESTS?

2.1 Public and philanthropic finance

Following the Glasgow Leaders' Declaration, international public finance for forests more than tripled—yet this still only represents a small portion of public finance directed at harmful subsidies.

From 2022-24, following the Glasgow Leaders' Declaration, average annual disbursements of international public finance for forests rose to an estimated USD 5.9 billion, up from USD 1.7 billion in 2018-20.[e] Nonetheless, this total represents only 1.4 percent of the USD 409 billion in public finance directed annually toward environmentally harmful agricultural subsidies that may drive forest loss and degradation (**Figure 3.2**).[f]

In addition, philanthropic donors committed USD 1.3 billion to deforestation prevention and protection of climate-relevant landscapes such as forests from 2019-23.[14] Recent budget cuts in key donor countries,[15] along with geopolitical uncertainty and a lack of new commitments, suggest that public funding is unlikely to increase significantly in the near future.

e The estimate of average annual international public finance for forests post-GLD (2022-2024) is calculated using three different datapoints: i) climate-related Official Development Assistance for the forestry sector (2022-2023 data sourced from the OECD. Data for 2024 is not yet available and is predicted using the average yearly relative change over the last five years.); ii) international REDD+ disbursements (2022-2024 data sourced from the Climate Funds Update Data Dashboard); iii) disbursements under different forest finance pledges by public and philanthropic donors (Climate Focus analysis of 2022-2024 data from different sources). The estimate of average annual international public finance for forests pre-GLD (2018-2020) is calculated using 2018-2020 data on climate-related ODA for the forestry sector (OECD data) and international REDD+ disbursements (data from Climate Funds Update). The period 2018-2020 is used as reference period to align with the reference period used for tracking progress on overarching forest goals (see Theme 1 chapter); and to exclude the year 2021, in which values deviating from historical trends were recorded, presumably due to the COVID-19 pandemic. Disbursements under different forest finance pledges include a small, yet insignificant share of philanthropic finance.

f OECD data on public financial support to agricultural producers that is potentially the most harmful was used as a proxy for public finance for economic activities that drive forest loss and degradation. See OECD. (2024). Agricultural Policy Monitoring and Evaluation 2024: Innovation for Sustainable Productivity Growth. https://doi.org/10.1787/74da57ed-en.

JURISDICTIONAL REDD+ FINANCE

After 15 years, developing countries have received USD 3.3 billion in funding for REDD+.[g] While this is far below the intended scale and speed, transactions under jurisdictional REDD+ programs have recently picked up speed with more than 20 active payment agreements worth a total of USD 1.8 billion.

As of 2024, USD 3.3 billion in international REDD+ funding had been disbursed, just over half of the USD 6.4 billion pledged for 2009-24.[h] In recent years, however, jurisdictional REDD+ activities have picked up speed. Active payment agreements under the Forest Carbon Partnership Facility, the BioCarbon Fund's Initiative for Sustainable Forest Landscapes, the LEAF Coalition, and the Architecture for REDD+ Transactions (ART) could unlock over USD 1.8 billion in results-based payments over the next few years. USD 264 million of this total has been disbursed to date (**Figure 3.3**).[i] These programs are also taking steps to accelerate progress, for example, by providing additional support for the setup of programs (e.g., the LEAF Coalition's new advance payment facility[16]) and offering higher results-based payments (e.g., the LEAF Coalition pays USD 10-15 per tCO_2e[17,18,19] and the Green Climate Fund increased payments to USD 8 per tCO_2e[20]).

Progress in establishing REDD+ programs has been much slower than initially expected.[21] One key reason is the complexity of the requirements involved. Successful REDD+ initiatives demand strong political will to prioritize forest conservation, intensive stakeholder engagement, and governance frameworks that effectively align multiple sectors.

g This figure includes REDD+ readiness and implementation finance disbursements by the Forest Carbon Partnership Facility (FCFP), Green Climate Fund (GCF), Forest Investment Program (FIP), BioCarbon Fund, Central African Forest Initiative (CAFI), UN-REDD, Congo Basin Forest Fund (CBFF), and the Amazon Fund between 2009-2024. The figure is based on an analysis by Climate Focus of data obtained from fund websites and from the Climate Funds Update Data Dashboard.

h The data for international REDD+ commitments include REDD+ readiness and implementation finance commitments by the Forest Carbon Partnership Facility (FCFP), Green Climate Fund (GCF), Forest Investment Program (FIP), BioCarbon Fund, Central African Forest Initiative (CAFI), UN-REDD, Congo Basin Forest Fund (CBFF), and the Amazon Fund between 2009-2024. The data for international REDD+ disbursements include REDD+ readiness and implementation finance disbursements by FCPF, GCF, FIP, BioCarbon Fund, CAFI, UN-REDD, CBFF, and the Amazon Fund between 2009-2024. Data has been obtained from fund websites and from the Climate Funds Update Data Dashboard.

i Figures are based on an analysis by Climate Focus of funding commitments and disbursements under active different payment agreements under four jurisdictional REDD+ mechanisms: FCPF, the BioCarbon Fund's Initiative for Sustainable Forest Landscapes (ISFL), the LEAF Coalition, and the Architecture for REDD+ Transactions (ART). Data has been obtained directly from the websites of these mechanisms.

Figure 3.2. Annual public finance for potentially environmentally harmful agricultural subsidies vs. annual international public finance for forests

Note: Potentially harmful agricultural subsidies include financial support based on output or unconstrained use of inputs such as fertilizer or fuel. International public forest finance includes climate-related Official Development Assistance for the forestry sector, international REDD+ disbursements, and disbursements under key forest finance pledges
Source: Organisation for Economic Cooperation and Development (OECD) (2024) and Forest Declaration Assessment own analysis based on OECD (2025), Climate Funds Update (2025), and progress reports for key forest finance pledge

Additionally, they require credible baseline scenarios, robust monitoring systems, and clear evidence of additionality to ensure the integrity of emissions reductions. Another challenge is that the incentive provided by results-based payments is often not commensurate with the complex challenge of stopping and reversing forest loss. Results-based REDD+ programs typically offer between USD 5-10 per metric ton of CO_2 equivalent (tCO_2e), while the need is estimated at USD 30-50 per tCO_2e.[22,j] Increased results-based payments by the LEAF Coalition and the Green Climate Fund represent a step in the right direction.

FINANCE FOR INDIGENOUS PEOPLES, AFRO-DESCENDENT PEOPLES, AND LOCAL COMMUNITIES

From 2021-24, finance for tenure rights of Indigenous Peoples, Afro-descendent Peoples, and local communities averaged USD 728 million per year, a 41 percent increase above the 2018-20 average.[k] Despite this increase, finance remains far below the USD 10 billion that civil society organizations are calling for to be mobilized by 2030.[23]

IPs, ADPs, and LCs with recognized tenure and forest management rights are effective stewards and guardians of their forest territories.[24] The USD 1.7 billion IPLC Forest Tenure Donor Pledge from 2021—which exceeded its target with more than USD 1.8 billion spent by the end of 2024 [25]—has helped increase finance for tenure rights and forest guardianship of IPs, ADPs, and LCs (see trends over time on the Forest Declaration Dashboard) (**Figure 3.4**). Nonetheless, investment still falls far short. In 2020, the Path to Scale initiative estimated that USD 10 billion in new funding would need to be mobilized by 2030 to recognize collective tenure rights and forest guardianship in at least half of all tropical forests by the end of the decade.[26] Current trends from Path to Scale's funding analysis suggest that committed and disbursed funds will fall USD 2.9 billion short of that goal.[27]

Several Indigenous and community-led funding mechanisms are emerging as powerful tools to align finance with local priorities.

Direct access to climate and forest finance by IPs, ADPs, and LCs is essential for meeting forest conservation and restoration goals and supporting Indigenous and local livelihoods, resilience, and adaptation capacity in the face of climate change. Nonetheless, IPs, ADPs, and LCs still face limited direct access to finance.[l] However, in line with calls and commitments to increase direct disbursements,[m] several new funding mechanisms now enable IPs, ADPs, and LCs to access and control finance according to their own priorities and needs. Successful examples of IP- and LC-led funding mechanisms include the Mesoamerican Territorial Fund, Nusantara Fund, Shandia initiative, the Indigenous Peoples of Asia Solidarity Fund, AYNI Indigenous Women's Fund, and Podáali Fund. Moreover, in 2025, Rainforest Foundation Norway and the Wildlife Conservation Society will start implementing the first-ever direct access fund for IPs and LCs in the Democratic Republic of the Congo.[28]

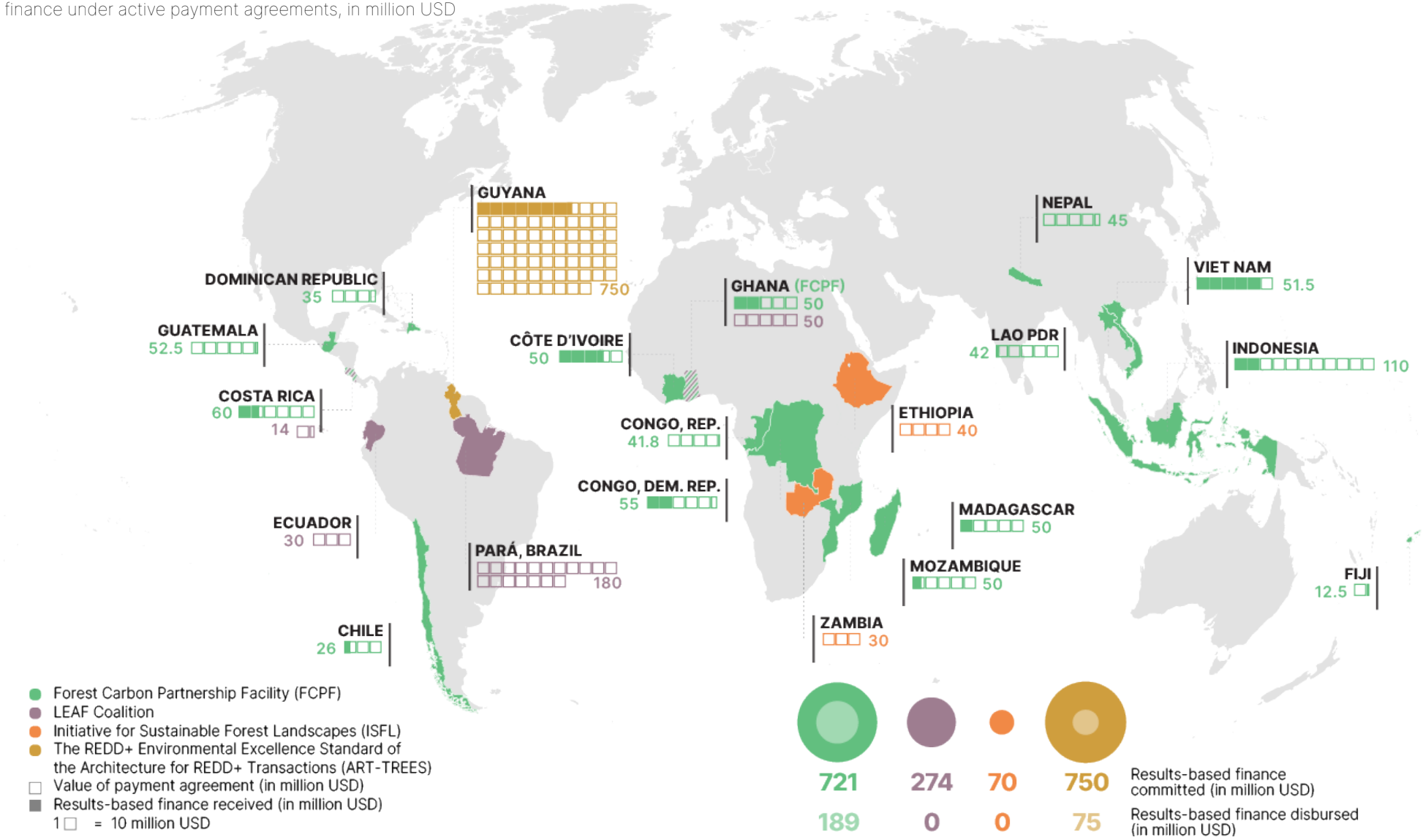
j In comparison, the social cost of carbon—i.e. the cost of not addressing these emissions—are currently estimated at USD 185 per tCO_2e. Economic models suggest that higher payments will scale up the supply of emission reductions from REDD+. For example, a 2021 analysis by Trove Research found that today's average prices of USD 3-5/tCO_2e would have to increase to USD 20-50/tCO_2e by 2030—and potentially to USD100/tCO_2e if governments undertake lower-cost projects first—if the financing of voluntary projects is to reduce emissions beyond those that would otherwise have occurred genuinely. The analysis also expects that prices would then keep rising until 2050. See Trove Research, UCL, & Liebreich Associates. (2021). Future Demand, Supply and Prices for Voluntary Carbon Credits — Keeping the Balance. https://www.msci.com/research-and-insights/paper/future-demand-supply-and-prices-for-voluntary-carbon-credits-keeping-the-balance.

k The figure was calculated using data from Path to Scale Funding Dashboard: https://dashboard.pathtoscale.org. The Path to Scale dataset focuses on international donor fundings for IPs, LCs, and ADPs concerning tenure, rights, conservation, climate, and development in Low- and Middle-Income Countries. More information about the scope of the dataset and the underlying methodology is accessible online: https://dashboard.pathtoscale.org/methodology

l There is no publicly available global data source to track the direct access of IPs, ADPs, and LCs to climate and forest finance. However, available analyses suggest that direct finance for IPs and LCs remains below funding needs despite some signs of progress. On the one hand, a 2024 analysis from the Forest Tenure Funders Group found that around USD 55 million directly funded IPs' and LCs' organizations in 2023, representing 10.6 percent of total contributions toward the COP26 forest pledge and a significant increase from 2.1 percent in 2022 and 2.9 percent in 2021. On the other hand, a 2024 analysis from Rights and Resources Initiative and Rainforest Foundation Norway found that direct finance for IPs and LCs did not increase from 2020 to 2023, even though overall funding for tenure rights and forest guardianship scaled up. Another analysis found that from 2016 to 2020 just 0.6 percent of philanthropic funding benefited Indigenous Peoples.

m For example, the proposed Tropical Forests Forever Facility (TFFF) may provide 20 percent of its funding directly to IPs and LCs. The Brazzaville Declaration from May 2025 calls for allocating a minimum of 40 percent of direct finance for climate, biodiversity, and environmental protection to IPs and LCs.

Figure 3.3. Commitments and disbursements of international results-based REDD+ finance under active payment agreements, in million USD



Source: Own analysis based on FCPF, BioCarbon Fund's Initiative for Sustainable Forest Landscapes (ISFL), LEAF Coalition, and Architecture for REDD+ Transactions (ART)

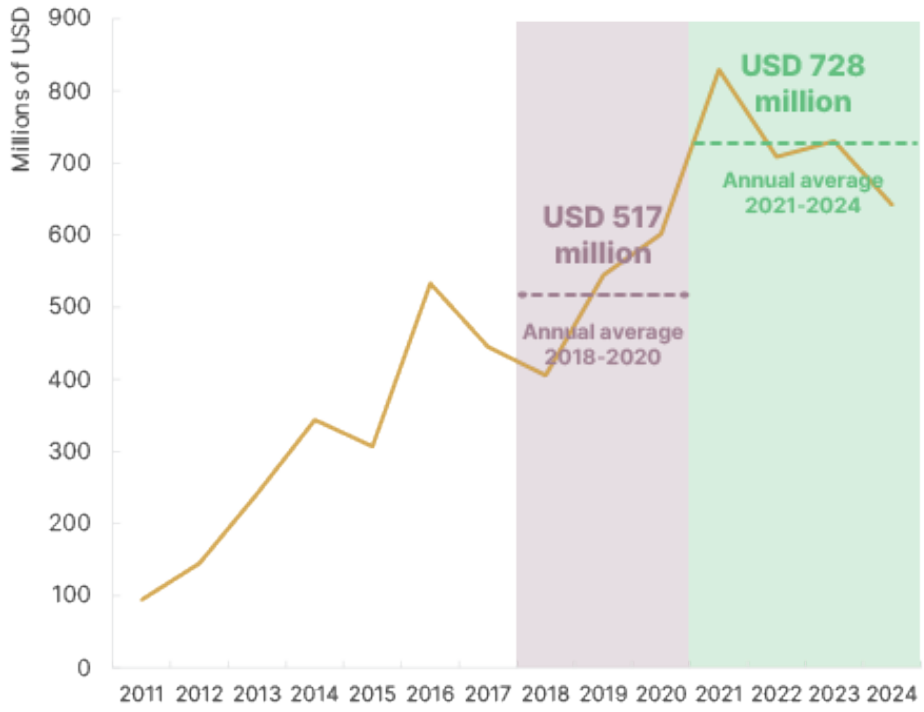
INNOVATIVE SOLUTIONS FOR SCALING FOREST FINANCE

The concept for the Tropical Forest Forever Facility is built on a groundbreaking partnership model between tropical forest countries and investors and the recognition of standing forests as an asset class. It has the potential to serve as a dependable, long-term source of large-scale financing for tropical forest countries, including Indigenous Peoples and local communities.

The Tropical Forest Forever Facility (TFFF), led by the Brazilian government and supposed to be launched at the 30th Conference of the Parties (COP30) to the UN Framework Convention on Climate Change (UNFCCC), is intended to offer a simpler, more predictable source of finance for forests in countries with large areas of standing forests and low rates of deforestation. Unlike conventional, grant-based forest finance mechanisms, the TFFF will be structured as an investment fund capitalized by a mix of sovereign funders, philanthropies, sovereign wealth funds, and other institutional investors. The fund has a target size of USD 125 billion, with USD 25 billion to be delivered by sovereign and philanthropic investors. These funds will serve as subordinate financing to de-risk private capital and leverage USD 100 billion from private investors. The contributions will be invested to the extent possible in climate and sustainability-related investments in ODA-eligible countries, offering investors fixed interest rates over the investment period.

Positive net return generated will be disbursed annually based on the tropical countries' standing forest cover. The Brazilian government estimates that the fund could generate up to USD 3.4 billion annually to pay tropical forest countries[29] more than half of what is currently provided by public donors. At least 20 percent of disbursements should be channeled directly to IPs and LCs to support their forest protection and restoration efforts.

Figure 3.4. Annual average finance for tenure rights of Indigenous Peoples, Afro-descendent Peoples, and local communities between 2018-2020 and 2021-2024



Source: Own analysis based on Path to Scale Funding Dashboard

Other mechanisms, such as payment for ecosystem services schemes and forest bonds, show promise for diversifying the forest finance landscape.

Examples of emerging payment for ecosystem services (PES) mechanisms include:

- The High Integrity Forest Investment Initiative (HIFOR), developed by the Wildlife Conservation Society, is a performance-based PES scheme designed to finance high-integrity tropical forests that lack access to carbon finance due to low immediate risks of deforestation. HIFOR enables forest owners and managers, including Indigenous Peoples, to generate and transact "HIFOR units." HIFOR units represent the independently verified climate and biodiversity benefits of one hectare of intact forest and cannot be used as climate or biodiversity offsets. Two pilot projects were launched in 2024 in the **Republic of Congo**[30] and **Brazil**,[31] with financial commitments from public and private funders announced in 2025.[32]
- The Central African Forest Initiative (CAFI) is working to make PES a cornerstone of climate and development financing in Central African countries. In collaboration with CAFI, Central African countries have developed national roadmaps for large-scale PES deployment, adopted innovative tools to design and manage PES systems, and are piloting standardized PES approaches across the region.[33] For example, WWF, together with CAFI, is piloting PES activities in two provinces of the **Democratic Republic of the Congo**, totaling USD 0.5 million.[34]
- The Forest Stewardship Council (FSC) has developed a PES program called Verified Impact. The program allows forest managers to demonstrate and quantify the positive impacts of their FSC sustainable Forest Management practices on various ecosystem services. These efforts can be remunerated by businesses interested in sponsoring projects that protect or restore ecosystem services and achieve their environmental, social, and governance (ESG) goals.[35] FSC is currently developing methodologies for issuing High-Quality Carbon and Biodiversity Credits under this program.[36]

The use of bonds to raise finance for forest-supportive activities remains limited, but there are encouraging examples of uptake. For instance, **Malaysia** plans to release one of the world's first major forest bonds—a sovereign biodiversity *sukuk*—to fund reforestation and restoration. The bond is worth approximately USD 210 million and will be funded from Malaysia's national budget.[37] In August 2024, the World Bank launched the Amazon Reforestation-Linked Bond, which supports reforestation activities in the Brazilian Amazon. Expected to mobilize USD 225 million, a unique feature of this bond is that it links financial returns to the amount of carbon successfully removed through restoration.[38] Overall, there is huge potential to increase bond issuances for forests. In 2024, sustainable bond issuances totaled more than USD 1 trillion for the fourth successive year.[39]

2.2 Private finance for forest protection and restoration

PRIVATE FINANCE FOR SUSTAINABLE SUPPLY CHAINS AND LAND-BASED MITIGATION

In 2023, an estimated USD 2.9 billion in private finance was allocated to sustainable management, conservation, and restoration of forests through certification of forest-risk commodity supply chains;[n] with an additional USD 1.7 billion coming from impact investments; and USD 277 million in private climate finance being mobilized through Official Development Assistance interventions.[40] Moreover, private finance for land-based climate mitigation reached USD 5.6 billion in 2023, a 14x increase from 2018.[41] The data suggests that private finance primarily supports ecosystems in high-income countries in Europe, North America, and Oceania.

Despite agriculture, forestry, and other land uses (AFOLU) offering 20-30 percent of global climate mitigation potential, the sector captured just USD 5.6 billion in private finance flows in 2023 (roughly 0.3 percent of total finance for climate mitigation that year). While this is a sharp increase from USD 0.4 billion in 2018, the sector still struggles to attract

n The estimate includes private finance for sustainable forest management associated with certified forest products, palm oil, coffee, cocoa, soy, and natural rubber.

private capital at scale.[42] For comparison, the Food and Land Use Coalition estimates that the agrifood sector could abate up to 9 $GtCO_2e$ by 2030 if it invests USD 205 billion per year (less than 2 percent of the sector's projected average annual revenues) in nature-based mitigation solutions such as forest restoration and improved land use.[43] Moreover, 60 percent of private climate finance for the AFOLU sector is directed domestically within high-income markets (e.g., **United States**, **Canada**, **Australia**, **Western Europe**).[44]

Recent growth in corporate climate commitments signals increased interest among companies to invest in mitigation in their supply chains. Companies worth over USD 38 trillion—more than one-third of the value of the global economy—have set science-based climate targets,[45] including over 1,200 businesses committed to setting forest, land, and agriculture targets.[46]

Over 8,000 companies across the world and industries have set emission reduction targets through the Science-Based Targets initiative (SBTi).[47] Together, these companies represent at least USD 38 trillion in market capitalization.[48] Over 1,200 businesses have set or committed to set forest, land, and agriculture (FLAG) science-based targets.[49] The introduction of the SBTi's FLAG guidance in 2022 has increased action from companies to reduce their land-related value chain emissions, including through combating deforestation and ecosystem conversion.[50] A review of the first 149 companies with validated FLAG targets found that 75 percent of the assessed companies are addressing land use change as a mitigation lever.[51]

0.3%

The approximate share of total private finance for climate mitigation that went to the AFOLU and land-based climate mitigation in 2023 (Source: Climate Policy Initiative, 2025)

PRIVATE FINANCE FROM CARBON MARKETS

Voluntary carbon markets mobilized USD 342 million in private finance for forest protection and restoration in 2024, with demand shifting from REDD+ credits to credits from restoration and improved forest management projects.[o] Due to limited incentives for private buyers to use carbon credits and integrity concerns, markets have not raised finance at the speed and scale hoped for.

The volume and value of transactions in forest-based carbon credits remained stable in 2024 relative to the previous year, with forestry and land-use credits comprising the majority of the voluntary market value (USD 342 million out of USD 535 million).[52] Demand, however, is shifting away from credits generated by REDD+ projects due to concerns over the environmental integrity of some projects and certification standards, particularly where inflated baselines and over-crediting have been documented.[53,54,55,56] Instead, buyers are increasingly interested in credits from afforestation, reforestation, and revegetation, mangrove restoration, agroforestry, and improved forest management, with the latter alone recording a market value increase of around 216 percent in 2024.[57] From a mitigation perspective, this shift may lead to suboptimal results since it risks prioritizing forest restoration over protection, although protection is more effective as a mitigation measure.

The World Economic Forum estimates that the voluntary carbon market could channel USD 3-20 billion into nature-based climate mitigation by 2030.[58] However, the market remains well below this scale. Key reasons include the lack of incentives to buy and use carbon credits that do not currently serve any compliance goals, as well as issues related to market confidence and integrity concerns.[p] For example, major national and international emission trading schemes do not allow the use of carbon credits.[59,60] In line with the mitigation hierarchy, SBTi's Corporate Net-Zero

o The figure represents the total value of all Voluntary Carbon Market transactions in 2024 in the project category "Forestry and Land Use" (FOLU). Forest Trends' Ecosystem Marketplace. (2025). State of the Voluntary Carbon Market 2025.

p Integrity initiatives (i.e., the Integrity Council for the Voluntary Carbon Market and the Voluntary Carbon Market Integrity Initiative) are working on enhancing the credibility and effectiveness of voluntary carbon markets by offering guidance on what constitutes a high-quality credit, and corporate claims related to their use. Various governments—including the United Kingdom, Singapore, Kenya, and the G7—have published guidelines for guaranteeing high-integrity projects. However, projects that fail to deliver environmental and social benefits—and, in some cases, even violate the rights of Indigenous Peoples and local communities—continue to undermine credibility and trust in carbon markets.

Standard recommends that companies focus on reducing emissions in their own operations and value chain rather than purchasing offsets.[61]

→ Mandatory carbon market schemes raised USD 942 million in forestry-related private finance in 2023. In addition, governments, including many developing countries as well as the European Union, show growing interest in both voluntary markets and those under Article 6.2 of the Paris Agreement. Growing engagement signals emerging incentives for the use of carbon credits.

Many governments are eager to utilize and regulate carbon markets to mobilize private investments for forest protection and restoration efforts. **Australia**, California, **Colombia**, and **New Zealand** have particularly large regulatory schemes in place that already allow the use of forest-based carbon credits to offset emissions.[62] These schemes mobilized an estimated USD 942 million in forestry-related private finance in 2023. Moreover, about 40 jurisdictions had adopted or proposed regulatory frameworks governing carbon market activities within voluntary carbon markets and under Article 6 of the Paris Agreement as of September 2025.[q]

While most of the existing Article 6.2 transactions are not focused on forests, there are some notable exceptions, such as Singapore. The country intends to use nature-based carbon credits for achieving its climate targets and has signed agreements with more than 20 supplier countries to source so-called Internationally Transferred Mitigation Outcomes from REDD+ and other nature-based activities.[r,63] During its first call for Article 6-aligned carbon credits, **Singapore** was offered nature-based carbon credits worth up to USD 223 million.[64]

Separately, the **EU** is working to formalize an interim climate target of reducing greenhouse gas emissions by 90 percent below 1990 levels by 2040. The draft amendment to the European Climate Law proposes that from 2036 onwards, up to 3 percent of the required emissions reductions could be met using high-quality international carbon credits under Article 6 of the Paris Agreement.[65] However, the precise shape of that mechanism remains under negotiation, including strict quality criteria and caps on credit use.[66]

The **EU** has also adopted the Carbon Removal Certification Framework (CRCF), establishing the first EU-wide voluntary system for certifying high-integrity carbon removal activities—such as reforestation, agroforestry, and carbon farming. The CRCF entered into force in December 2024, and the European Commission is currently developing detailed certification methodologies.[67] To encourage adoption, buyers may benefit from enhanced access to public funding, green procurement opportunities, and recognition of CRCF-certified removals in corporate sustainability reporting under the EU's Corporate Sustainability Reporting Directive (CSRD).[68]

Additional private finance for forest protection and restoration may also be mobilized under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). At the first procurement event in fall 2024, 11 airlines collectively purchased approximately 4.6 million Jurisdictional REDD+ ART TREES Credits from **Guyana** for USD 21.7 per tCO_2e to fulfill their offsetting obligations during CORSIA's Phase 1 from 2024-26.[69,70]

q Data taken from the Gold Standard Carbon Market Regulations Tracker. Accessed October 1, 2025. See Gold Standard. (2025, September 5). Carbon Market Regulations Tracker. https://www.goldstandard.org/carbon-market-regulations-tracker.

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3. ARE FINANCIAL INSTITUTIONS AND REGULATORS ADEQUATELY MITIGATING FOREST-RELATED FINANCIAL RISKS?

3.1 Efforts by financial institutions

Trillions of dollars in private sector finance continue to flow to companies that are exposed to forest-destructive practices. This indicates that financial institutions have not made sufficient progress in assessing, managing, and mitigating forest-related financial risks, nor have supervisory bodies put relevant supervisory expectations and regulations in place.

A recent analysis by Global Canopy found that, in 2024, the 150 financial institutions assessed by Forest 500 had USD 8.9 trillion in active financing to companies most exposed to deforestation risk in their supply chains.[71] According to Forests & Finance, financial credit provided to forest-risk commodity companies between 2013-24 amounted to USD 521 billion, along with USD 41 billion provided in investments in 2024. Credit provided to mining companies between 2016-24 amounted to USD 572 billion, with a further USD 380 billion in bonds and shares held by investors as of June 2025.[s] Finally, an analysis of University College London found that companies potentially linked to land-use change and degradation from beef and soy in the Brazilian Amazon received USD 615 billion from 2014-23 from financial institutions, while companies potentially linked to land-use change and degradation from forestry in Canadian boreal forests received USD 99 billion from 2014-24.[72]

→ The finance sector has made little progress in addressing forest risks. Among financial institutions, only 40 percent of those most exposed to commodity-driven deforestation risk in their investments have a policy to address deforestation.

In 2024, only 60 (40%) of the 150 financial institutions assessed by Forest 500 had a deforestation policy for one or several of nine forest-risk commodities (beef, cocoa, coffee, leather, palm oil, pulp and paper, soy, rubber, and timber). This represents a decrease compared to 2023 (45%).[73] Among financial institutions with deforestation policies, implementation through financial portfolios is often incomplete and uneven. Only 27 of these 60 financial institutions (45%) had a policy to screen and monitor portfolio clients and holdings for compliance with deforestation and conversion-free standards. However, 32 institutions (53%) had a process in place to engage with non-compliant clients and bring them into compliance for at least one commodity.[74]

Nature loss is still a nascent issue in finance compared to climate change, and many financial institutions do not know how to address their impacts on nature through their financing activities.[75] Only 10 percent of financial institutions identify the impact of their financial activities on nature, and even fewer—only 2 percent—have a strategy in place to manage nature loss.[76]

In October 2024, at the 16th Conference of the Parties to the Convention on Biological Diversity (CBD COP16), Nature Action 100 (an investor-led corporate engagement initiative; see Table 1 below) presented the results of their first Nature Action 100 Company Benchmark, where results showed that most of the 100 companies are just beginning to address nature-related risks and dependencies.[77] The benchmark is intended to inform investors under the initiative in their engagement and dialogue with companies.[78]

Ambitious frontrunners demonstrate that tackling deforestation risks in portfolios is possible. The Swedish pension fund Andra AP-Fonden conducts thorough deforestation due diligence processes to scan portfolios.[79] The ING Group, under its Environmental and Social Risk policy framework, threatens companies that fail to eliminate deforestation in their value chains by 2027 to apply stricter credit conditions or divest from them altogether.[80]

→ The rapid global uptake of the investor-focused International Sustainability Standards Board standards demonstrates the political feasibility of disclosure with a narrower focus on financial materiality.

s Data was sourced directly from Forests & Finance. Credit volumes include bond issuance, corporate loans, revolving credit, shares issuance; investment includes bondholding and shareholding. Data on forest-risk commodity companies include credit to and investment in companies engaged in the beef, palm oil, pulp and paper, rubber, soy, and timber sectors. Data on mining companies include credit to and investment in companies engaged in aluminium, chrome, cobalt, copper, gold, graphite, iron, lithium, manganese, nickel, potash, and zinc sector. See https://forestsandfinance.org/.

A concerted effort has emerged in recent years to improve corporate disclosure of nature-related risks and impacts, enabling financial actors to better manage their exposure to nature loss. Among voluntary standards, the International Sustainability Standards Board (ISSB) has gained a lot of traction.

The ISSB was established by the International Financial Reporting Standards (IFRS) Foundation in 2021 to deliver investor-focused climate and sustainability disclosure standards. While its initial mandate centered on climate, the ISSB is currently working to produce a nature-focused standard by 2026, coordinating closely with the Taskforce on Nature-related Financial Disclosures (TNFD) on technical alignment. ISSB proponents have positioned the initiative as a "global baseline" for corporate sustainability reporting, but this framing has drawn criticism for promoting a narrow financial materiality lens that sidelines environmental and human rights harms.[81]

Nonetheless, the ISSB standards present a feasible step forward in the current political context. Its focus on enterprise value and streamlined structure—while less ambitious—has made it politically palatable: as of June 2025, 36 jurisdictions have announced plans to incorporate ISSB standards into their regulatory frameworks.[82,83]

In addition to the ISSB standards, the Global Reporting Initiative (GRI) has long provided the most widely adopted guidance on companies' environmental and social impacts, grounded in a double materiality approach.[84] More recently, TNFD has introduced comprehensive, sector-agnostic and sector-specific guidance to help companies assess and disclose nature-related dependencies, risks, and impacts. TNFD's framework supports both financial and impact materiality perspectives and includes explicit attention to forests, biodiversity, and ecosystem integrity across 18 sectors.[85]

In the absence of consistent and ambitious rules, investor coalitions and voluntary finance initiatives have continued to develop tools and engagement strategies to manage nature- and forest-related risks. These efforts vary in scope and rigor but collectively reflect growing recognition of forests as material to long-term financial returns.

In the face of political pushback against sustainable finance, financial institutions have responded in divergent ways. Some are now actively opposing the rollback of regulations. For example, a group of investors representing approximately EUR 6.6 trillion in managed assets signed a letter urging the European Commission to preserve the ambition of the EU's sustainable finance framework.[86] Others, especially in the **United States**, have begun to retreat from prior sustainability commitments. In a notable example, several major banks—including Goldman Sachs, Morgan Stanley, Wells Fargo, JPMorgan Chase, Bank of America, Citigroup, HSBC, Barclays, and UBS—withdrew from the Net-Zero Banking Alliance (NZBA). In April 2025, the remaining NZBA members voted to amend the alliance's mandate by dropping its 1.5°C alignment goal in favor of "well below 2°C, striving for 1.5°C".[87]

Voluntary initiatives—summarized in **Table 3.1**—have helped keep nature and deforestation on the agenda, even as binding regulation stalls. They signal growing pressure from some financial actors to align portfolios with climate and nature goals, though few include robust enforcement or accountability mechanisms.

3.2 Efforts by financial supervisors and regulators

Financial supervisors and regulators can contribute to shifting entire markets away from activities driving deforestation and forest degradation by shaping the rules that govern capital flows. As stewards of financial stability, they are uniquely positioned to integrate nature-related risks, including those associated with deforestation and forest degradation, into decision-making—helping to mitigate asset devaluation, supply chain disruption, and systemic ecological collapse.[88,89] They can set the pace for sustainable finance across markets, which is especially valuable as many governments are increasingly focused on defense spending and the prospect of global recession.

Over half of jurisdictions have already taken initial steps to incorporate deforestation and ecosystem conversion into supervisory frameworks. Yet most remain in the early phases, with limited enforceability and few binding requirements in place.

Table 3.1. Major voluntary finance and investor initiatives on nature and forest risk

INITIATIVE	FOCUS	COVERAGE	MAIN COMMITMENT OR ACTION
Equator Principles[90]	Environmental and social risks in project finance	131 institutions	Use of Equator Principles to guide lending on large infrastructure and industry projects
Principles for Responsible Investing (PRI) Spring Initiative	Stewardship & nature-positive finance	An unreported subset of PRI's 5,000+ signatories	Investor stewardship guidance, alignment with TNFD, and policy advocacy
Investor Policy Dialogue on Deforestation (IPDD)[91]	Engagement with governments, industry and trade associations, and other stakeholders	84 institutional investors representing USD 11 trillion in assets under management (AUM)	Stakeholder policy engagement in Brazil, Indonesia, the European Union, the United Kingdom, and the United States
Finance Sector Deforestation Action (FSDA)[92]	Deforestation-free finance	33 institutional investors with >USD 8 trillion in AUM have adopted a deforestation policy; 29 investors have disclosed deforestation risk in their portfolios	Adoption of deforestation policies and disclosure of risks/mitigation; development of lending expectations for banks on commodity-driven deforestation, conversion, and human rights
Taskforce on Nature-related Financial Disclosures (TNFD)	Nature-related financial disclosure	143 financial institutions representing more than USD 17.7 trillion in AUM—including 25 percent of the world's systematically important banks—have committed to reporting for 2024, 2025, or 2026 in line with TNFD[93,94]	Voluntary adoption of TNFD guidance for nature risk and impact disclosure
Investor statement on responsible EV nickel supply chains[95]	Responsible mining practices in the nickel supply chains of the electric vehicle (EV) industry. First investor initiative focused on mineral supply chains	36 investors with USD 4.5 trillion in AUM	Investor demand that automakers and EV battery manufacturers adopt time-bound commitments to have deforestation-free nickel supply chains and uphold environmental and social safeguards, such as the Free, Prior, and Informed Consent (FPIC) of IPs and LCs in their operations and supply chains
Nature Action 100[96]	Nature-positive corporate engagement to increase ambition and action	230 institutional investors with >USD 30 trillion in AUM or advisory[97]	Engagement with 100 companies across 8 sectors; calling for action and benchmarking progress on minimizing nature loss by 2030 through stronger commitments, nature risk assessment, target setting, implementation, governance, and engagement[98, 99]
SBTi Financial Institutions Net-Zero Standard[100]	Science-based guidance for aligning lending, investment, insurance, and capital market activities with climate mitigation and net-zero targets	Nearly 135 financial institutions have committed to set net-zero targets using the standard.	Expectations for financial institutions to assess, monitor, disclose, and address deforestation exposure in their portfolios, with an engagement plan required to address significant risks
Net-Zero Asset Owner Alliance[101]	Alignment of investment portfolios with the 2050 net-zero target of the Paris Agreement	86 institutional investors with USD 9.5 trillion in AUM	Guidelines with a four-step pathway for investors to phase out deforestation and forest conversion from portfolios

In 2024, 52 percent of the jurisdictions assessed by WWF's Sustainable Financial Regulations and Central Bank Activities (SUSREG) Tracker had partially integrated deforestation and ecosystem conversion into financial supervisory frameworks.[t] While this signals growing recognition of these risks, most frameworks still lack enforceable expectations or detailed guidance on risk assessment and management.[u] Per WWF, progress in the integration of nature and climate in financial regulatory frameworks involves the development of sustainable taxonomies and the integration of nature risks into supervisory mandates and guidelines, requirements for corporate transition plans and disclosures, and monetary policy and asset management. Most countries remain in the early stages of this pathway.[102]

Taxonomies and transition planning are taking root. Most countries have implemented or are developing a sustainable finance taxonomy, and a growing number—including **Brazil** and **EU Member States**—are encouraging corporations to adopt climate transition plans, though binding requirements remain limited.[103,v] In **Malaysia**, the central bank, under its 2021 Climate Change Principle-Based Taxonomy, explicitly discourages financial institutions from financing palm oil plantations linked to deforestation or peatland conversion.

Supervisory mandates for addressing nature risks are expanding, but implementation varies. The Central Bank of Brazil includes deforestation and forest fires in its definition of environmental risks, which informs social, environmental, and climate considerations in the broader financial system.[104] The European Central Bank continues to integrate climate and nature considerations into its mandate and is stress-testing banks on nature risks.[105] The Bank of England has been tasked with incorporating nature loss into its remit to support the "transition to a climate resilient, nature positive and net zero economy."[106] The Norwegian Central Bank, meanwhile, assesses and reports on the exposure of its portfolio to climate and nature risks and opportunities. In addition, the bank now requires portfolio companies to align with global climate and biodiversity goals, setting expectations for responsible corporate behavior.[107]

Integrating nature risk into central banking activities, including monetary policy, remains limited. However, while central banks have yet to meaningfully integrate environmental considerations into monetary policy tools, some are beginning to phase out harmful assets and enhance portfolio disclosures with a focus on climate issues or assess the integration of nature risk in their activities.[108] For example, the Central Bank of France has started disclosing the biodiversity impact of its equity and corporate bond portfolios.[109]

Tools and guidance to bring central banks and financial supervisors along this journey are improving. For example, in June 2024, the Network for Greening the Financial System (NGFS)—a coalition of central banks and financial supervisors from more than 90 countries—published its final Conceptual Framework for nature-related financial risks. The framework offers practical tools to integrate nature considerations into financial risk assessment and regulatory action.[110]

t Integration of nature-related risks in financial supervisory frameworks is generally insufficient beyond forest issues. For example, 7 of the top 10 biodiversity hotspot nations are lagging in banking supervision for nature-related risks, and all 10 are falling short in integrating these risks into their insurance supervision. See Rizkiah, S. K., & Abdelli, M. (2024). 2024 SUSREG Annual Report. An Assessment of Sustainable Financial Regulations and Central Bank Activities. https://wwf.panda.org/wwf_news/?12198466/SUSREG-2024-progress-on-climate-in-banking-and-insurance-supervision-but-nature-loss-remains-neglected-despite-dangerous-tipping-points.

u WWF's SUSREG Tracker does not cover forest degradation. However, it can be assumed that financial supervisory expectations and regulations do not take forest degradation into account, as they hardly consider nature risks. Rizkiah, S. K., & Abdelli, M. (2024).

v The British government is taking steps to make it mandatory for UK-regulated financial institutions and certain corporations to develop and implement climate transition plans that are consistent with the 1.5ºC goal of the Paris Agreement. See Department for Energy Security and Net Zero. (2025, June 25). Climate-related transition plan requirements. https://www.gov.uk/government/consultations/climate-related-transition-plan-requirements.

The European Union remains a global frontrunner, for now, on greening its financial framework. But that status is under threat due to recent regulatory proposals that would weaken the framework.

The **European Union's** regulatory package, including the Taxonomy, the CSRD, and the Corporate Sustainability Due Diligence Directive (CSDDD), is the most comprehensive effort to date to embed nature and deforestation considerations into finance. For example, the CSRD and its European Sustainability Reporting Standards mandate double materiality assessments and require companies to report on their impacts on ecosystems, including deforestation and biodiversity loss.

However, in early 2025, the European Commission introduced the Omnibus Simplification Package, which threatens to weaken this framework in the name of competitiveness and reducing the compliance burden on European businesses. Among other changes, the proposal would postpone sector-specific reporting standards indefinitely and allow companies to omit reporting on upstream supply chain impacts—where deforestation is most likely to occur—undermining transparency and accountability.[111]

The ISSB may offer a politically feasible alternative—if ambition increases (see also 3.1). Though focused only on financial materiality, the ISSB is now being incorporated by 36 jurisdictions and is working closely with TNFD on a nature-related disclosure standard expected in 2026. A more robust ISSB standard could help align voluntary and regulatory approaches globally, especially in jurisdictions where regulatory progress has been slow (e.g., **United Kingdom**[112]) or reversed (e.g., **United States**[113]).

4. ARE GOVERNMENTS REDIRECTING HARMFUL INCENTIVES?

Incentives, including subsidies, that have the potential to drive deforestation and forest degradation remain a persistent and significant feature of public spending globally, dwarfing finance dedicated to forest protection and restoration. From 2021-23, governments spent an average of USD 409 billion (65 percent of the USD 629 billion spent on direct producer support) on subsidies linked to output or the unconstrained use of inputs such as fertilizer or fuel (**Figure 3.5**).[114] These subsidy types are considered the most damaging to biodiversity and ecosystems. In contrast, payments directed to the supply of environmental public goods by agricultural producers averaged just USD 1.7 billion annually—less than 0.3 percent of all direct producer support[115]—suggesting that potentially harmful subsidies outnumber explicitly green ones by a factor of over 200 to 1.

The scale of the problem goes well beyond agriculture. In 2022, fossil fuel producers received between USD 52–68 billion in direct subsidies globally,[116] and this figure is likely rising in several countries, including the **United States**.[117] These subsidies directly and indirectly accelerate forest loss through infrastructure development, land clearing, and climate-driven impacts such as droughts and wildfires.[118] Despite their climate and forest commitments, many governments are expected to continue subsidizing high levels of fossil fuel production and consumption for decades to come.[119]

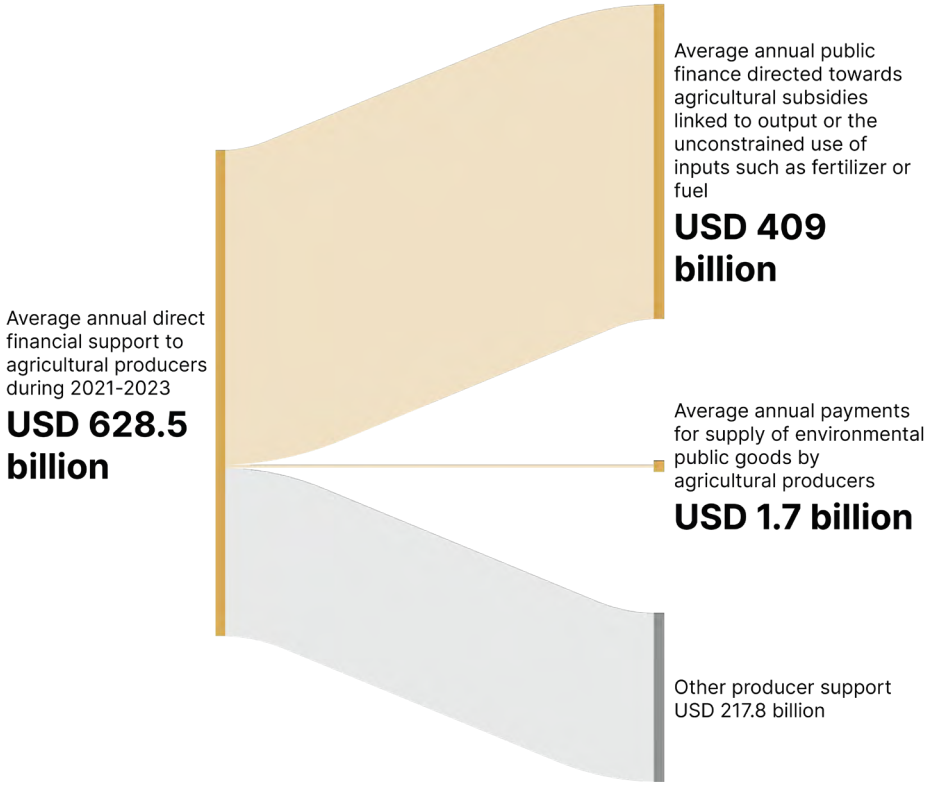
While many governments have acknowledged the need to reform and repurpose environmentally harmful incentives, including subsidies, few have taken meaningful steps toward implementation. Systematic data on the uptake of reforms is scarce, and concrete examples remain limited. Yet progress is possible, and reform does not necessarily mean eliminating incentives altogether.[120]

Under Target 18 of the Kunming-Montreal Global Biodiversity Framework, countries have committed to reducing harmful incentives by at least USD 500 billion per year by 2030. This includes reforming agricultural, forestry, and other subsidies in ways that are fair, effective, and equitable.[121]

A handful of countries are beginning to chart this path:

- In **England**, the government is replacing area-based farm payments with "Environmental Land Management" schemes that reward environmental stewardship and animal welfare.[122] With an annual average budget of GBP 2.4 billion (2024–25), the voluntary schemes had enrolled over half of English farms by April 2025.[123] While impacts are still emerging, fears of sharp declines in farm income and land prices have not materialized.[124]
- **Gabon**[125] and **Cameroon**[126] have recently developed tax incentives to promote forest certification. Gabon's pioneering policy applies a tiered tax on timber harvesting: companies with robust sustainability certifications (e.g., FSC) pay just 2.5 percent, those with basic legality verification pay 3 percent, and uncertified companies pay the full 5 percent. Though the area tax is only a small portion of concessionaires' total fiscal burden, early evidence suggests the approach has helped increase uptake of certification compared to neighboring countries.[127,128]
- The **United Kingdom**, **South Korea**, and **Japan** have taken significant steps toward phasing out support for the use of woody biomass for energy generation, given sustainability concerns. The production of wood pellets—a type of biomass fuel—is usually associated with large-scale logging that leads to deforestation and forest degradation, loss of forest biodiversity, and negative impacts on local communities.[129,130]

Figure 3.5. Distribution of direct financial support to agricultural producers (annual average, 2021-2023)



Source: Organisation for Economic Cooperation and Development (OECD) (2024)

5. ARE LEADERS REFORMING THE INTERNATIONAL FINANCIAL SYSTEM AND SOVEREIGN DEBT?

The international financial system is a structural barrier to meeting 2030 forest goals, particularly in forest-rich but debt-strapped countries. Entrenched features of the global financial system directly undermine sustainable forest and land management. In 2024, developing countries had a total public debt of USD 31 trillion, on which they also had to pay net interest of USD 921 billion—10 percent more than in 2023.[131] In addition, the median share of developing countries' revenues that was spent on debt repayment was 8 percent,[132] leaving less bandwidth for enforcing land-use laws or investing in sustainable land management or restoration. Instead, the system creates pressure for developing countries to grow their economies and service their debts based on business-as-usual pathways tied to unsustainable, extractive practices at the expense of human development and environmental health.[133,134,135,136]

USD 921 billion

Developing countries' net interest payments on public debt in 2024 (+10% compared to 2023) (Source: UN Trade and Development (UNCTAD), 2025)

The global financial system continues to incentivize unsustainable land use. However, growing international recognition—reflected in recent decisions at the 16th Conference of the Parties to the Convention on Biological Diversity—signals mounting pressure to align development finance with biodiversity and sustainability goals.

In the final decision of the 16th Conference of the Parties to the Convention on Biological Diversity (CBD COP16), for example, countries drew an explicit link between national debt, the existing rules of the international financial system, and biodiversity destruction.[w] Furthermore, countries called for the Global Environmental Facility, host of a financial mechanism to deliver on biodiversity goals, to mobilise increased contributions by multilateral development banks (MDBs)[x] and support increased integration of biodiversity-related conventions into MDB activities, as well as increased reporting on contributions toward these objectives.[y] The decision reflects the growing recognition that MDBs should make halting nature loss and accelerating restoration a priority, given the direct linkages between biodiversity and broader sustainability issues, including food production, security, public health, and trade.

Developing countries are driving momentum to reform the global financial system with initiatives like the Bridgetown Initiative and the new United Nations Framework Convention on International Tax Cooperation. While these reforms go far beyond the forest sector, they present an important opportunity to redirect international finance flows and improve economic sustainability.

w Decision 16/34 on resource mobilization includes a request to "commission, or undertake, alongside relevant international institutions, studies on [...] the relationship between debt sustainability and the implementation of the Convention". Decision adopted by the Conference of the Parties to the Convention on Biological Diversity on 27 February 2025. 16/34. Resource mobilization. Section 26(b).

x Decision adopted by the Conference of the Parties to the Convention on Biological Diversity on 27 February 2025. 16/33. Financial mechanism. Section 33.

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Flagship efforts like the Bridgetown Initiative have brought international attention to structural barriers such as sovereign debt burdens and lack of access to affordable finance.[z] While implementation is still pending, Bridgetown has advanced proposals to reform governance of the International Monetary Fund and the World Bank to give developing countries a stronger voice, integrate climate- and nature-related investments into debt sustainability frameworks, and include natural disaster clauses in sovereign credit agreements.[137] These reforms could help shift the rules of the game toward development models more compatible with long-term forest and ecosystem protection.

In addition to the Bridgetown initiative, Global South countries have also called for international tax reforms to help collect and redirect finance flows to forest protection and restoration.[138] For example, the Brazilian G20 Presidency commissioned a blueprint for an internationally coordinated minimum standard to effectively tax ultra-high-net-worth individuals. A two percent tax on global billionaires would raise USD 200-250 billion annually for participating countries.[139]

Beyond the forest sector, developing countries—particularly African countries—are spearheading a new United Nations Framework Convention on International Tax Cooperation.[140] This effort seeks to strengthen their representation and establish a more equitable forum than the current system dominated by the OECD. The convention is scheduled to be negotiated through 2027. Given the significant influence of fiscal policy and international tax rules on financial flows to developing countries, these negotiations could have major implications for forest-risk sectors.

z See: the Bridgetown Initiative, the Climate Vulnerable Forum's Leaders' Declaration, the Expert Review on Debt, Nature and Climate, the Debt Relief for Green and Inclusive Recovery (DRGR) Project, and the recommendations of the G20 expert panel on the review of MDB capital adequacy frameworks. The World Bank itself has defined a plan for its own reform, the Evolution Roadmap.

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CHAPTER 4

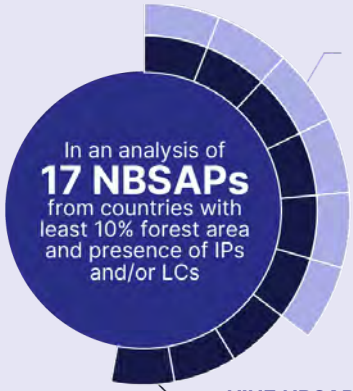
FOREST RIGHTS AND GOVERNANCE

THEME 4

POWER IMBALANCES LEAVE MANY VOICES UNHEARD & UNDERMINE THE ACHIEVEMENT OF FOREST GOALS

AT LEAST
18 COUNTRIES
TIGHTENED ENTRY & EXIST CONTROLS OVER CIVIL SOCIETY ORGS (CSOs) IN 2024

AT LEAST
41 COUNTRIES
REPRESSED CSOs MORE OFTEN IN 2024 THAN IN 2014



SIX NBSAPs EXPLICITLY INCLUDED IPs AND LCs (OR THEIR REPRESENTATIVES) IN THOSE PROCESSES

NINE NBSAPs EXPLICITLY INCLUDED PUBLIC CONSULTATIONS (OR OTHER PARTICIPATORY PROCESSES)

RECOGNITION OF IP AND LC RIGHTS REMAINS EXCEPTION; NOT NORM

Recognition of women's forest tenure rights lags even further behind, even in places that otherwise improved recognition of tenure rights.

13% OF CUSTOMARY LANDS IN TROPICAL FORESTS ARE FORMALLY RECOGNIZED

2% OF COMMUNITY FOREST TENURE FRAMEWORKS ENSURE WOMEN'S VOTING RIGHTS (IN A 2025 RRI ANALYSIS OF 104 LEGAL FRAMEWORKS)

ENVIRONMENTAL CRIME STILL PAYS BIG TIME

Most (61-94%) tropical deforestation for agriculture is illegal. And environmental crime generates:

USD 281 BILLION/YEAR

RIGHTS DEFENDERS CONTINUALLY TARGETED

AT LEAST
146 LAND & ENVIRONMENTAL DEFENDERS WERE KILLED OR DISAPPEARED IN 2024

MAJOR MILESTONES ARE RESHAPING INTERNATIONAL FOREST GOVERNANCE

- **ESCAZÚ AGREEMENT:** Ratified by 18 Latin American countries, advancing participation rights & environmental defender protection.
- **BELÉM DECLARATION:** Boosting Amazon-wide governance cooperation.
- **EUDR:** Triggered pushbacks and rollbacks, but has also inspired tech & legal framework advancements; Implementation delays have led to uncertainty
- **COUNCIL OF EUROPE ENVIRONMENTAL CRIME CONVENTION:** First binding international (Europe-only) instrument to criminalize ecocide & illegal timber trade; ratification pending.

Chapter 4 contents

1. INTRODUCTION

1.1. Why look at forest rights and governance?

Equitable governance systems[a] and secure forest rights[b] are foundational to any progress on conserving, restoring, and sustainably managing forests, land, and natural resources.[1,2] Equitable forest governance includes transparent, predictable, and defensible rights—particularly of Indigenous Peoples (IPs),[c] local communities (LCs),[d] women and other frontline or vulnerable groups (**Box 4.1**)—as well as fair institutions; robust and comprehensive laws; respect for rule of law; stringent lobbying norms and safeguard; and accountability for state and non-state actors that violate the law or seek to weaken it.

Yet, rather than being strengthened, equitable governance of land-use and forests and recognition and protection of forest rights are eroding in many parts of the world.[3,4,5] Lack of political will, fragmented and siloed government actors, and competing mandates often hinder cohesive, rights-based forest governance. There is ongoing backtracking on environmental regulations, reductions in the space for civil society participation, failure to recognize and protect IPs' and LCs' rights, limited resources to tackle corruption, and increased attacks on environmental and human rights defenders.[6,7,8]

One component of forest governance is the participation of key stakeholders, particularly IPs, LCs, women from these groups, and civil

a Forest governance refers to processes and systems through which state and non-state actors make and implement decisions about the management, use and protection of forests. These include legal and policy frameworks at national and international levels as well as local or ecosystem-level management decisions. Effective and equitable governance systems ensure that forest ecosystems are conserved and adaptively managed through opportunities for diverse actors to participate in forest-sector decision making, equitable and sustainable forest legal frameworks, and justly enforced forest laws.

b Forest rights refer to the rights to access, use, manage, exclude others from, and benefit from forest resources.

c Indigenous Peoples: "Indigenous peoples (IPs) constitute diverse, socially and culturally distinct groups whose members, individually and collectively, self-identify as indigenous and as right-holders and custodians of resources, environment and territory. In addition to sharing strong ancestral ties to collectively-held lands, territories and surrounding natural resources, IPs have distinctive traits as peoples and communities with regards to their ancestral environments, spoken languages, knowledge systems, beliefs and livelihood practices, with historical continuity to precolonial or pre-settler periods" (Larson et al., 2022).

d Local communities: "The term local communities (LCs) is commonly used in reference to groups that traditionally hold and use lands and resources collectively under customary and/or statutory tenure, but do not self-identify as indigenous" (Larson et al., 2022).

society organizations (CSOs). Participation in every step of governance, from designing and deciding on policies and strategies to collaborating on their implementation and enforcement, is necessary to make forest governance just and effective.[9]

Respecting and legally recognizing the rights of IPs, LCs, and women from those groups is essential for securing human rights and is highly effective in advancing forest conservation.[10,11, 12,13] Forest landscapes are often the ancestral domains of IPs and other traditional communities. When IPs and LCs have strong legal rights to the forests they have customarily owned and managed, those forests have significantly more positive ecological outcomes (e.g., lower deforestation and higher carbon sequestration rates) than forests under other management regimes.[14,15,16,17,18,19,20,21,22, 23] A 2025 study in the Amazon found that lands managed by people who identify as Afro-Descendant coincided with high rates of biodiversity and irrecoverable carbon as well as a 29-55 percent reduction in forest loss compared to control sites.[24]

Women from Indigenous and local communities are key to defending forests,[25] as women often possess specialized ecological knowledge that is necessary for adaptive and sustainable forest management, including the use and management of forest resources for their households. [26, 27, 28, 29] Women's leadership in environmental governance is also linked to reduced conflict and increased climate resilience.[30]

Despite their crucial knowledge and presence at the frontlines of forest conservation, IPs and LCs often face socio-economic, cultural, and political inequalities, discrimination, and violence that prevent them from stewarding their forest territories, advocating for their rights and needs, and participating in forest sector decision-making.[31,32,33,34] CSOs play a crucial role in holding governments to account and countering discrimination, as they often advocate with and in support of IPs, LCs, women, and other marginalized actors in forest-related decision-making.

Box 4.1. A note about smallholders

The term "smallholders" includes a wide variety of landowners, including many who operate in and around forests. They may be family farm or forest owners, non-industrial producers of agricultural or forest products, small business owners, and members of Indigenous or local communities. There is no uniform definition of smallholders. Across the very few jurisdictions that define sizes for smallholder forest ownership, there are minimums ranging from 5-25 hectares, and maximums from 10 to 100,000 hectares.[35] There is a range of terminology used for the different types of smallholders. The roles and degree of recognition also vary across legal systems and ecological contexts. Considering this diversity and the overlaps between those recognized as smallholders and those included in other groups (e.g., IPs, LCs, farmers), there are few specific references to smallholders in legal frameworks. This makes the analysis of smallholders in forest governance challenging. Consequently, despite the importance of smallholders for forests, they are not a focus area for this Assessment.[36]

Just and equitable legal frameworks for forests balance environmental, social, and economic priorities. Forest legal frameworks include both laws that relate to forest management and conservation, as well as those concerning human rights, agriculture, mining, finance, taxation, labor, land-use planning, infrastructure, and urban development. These interconnected laws mean that decisions in one sector often ripple into others, and that a wide range of policies and laws impact on forest governance.

Effective forest governance and respect for rights hinge on the enforcement and implementation of these laws. Illegal practices in the forest sector, including high levels of corruption, hinder and undermine sustainable and equitable forest stewardship. Environmental crimes such as illegal logging, land grabbing, and wildlife trafficking often operate through complex networks designed to evade enforcement systems. Tackling illegality requires coordinated action across borders, robust monitoring systems, and accountability at all levels. Effective law enforcement should also be just, taking into consideration the needs of

the diverse actors who depend on forests and targeting the activities that pose the greatest threats to forests.

It is important to note that conserving forests and securing rights for IPs and LCs who depend on and steward forests should not come at the expense of conserving and securing rights in other ecosystems. Many IPs and LCs live in, steward, and rely on non-forest ecosystems, and securing their rights is essential to conserving those landscapes.[37] Just and equitable forest governance includes ensuring that protecting forests does not shift harmful activities to other ecosystems, but rather that the socio-ecological systems in which forests exist can thrive. This chapter reflects the mandate of this report to track progress on commitments to forests.

1.2 What has been pledged on forest rights and governance?

Even though effective governance is key to successful conservation and protection of forests,[e] major international pledges on forests do not directly address forest rights and governance. The third Article of the Glasgow Leaders' Declaration on Forests and Land Use (GLD, 2021) mentions empowering communities and recognizing the rights of IPs and LCs. This commitment is reinforced by the Forest Tenure Funders Group's pledge (2021) of USD 1.7 billion to support securing and strengthening the land and forest tenure rights of IPs and LCs.[38] However, the GLD makes no explicit mention of governance or related topics like accountability, legal frameworks, enforcement, or corruption. Overall, the international forest governance regime has seen limited effectiveness in halting deforestation and forest degradation in recent years, which is linked to a prioritization of production over conservation and, in some cases, a proliferation of actors and organizations pushing new, short-term targets and standards.[39] Expansion of international forest governance has generally been uncoordinated and increased in complexity without addressing underlying socio-economic injustices and lack of political will that drive the unsustainable use of forests.[40,41]

There are a few notable examples from Latin America of commitments to strengthen rights and governance. The Escazú Agreement was adopted in 2018 and entered into force in 2021. As of July 2025, it has been ratified by 18 countries. Under the Agreement, Latin American and Caribbean countries commit to respecting the rights of the public to access environmental information, participatory processes, and justice in environmental matters.[42] Additionally, in 2023, Amazonian leaders signed the Belém Declaration,[43] committing to coordinate on environmental governance via the Amazon Cooperation Treaty Organization and boost joint enforcement.[44]

1.3 How does this chapter track progress?

The Forest Declaration Assessment tracks progress on national and international forest governance and rights through review of reports from various research and advocacy-oriented organizations, peer-reviewed literature, laws, court cases, and news sites. This report focuses on publications, reforms, and other updates from 2023-25. Where relevant, data from earlier years is included, especially if it has not been included in previous reports. Both quantitative and qualitative data and analyses are included. Where possible, this report draws on global or regional data sets and studies. However, given the localized nature of forest governance impacts and disparities between how policies are employed in different countries and regions, the potential to track progress on these topics at the global level is limited. To complement global or regional datasets, this chapter offers examples that demonstrate meaningful progress or concerning setbacks.

This chapter analyzes the state of forest rights and governance across three topics:

- **Participation in decision-making:** the extent to which IPs, LCs, women from those groups, and CSOs participate in forest governance and the influence of private sector actors. Participation, as used in this chapter, is not about box-ticking, but rather is designed to enable the full and effective contributions of all relevant actors in forest governance.

e For example, moratoria in Indonesia and improved enforcement in Brazil.

- **Legal and policy frameworks for equitable and sustainable forest landscapes:** developments in legal and policy frameworks for the management and protection of forests, including forest strategies, laws related to protected and conserved areas, IP and LC rights, and the impact of demand-side measures on laws.
- **Just enforcement of forest laws:** threats to environmental defenders, progress in combating illegal deforestation, access to justice, international cooperation on forest crimes, and anti-corruption efforts.

1.4 What are this chapter's key messages?

Power imbalances continue to undermine the achievement of forest goals. Forest decision-making remains heavily skewed toward elite and corporate interests, while civic space is shrinking in many countries. The participation and influence of IPs, LCs, women, and civil society organizations (CSOs) are structurally limited, leaving these voices underrepresented. While international policy increasingly recognizes the vital role of IPs and LCs in forest governance, this acknowledgment is often not reflected in national strategies or implementation. And though IPs and LCs have seen increased territorial rights in some countries, it is the exception rather than the norm—just 13 percent of customary lands in tropical forests are formally recognized—and recognition of women's forest tenure rights lags far behind.

Yet forests demonstrably do better when governance is inclusive and participatory, community rights are secure, and law enforcement is just and consistent. Forest managed by Indigenous Peoples, where their land tenure is secure, see lower rates of deforestation and forest degradation as well as higher carbon storage and sequestration. Similarly, community-led monitoring leads to more effective enforcement of forest laws and reduced forest loss. Emerging efforts toward addressing forest crime holistically as part of a system of transnational crime offer a signal of progress toward breaking through siloes to improve forest governance. However, failure to uphold existing laws—due to lack of capacity, political will, or entrenched impunity for large actors—remains a key barrier to effective forest governance.

2. PARTICIPATION IN DECISION-MAKING ABOUT FORESTS

2.1 Overall participation

Forest decision-making remains dominated by powerful interests. IPs, LCs, and women, as well as CSOs, face significant barriers and increasing restrictions on their involvement while corporate actors maintain outsized influence on forest policies and practices, creating an imbalance that undermines equitable and effective forest management.

This imbalance reflects deeper structural and political inequalities that shape which actors influence forest governance. While some efforts have been made to open decision-making spaces or formalize IPs, LCs, and CSOs' roles in official policy processes, forest governance systems generally fall short of adequately integrating diverse perspectives.

2.2 Participation by IPs and LCs

International policymaking processes increasingly recognize the vital role of IPs and LCs in forest conservation and governance, but this recognition is not yet consistently reflected in national strategies and implementation (Figure 4.1). Nevertheless, some promising examples of participatory forest governance provide replicable models.

In 2024 at COP29, Parties took important steps to strengthen IP and LC participation in international policymaking. The adoption of the Baku Workplan and the renewal of the mandate of the Facilitative Working Group of the Local Communities and Indigenous Peoples Platform represent significant steps toward improving IPs' and LCs' full and effective participation at the international level.[45] Another positive development in 2024 was the establishment of the Subsidiary Body for Article 8(j) of the Convention on Biological Diversity (CBD) at the COP16, which helps to institutionalize the role and participation of IPs and LCs in decision-making about the Convention. The agreement defines actions to ensure the meaningful contributions of IPs and LCs to achieving CBD

objectives.[46] The United Nations Convention to Combat Desertification (UNCCD) likewise included in its 2024 COP a decision on the participation and involvement of CSOs in UNCCD processes and meetings. This includes support for the development of terms of reference for the creation of a Caucus for Indigenous Peoples and a Caucus for Local Communities.[47] In contrast, Parties to the UNFCCC and CBD show gaps in integrating IPs and LCs' participation within their national climate and biodiversity plans. An analysis of 17 National Biodiversity Strategy and Action Plans (NBSAPs)[f] updated to align with the 2022 Global Biodiversity Framework (GBF) found that nine (52%) of these explicitly include public consultation or participatory processes in strategy development, and only six (35%) include IPs and/or LCs (**Figure 4.2**).[48] A similar 2023 analysis of 27 pre-GBF NBSAPs found that 15 (56%) included consultation or participatory processes and eight (30%) included IPs and LCs.[49] These analyses suggest there has been little improvement in public participation and particularly participation of IPs and LCs in pre- and post-GBF NBSAPs. Furthermore, only six of the 17 post-GBF NBSAPs include participatory land use planning as a strategy in the document, and these lack details about participatory processes.[50]

Figure 4.1. Overall participation in forest decision-making remains skewed towards powerful interests

f All 17 NBSAPs included in the analysis are from countries with at least 10 percent forest area and presence of IPs and/or LCs. These countries are Argentina, Australia, Canada, China, Colombia, Cuba, Denmark, India, Indonesia, Japan, Malaysia, Mexico, Peru, Suriname, Tanzania, Uganda, and Venezuela.

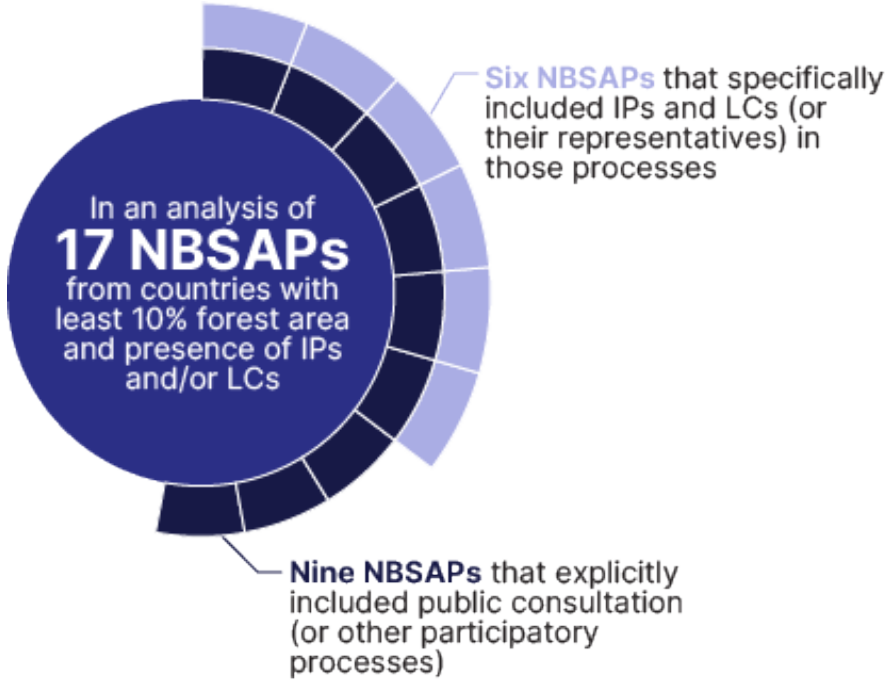
A separate analysis of Nationally Determined Contributions (NDCs) found that just over half (54%) of NDCs from highly forested countries mention IPs and LCs.[51] The number of NDCs with specific targets designed to secure IP and LC tenure rights is likely much lower than half. A 2021 review of NDCs from countries in the Global Alliance of Territorial Communities found that just eight out of 24 reviewed NDCs included commitments to strengthen community land rights.[52]

At the national level, increased access to resources (e.g., funds or technology) from national and international sources has led to some progress on participation in decision-making at the site level. In the **Democratic Republic of the Congo (DRC)**, a new direct access fund, established in collaboration with IPs and LCs, aims to drive the expansion of community forestry and boost community participation in protected area management,[53] enabling IPs and LCs to participate actively in protected area management.[54] In **Brazil**, funding from the Global Environment Facility's Global Biodiversity Framework Fund will support IPs to implement their Territorial and Environmental Management Plans, which form part of a national-level policy that was heavily informed by consultations with IPs and other stakeholder groups.[55]

Some country examples reflect encouraging progress in creating more inclusive forest governance. These include engaging IPs and LCs through co-management processes in **Lao PDR**,[56] participatory dialogue to support the recognition of IPs' and LCs' rights in **Guyana**,[57] upcoming consultations in review of the National Forest Policy in **Australia**,[58] and increased authority in land use management and planning in **Colombia**.[59]

However, in many countries, participation of IPs and LCs remains constrained, often due to structural marginalization faced by these groups. For example, in **Bangladesh**, decision-making processes in state-owned forests remain centralized despite policy support for participatory governance.[60] In **Sweden**, a tool designed to reduce land use conflicts between Indigenous Sami reindeer herders and the forest industry has been criticized for reinforcing existing injustices in forest governance and potentially exacerbating conflicts.[61] Similarly, in **Mexico**, insufficient engagement with IPs and LCs in the management of federally protected areas as well as the implementation of national targets has led to disputes over land use.[62]

Figure 4.2. Share of 17 analyzed NBSAPs that included public consultation or participatory processes in their development and those that include IPs and LCs in those processes



Source: Own analysis

2.3 Participation by women

Women's participation in forest governance remains limited even in places that have strengthened communities' forest rights. Although, projects funded by the Governors' Climate & Forests Task Force provide examples of how forest projects can be strengthened by women's participation.

A recent analysis of 104 legal frameworks that constitute community-based tenure regimes in 35 countries suggests that explicit protections for women's rights remain limited. Of these legal frameworks, only 2 percent have adequate protection for women's community-level voting rights, and only 5 percent for women's community-level leadership through the establishment of quorum requirements.[63] The study further found that, across the countries analyzed, there has been no meaningful progress on international commitments related to gender equality, such as Sustainable Development Goal 5, the Beijing Declaration, and the Convention on the Elimination of All Forms of Discrimination Against Women.[64] A meta-analysis of sustainable forest management practices across Africa found that women's engagement is often perfunctory, with women rarely having meaningful decision-making authority even though forest management is increasingly decentralized to the community level.[65] Only 3 out of 17 post-GBF NBSAPs even mention women in their processes for strategy development.[66]

Country case studies echo these trends. In **Kenya**, a study of gender relations among the Indigenous Ogiek people of Mau Forest found that women face gender discrimination in community forest associations.[67] In **Indonesia**, an analysis found persistent gender exclusion in planning and evaluation processes within a community forest management program.[68] In **Bhutan**, few women participate in decision-making within community forest management groups, despite these groups' success in advancing collective participation. [69]

There are, however, some positive examples of women's participation, for example, in projects funded by the Governors' Climate & Forests Task Force.[70] In Yucatán, **Mexico**, information sessions and trainings focused on transferring ejidal titles to women enabled at least 21 women to initiate land title proceedings, and the project made a point to invite women to sessions, engage female facilitators and presenters, and create women-only spaces. A project in West Kalimantan, **Indonesia**, ensured women held critical leadership positions and specifically collected data on the participation and needs of women in project sessions. Projects in **Brazil** took an intersectional approach to fulfilling free, prior, and informed consent (FPIC) requirements and collecting data, ensuring both women and men from a range of races and Indigenous communities were represented in consultations and data. The Task Force also published a selection of templates and tools to support gender-responsive and intersectional approaches in forest projects.[71]

2.4 Participation by civil society

While many national laws formally recognize the right to and importance of civil society's participation in policy decision-making and forest governance, there is a growing trend by governments to limit civil society's participation.[72,73] As of 2024, in at least 41 countries, governments were repressing CSOs more often than in 2014, and in 2024, at least 18 countries tightened entry and exit controls over CSOs.[74]

The Varieties of Democracy dataset for 2025 shows a global decline in civil society participation, as measured by policymaker consultation with CSOs and citizens' involvement in CSOs.[75] Country examples also illustrate a trend toward declining CSO participation.[76] In 2024, **Paraguay**[77] and **Peru**[78] passed laws increasing government oversight of—and in some cases, allowing excessive control over—NGOs. In **India**, environmental CSOs have faced targeted scrutiny, cancellation of foreign funding licenses, and accusations of "stalling development."[79] Recent presidential executive orders in the **United States** aimed to reduce funding and access for a range of CSOs, including those focused on environmental advocacy and climate justice.[80]

Repression of CSOs directly impacts IPs and LCs, as CSOs often represent and advocate for IPs' and LCs' interests in forest policymaking. In **Peru** and **Cameroon**, CSOs raised serious concerns about forest laws reforms that could harm forests and community rights,[81,82] but in both cases, the laws were passed without these concerns being addressed. In Peru, part of the amendment to the forest law was declared unconstitutional by the Constitutional Tribunal due to a lack of prior consultation with IPs.[83] In **India**, major regulatory changes are increasingly made through office memorandums without public consultation.[84]

Bucking the global trend, some countries have increased engagement of civil society in national legal and policy-making processes. For example, advocacy by a broad coalition of CSOs was integral to the passage of the **DRC**'s new Land-Use Planning Law (Law No. 25/045, July 1, 2025).[85] Similarly, **Zimbabwe** is in the process of developing a new forest policy framework and has integrated mechanisms for civil society to participate in its development.[86,87]

On another positive note, several countries have made progress on the implementation of the Escazú Agreement. Uruguay submitted its Roadmap for the implementation of the Agreement in November 2024, incorporating a detailed plan to integrate the Agreement's provisions into its national legal framework.[88] **Chile** approved its Participatory Implementation Plan for Escazú in 2024.[89] Additionally, in April 2024, the third Conference of the Parties to the Escazú Agreement approved the Action Plan on Human Rights Defenders in Environmental Matters. The Plan establishes priorities and strategic measures to implement Article 9 of the treaty, which focuses on ensuring safe environments that are conducive to the participation of human and environmental rights defenders.[90]

2.5 Influence of the private sector

As IPs, LCs, and CSOs face growing limitations on their access to policymakers and their political influence has been shrinking in many countries, private corporations and industry groups have sustained or even increased their ability to lobby governments and sway policy processes.

Forest governance is strongly influenced by the relationship between governments and the private sector (i.e., private corporations and industry groups). Many governments, both at the national and subnational levels, have close relationships with industry, such that the lines between public and private interests often blur. Lobbying, "revolving door" dynamics, and even codified government promotion of the private sector all contribute to industries' outsized influence over forest governance and land management decisions.

The forestry sector in the **United States** provides one example of the entanglements between industry and government. From 2000-24, forestry industry entities in the U.S. spent an average of USD 14.2 million annually on lobbying and campaign support.[91] This included lobbying on the carbon neutrality of biomass and EU legislation on deforestation and corporate due diligence.[92,93,94]

The U.S. government also has a strong revolving door relationship with the forestry industry,[95] as well as with other sectors. For example, in 2024, 29 out of 37 lobbyists from International Paper—the largest contributor of political donations within the forestry sector that year—had previously worked within the U.S. government.[96] Some commentators have suggested that corporate lobbying influenced the "Fix our Forests Act," legislation proposed in 2024 aimed at reducing fire risks through enabling more intensive logging.[97,98,99]

Corporate lobbying of governments on forest issues, as well as revolving doors between government and the private sector, are global phenomena. For example, **Liberia's** recent appointment of Rudolph Merab as Managing Director of the Forestry Development Authority has sparked significant controversy due to the past involvement of his own companies with illegal forestry operations.[100] In **Peru**, large agri-businesses lobbied for changes that were adopted in a 2024 law (Law 31973) that eased the path to legalization and re-zoning for illegally cleared forest areas. It was argued that these changes were necessary to ensure access to European markets under the European Union Deforestation Regulation (EUDR). Parts of the law were subsequently declared unconstitutional.[101,102]

→ The European Commission's recently published Omnibus proposal would have significant impacts on the EU's regulatory framework for promoting sustainable finance and curbing deforestation. Some industry groups have played a role in supporting this simplification package.

In February 2025, the European Commission introduced the EU Omnibus proposal with the stated aim of simplifying sustainability rules for businesses.[103] These changes would impact the EU's corporate sustainability legislation, including the Corporate Sustainability Due Diligence Directive (CSDDD) and the Corporate Sustainability Reporting Directive (CSRD). The proposed changes include: removing around 80 percent of companies from the scope of the CSRD by limiting the regulation to large firms; revising and simplifying the existing European Sustainability Reporting Standards (ESRS), which companies in scope must report against; deleting the requirement for the European Commission to adopt sector-specific standards; and only requiring a "limited" level of assurance rather than the more demanding "reasonable" level of assurance.[104]

There is widespread concern that these proposed changes go beyond simplification and amount to deregulation.[105,106] Some have argued that the proposed changes undermine the environmental and human rights progress that had been advanced through the legislation, for example, eliminating the requirement to fully implement Climate Transition Plans (CTPs)[107] and undercutting risk-based human rights due diligence.[108] Further, experts have warned that the changes lack legal certainty and are not based on strong legal grounds, undermining the long-term objectives of the legislation and causing regulatory uncertainty for businesses.[109]

Some industry groups have played a role in supporting these proposed changes. For example, the French Banking Federation (FBF) issued a position paper in support of the simplification,[110] as did the American Chamber of Commerce to the EU[111] and Business Europe.[112] In contrast, some corporate lobbying efforts have focused on countering the Omnibus proposal. For example, 211 investors and supporting organizations issued a joint statement in support of preserving the integrity of the EU's sustainable finance framework.[113] A similar statement was released by companies and civil society organizations in the cocoa and chocolate sector (including industry giants Nestlé and Ferrero).[114] Additionally, a group of NGOs lodged a formal complaint about the process of developing the Omnibus package, arguing, among other claims, that the European Commission did not undertake proper consultation processes.[115]

The EUDR, which seeks to ensure that certain commodities bought and consumed in the EU do not contribute to deforestation and forest degradation and have been legally produced,[116] also experienced changes throughout its development that have impacted its potential to generate positive forest impacts. It saw reductions to its scope and the requirements placed on businesses.[117,118] These changes were influenced by strong lobbying from the sectors potentially impacted by this legislation.[119,120,121]

Since it came into force in 2023, there have been further efforts from industry groups and companies from within the **EU** and beyond to delay and weaken the regulation. While some were in favor of maintaining the original timetable for implementation and the agreed text of the legislation,[122,123] others advocated for amendments and postponement.[124,125,126,127,128] Implementation was initially delayed by a year, despite opposition from environmental CSOs[129] and some companies[130] as well as overwhelming public support for the timely implementation of the EUDR.[131] Reporting requirements were also loosened.[132,133] In August 2025, following significant lobbying from the **U.S.** pulp and paper sector, the EU and the United States announced a trade agreement that included a paragraph on minimizing the EUDR's impact on trade with the United States. In September 2025, the EU Commission announced that the implementation of the EUDR will be pushed by another year.[134]

3. LEGAL AND POLICY FRAMEWORKS FOR EQUITABLE AND SUSTAINABLE FOREST LANDSCAPES

3.1 Reforms to laws and policies that affect forests

While some countries have sought to strengthen conservation of forests and enhance the sustainability of their forest sectors, the political and economic power of industry has dominated elsewhere, resulting in policy changes that facilitate the conversion of forests to other land uses and drive forest degradation.

With forests under growing pressure from forest-risk sectors and the impacts of climate change, some governments have sought policy solutions to improve forest management and protection. Recent reforms have included strengthening regulations to better control the conversion of forests and improve the sustainability of the forest sector, including through diversifying economic activities, enhancing traceability, and improving the sustainability of forest management, especially certified operations.[135]

For example, **Benin's** 2023-32 Forest Policy aims to strengthen the sustainable management of the country's forests to support both forest conservation and the country's socio-economic development.[136,137] Similarly, The **Gambia's** 2023-32 National Forest Policy seeks to conserve forest resources and enhance the contribution of its forests to the country's socio-economic and environmental development.[138] **South Africa's** National Forests Amendment Act came into force in 2024, aiming to enhance protections for natural forests and promote the sustainable management of forests and deforestation.[139,140] The **Indonesian** government reaffirmed its commitment to shift its forestry sector toward multi-purpose use of resources that improve the environmental sustainability of the sector, ensure conservation, and strengthen local economies.[141] In July 2025, the president of the **DRC** signed into law the country's first-ever land-use planning legislation, which includes provisions that strengthen community rights and environmental protections.[142]

However, pressure on forests from forestry and other land-use sectors remains intense, driven by economic priorities and the political influence of these forest-risk industries. Consequently, even where there are high-level commitments to forest conservation and sustainable practices, policy decisions continue to prioritize other sectors at the expense of forests and forest-dependent peoples.

The year 2024 saw several high-profile rollbacks to safeguards. The **Indonesian** government introduced a Food and Energy Sovereignty Plan under which millions of hectares of forest will be cleared for the development of agro-industrial and energy infrastructure.[143] In **Peru**, Congress amended the Forestry and Wildlife Law to legalize past illegal deforestation and eliminate zoning and authorization requirements, a change that facilitates the conversion of forests for agriculture.[144] India finalized rules under the amended Forest Conservation Act, reducing protections for many areas of forested land and undermining the rights of forest-dependent communities.[145] In **Brazil**, several Amazonian states proposed laws weakening conservation norms and threatening the Soy Moratorium.[146,147] A bill that would reduce environmental licensing requirements and could accelerate deforestation was approved by Brazil's Senate and signed by Brazil's president but with vetoes to key provisions. The final text of the bill remains up for debate, demonstrating the vulnerability of forests to political swings.[148,149,150,151] A 2025 executive order in the **United States** aims to expedite review and permitting processes to expand domestic timber production, including by reducing requirements for compliance with the Endangered Species Act and National Environmental Policy Act.[152] The **Canadian** province of Ontario passed a law that guts environmental safeguards and erodes Indigenous rights, including through establishing "special economic zones" that are exempt from provincial and municipal by-laws and replacing its Endangered Species Act with a weaker alternative.[153]

In response to the growing impacts of climate change on forests—including increasingly severe and more frequent fires—governments are seeking to improve forest resilience. A notable example is the G7 Kananaskis Wildfire Charter. While the effectiveness and ambition of the proposed responses have been contested in some cases, elsewhere, government responses have contributed to greater recognition of traditional and Indigenous forest management systems.

The impacts of climate change on forests are becoming increasingly severe, including more frequent and widespread outbreaks of pests, disease, and fire.[154,155] In response to this, there is growing awareness of the need to enhance forest resilience. Governments have been responding to this through exploring and legislating for new forest management regimes, both for production forests and the wider landscape. While there is widespread agreement on the need for change, opinions have diverged on the scale of ambition and on the best approaches.

The **EU's** Nature Restoration Regulation, adopted in 2024, was in part a response to the increasing risk of forest fires.[156] It aims to ensure the recovery of biodiverse and resilient nature across the EU and includes time-bound targets for restoring different types of ecosystems, including forests.[157] Its adoption was widely welcomed. However, its ambition was scaled back in the face of strong lobbying from some political parties and agricultural bodies.[158] Overall, there is a mixed picture in the EU and in European member states when it comes to supporting climate-resilient forestry and forests.[159]

One of the most contested issues has been the relationship between timber harvesting and wildfire risk, in particular in boreal and temperate forests.[160] For example, in the **United States**, the proposed Fix Our Forests Act aims to increase resilience to forest fires by enabling more intense logging on federal lands. This is to be achieved through the removal of many environmental protections for forests and accountability provisions, and its effectiveness has been strongly disputed by many scientists and CSOs.[161,162,163]

One area where there has been growing consensus is on the value of Indigenous and traditional management practices in enhancing forest and landscape resilience.[164,165] Most recently, this was highlighted in the Kananaskis Wildfire Charter, an outcome of the 2025 G7 meeting. The Charter made a commitment to including IPs and LCs in efforts to prevent and mitigate wildfires and to implement actions grounded in scientific research and local knowledge, including Indigenous land management practices.[166]

At the national level, some governments have enabled IPs and LCs to play a greater role in forest and land management to improve climate resilience.[167,168] In **Australia**, Indigenous land management practices are increasingly recognized by the government and integrated into their efforts to tackle forest fires.[169,170] Similarly, Indigenous controlled burning practices are being integrated into the wildfire management practices of the provincial government of British Columbia, Canada.[171] This recognition can be seen as part of a shift in understanding that both ecological and social resilience are needed to adapt to increased fire risks and to climate change more broadly.[172]

3.2 Protected areas

The area of land with protected status has been increasing globally, although the degazettement and downgrading of protected areas is an ongoing concern.

As of September 2025, the total area of terrestrial land and inland waters covered by protected areas and other effective conservation methods (OECMs) was nearly 23.6 million km^2, representing approximately 17.5 percent of the global land area (**Figure 4.3**). 63 percent of this area is managed by governments, 12 percent is under collaborative governance arrangements, and 4 percent is managed by IPs and/or LCs.

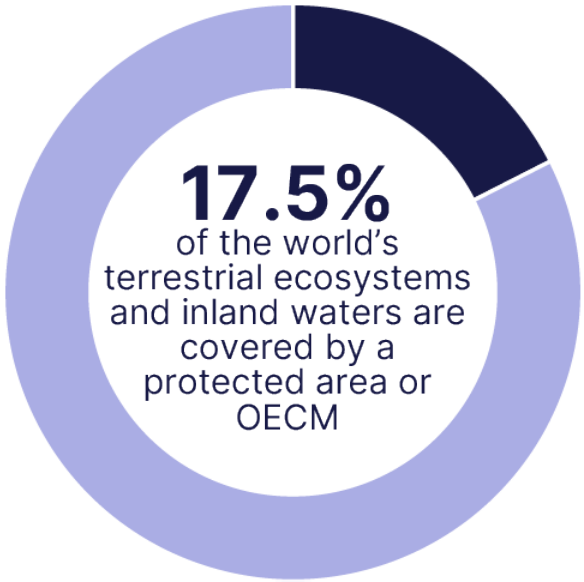
Downgrading, downsizing, and degazettement (PADDD) remain an ongoing threat to protected areas. Of all the PADDD events from 1892-2000, 77 percent occurred since the year 2000, with the **United States** and **Brazil** as PADDD hotspots.[173] Though degazettement sometimes occurs in response to valid claims by local people to the land, other times decisions are driven by external commercial interests. For example, in **Thailand**, the government is considering the issuance of land title deeds within the Thap Lan National Park. This is being proposed to resolve long-standing boundary disputes with communities that predated the park's establishment in 1981. While many agree that these communities have valid land claims, the proposal has drawn criticism for potentially legitimizing recent illegal developments by commercial entities.[174] The Brazilian state of Acre approved a law in 2024 that would enable the allocation of land to people who have moved illegally into conservation areas, while in Rondônia state, the government is seeking to annul 11 conservation units and reduce the size of two others, so that the land can be allocated to farmers.[175]

There continues to be serious violations of IPs' and LCs' rights in the establishment and management of protected areas. Disputes regarding land and resource rights linked with protected areas remain widespread. Processes to resolve these are often opaque, risking their subversion by business interests.

The history of protected areas has been plagued by instances of human rights abuses, with the widespread use of the fortress approach to conservation, in which the existing rights and needs of those living in protected areas are not recognized or considered. There continues to be violations of the rights of IPs and LCs in the establishment and management of many protected areas, including failures to implement processes to obtain FPIC, as well as incidents of violence, killings, and forced evictions. For example, in **Tanzania**, there have been forcible evictions of Maasai communities from the Ngorongoro Conservation Area,[176] and further evictions were reportedly planned by the government in 2024.[177] In **Honduras**, a proposed law would fast-track environmental licenses for extractive projects, potentially issuing over 400 licenses while bypassing public participation and excluding IPs and LCs from their right to FPIC. Critics warn this could undermine community rights and increase conflict and environmental harm in protected areas.[178]

An important development was the publication in 2024 of the African Commission's decision that the government of the **DRC** had violated the rights of the Batwa in excluding them from the Kahuzi-Biega National Park, which called for the government to provide restitution and redress, including by granting them titles to their ancestral lands.[179] Protected area management still needs to advance toward approaches based on truly collaborative decision-making, the return of seized territories, and the delegation of management rights to Indigenous and local communities.

Figure 4.3. Total area of terrestrial land and inland waters covered by protected areas and other effective conservation methods (OECMs)



Note: As of September 2025
Source: Protected Planet (2025)

3.3 IP and LC tenure rights

Although IPs and LCs have seen increased territorial rights in some countries, increased recognition of IPs' and LCs' tenure rights remains the exception rather than the norm. Recognition of women's forest tenure rights lags woefully behind, even in jurisdictions that have improved recognition of tenure rights.

Rights and Resources Initiative's last global analysis of tenure rights found that the land designated for or owned by IPs, Afro-descendant peoples, and LCs increased over the period 2015-20, and in 2020 represented 11 percent of the land area of the 73 countries analyzed.[180] Separately, another 2024 report found that Indigenous and traditional territories cover at least 13.6 percent of global land.[181] However, this figure only reflects mapped territories that do not overlap with other protected or conserved areas, and there is known under-reporting of IPs' and LCs' lands, so these figures are likely underestimates.[182] If such areas were officially designated as Indigenous-led protected areas, this would increase the percentage of land area classified as protected to an estimated 31 percent.[183] Such a step would increase the territorial rights of IPs and LCs and recognize their role as stewards of forests and other ecosystems while enabling achievement of the global target for protected area coverage.[184] One approach countries can take is to integrate Indigenous and traditional territories when engaged in spatial planning.

Improvements have been seen in some countries. One notable case in 2024 was the establishment of the first Indigenous conservation area in the Amazon, the Soma Santa Conservation Area in **Bolivia**.[185] Customary and community forests continue to be designated in **Indonesia**,[186, 187] **Liberia**,[188] and the **DRC**.[189] The DRC's new land-use planning legislation recognizes community customary land rights for the first time in national regulation and provides for the right to consultation.[190]

However, the pace of allocation is slow and very small relative to the large number of communities awaiting such recognition, representing millions of hectares. For example, in the **DRC**, 166 local community forest concessions had been granted as of 2024, representing a tiny proportion of the communities in forest areas.[191] Similarly, in **Indonesia**, as of 2024, while 8 million hectares of land have been allocated to IP and LCs, 30 million hectares of IP and LC land have so far been mapped by the civil society group, the Ancestral Domain Registration Agency.[192] Additionally, as detailed above, tenure rights for women have not seen increased recognition, even in places where tenure rights overall have been strengthened.[193]

3.4 The EUDR and other import regulations

Import regulations can drive positive change for forests and for communities, but their impact is limited by inconsistent implementation.

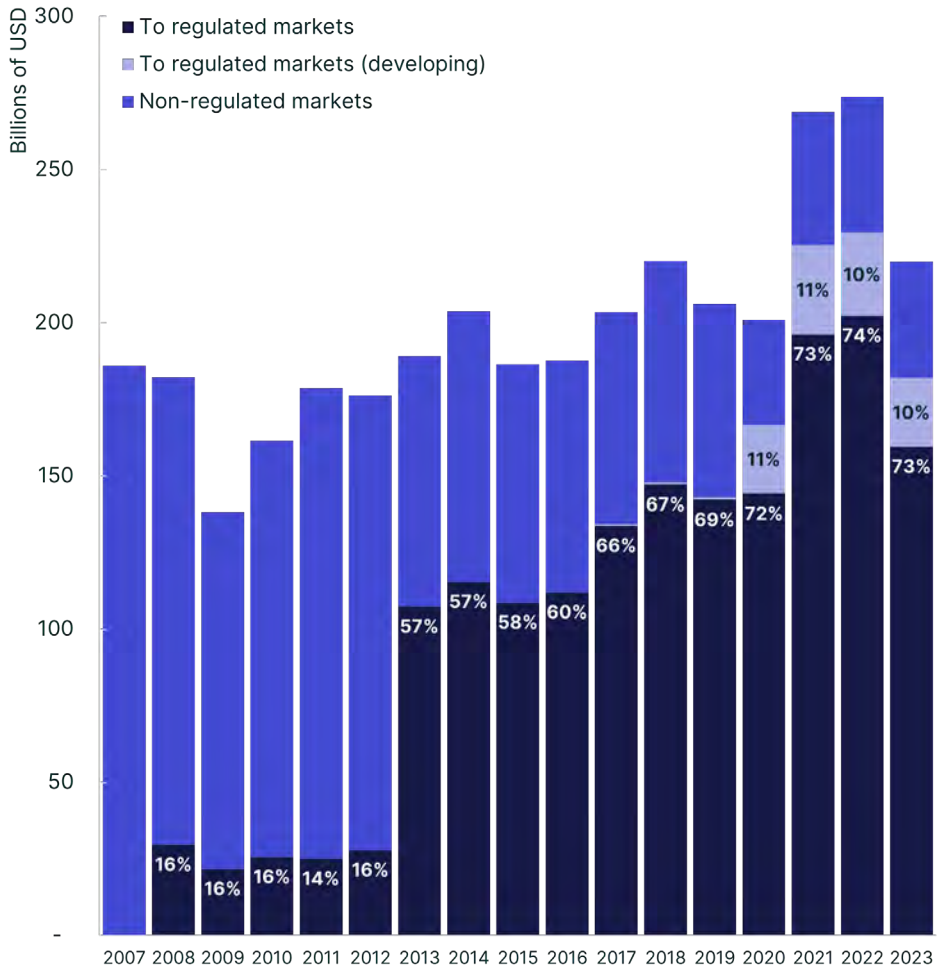
Regulations on the import of forest-risk commodities have a range of impacts on forests and land rights. When designed well, formal registration, traceability, and due diligence systems help to decrease the negative environmental impacts of commodity production and advance global forest goals (see **Chapter 2**). Importing countries play a crucial role in addressing deforestation and biodiversity loss by embracing their shared responsibility for commodity-driven forest loss. To reduce demand for commodities that drive forest loss and degradation, some governments adopt trade policies to facilitate legal and more sustainable commodity consumption. In 2023, 73 percent of the global timber trade took place in regulated markets, and 83 percent was covered by some form of regulation (**Figure 4.4**).

Both domestic demand and international trade (export) demand influence deforestation and forest degradation. Approximately 72 percent of tropical deforestation associated with agricultural commodities was consumed or processed domestically—although it is important to note that once exports after processing are accounted for, the share of deforestation linked to domestic consumption may be lower (see **Chapter 1** for more on the role of domestic and international demand in driving deforestation). Import trade regulations can effectively regulate products traded in international markets, but these regulations have limited or no impact on reducing deforestation or degradation driven by domestic commodity consumption. Another lever governments use are tax incentives. Tax cuts for producers that seek certification, such as those used in **Cameroon**[194] and **Gabon**,[195,196] can be an effective way to incentivize production that protects forests, whether for domestic or export markets.[197]

The EUDR will require that forest-risk commodities traded in the **EU** are free from deforestation and forest degradation and are produced in accordance with local laws. Under this regulation, companies must ensure that wood, cattle, cocoa, coffee, oil palm, rubber, soy, and derivatives of these major forest-risk commodities that are placed on the European market or exported to international markets are free from deforestation and, for wood-related products, from forest degradation. Companies must also ensure compliance with producer countries' national laws and with international laws regarding human rights and FPIC. The EUDR was due to take effect at the end of 2025, but implementation has been delayed.[198]

A few producer countries are beginning to use the EUDR as a catalyst for broader governance and supply chain reforms. This may reflect the early signs of the "Brussels Effect," where EU regulatory standards shape practices beyond its borders—even while they are under threat of being weakened and further delayed. If sustained and effectively implemented, these shifts could lay the groundwork for meaningful, system-wide transformation in forest and ecosystem-risk sectors, through the diffusion, adaptation, and use of robust transparency tools developed for EUDR compliance to other markets. Another example of the "Brussels effect" may be the integration of the global commodity markets. Most early responses to the EUDR have centered on meeting traceability and due diligence requirements for individual supply chains, although several producer countries may be responding to the pending regulation as a lever for broader, jurisdictional forest and land governance reform. These responses to the EUDR have the potential to address the risk of "compliance islands"—segments of supply chains narrowly aligned with regulated markets, while the rest remain untouched by stronger standards.

Figure 4.4. Portion of international timber trade covered by regulations



Source: Original analysis by Forest Trends (2025) using UN Comtrade data

Thailand, **Côte d'Ivoire**, **Ghana**, **Vietnam**, **Indonesia**, and **Peru** are initiating national strategies and digital systems to map farms, register producers, and link land use to production. These efforts have the potential to support more inclusive and enforceable forest and ecosystem governance and catalyze sector-wide transformation. Thailand's rubber sector, for example, has registered 1.6 million producers and mapped 79 percent of plantations.[199,200,201] Côte d'Ivoire's Coffee-Cocoa Board has registered over 700,000 farmers and geolocated more than 3.2 million hectares of cocoa farms,[202,203] while Ghana's COCOBOD has mapped more than 1.2 million farms and launched a national traceability system with polygon mapping.[204,205,206] In Vietnam, a new coffee traceability system links land use, cadastral data, and production plots, with expansion planned for other crops.[207,208,209] Indonesia and Peru have each launched national strategies or digital dashboards for tracking commodity production and integrating smallholder producers into sustainable supply chains.[210,211,212]

→ Under the pretext of the EUDR, some governments have pushed for legal reforms that dilute corporate accountability and forest protections.

In the **United States**, legislation introduced in March 2025 would prohibit **U.S.** companies in sectors including agriculture, mining, and timber from complying with foreign sustainability due diligence regulations like those in the EUDR.[213,214] In August 2025, following significant lobbying from the U.S. pulp and paper sector, the EU and the U.S. announced a trade agreement that included a paragraph on minimizing the EUDR's impact on trade with the U.S.[215,216] **Peru** passed a law in 2024 (Law 31973) that allows for the legalization of farmers who have illegally cleared forests and eases requirements for re-zoning forest areas and agricultural permits (the latter provisions declared unconstitutional in early 2025).[217] One justification for these reforms is that they enable farmers to access the European market by ensuring that their products are legally produced, as will be required under the EUDR.[218,219,220] Similarly, in **Brazil**,[221] the EUDR has been cited in efforts to weaken deforestation laws and abolish the Amazon soy moratorium.[222] In response to the EUDR's inclusion of standards on forest degradation, **Canada** developed its own domestic definition of the term, with significant influence from the forestry sector. This resulted in a proposed definition which critics argue lacks sufficiently detailed indicators and definitions and may enable Canada to sidestep EUDR requirements.[223, 224 225]

→ Some producer countries have argued that the EUDR imposes unfair regulatory burdens, especially considering European countries' long histories of benefiting economically from their own deforestation and forest degradation activities.

In a joint letter to the European Commission dated 7 September 2023, 17 major agricultural exporters—including **Brazil**, **Indonesia**, **Ghana**, and **Thailand**—warned that the EUDR risked marginalizing smallholders and imposing disproportionate compliance costs on developing nations.[226] Indonesia, the world's largest palm oil producer, has previously accused the EUDR of being an instrument of "regulatory imperialism" and remains one of its most prominent critics.[227,228] However, there is also significant support for the EUDR amongst civil society within these same countries. While recognizing the need to support smallholders to ensure that they are not negatively impacted by the regulation, CSOs highlight the EUDR's potential to level the playing field for those producers who operate legally and sustainably and support the rule of law.[229] Reprieve from EUDR requirements granted to the **U.S.** under the recent trade deal could undermine the argument that implementation of the regulation will level the playing field for small actors.

→ The implementation of the EUDR risks being further delayed, considering the EU Parliament's objection to the proposed risk classification criteria and the Commission's call for evidence[230] from July to September 2025 to inform the forthcoming Environmental Omnibus, potentially integrating the EUDR into the omnibus law for revision.

In December 2024, the EU delayed the application of the EUDR by a year to December 2025. In September 2025, the EU Commission announced a further delay, citing concerns about the IT system that will be used as part of implementation.[231] While objections from countries were not cited as reasons for the delay, this latest announcement follows months of ongoing negotiations and critiques. The European Parliament voted in July 2025 to reject the proposed EUDR benchmarking system to classify countries according to deforestation risk, which raised concerns about further delays in implementation.[232] Additionally, 18 EU ministers sent

a letter to the European Commission, asking for a further simplification of the EUDR.[233] There were already critiques that the country risk classifications overlooked critical factors such as governance quality, corruption, and enforcement capacity, resulting in "low risk" labels for countries with significant deforestation and forest degradation.[234] However, reopening the law to add a "negligible risk" category in response to the objection could further delay implementation of the law, burden companies that have already developed compliance systems, and undermine the EUDR's overall credibility.[235]

4. THE JUST ENFORCEMENT OF FOREST LAWS

Failure to uphold existing laws—due to lack of capacity, political will, or entrenched impunity for large actors—is a key barrier to effective forest and ecosystem governance. Without meaningful enforcement, even strong laws cannot deliver on their environmental or social promises. Forest crimes will continue, large well-resourced actors will benefit, and communities and environmental defenders will suffer the consequences (**Box 4.2** provides more information on the importance of just enforcement).

4.1 Forest crimes

The perpetration of forest and other environmental crimes (such as illegal deforestation and conversion, wildlife trafficking, and unlawful mining) by organized criminal networks due to their high profit margins, low risk of prosecution, and the opportunity to launder proceeds through legitimate supply chains is increasingly being documented.[236,237] Illegal deforestation and conversion, in particular, is often tied to land grabbing, corruption, and transnational commodity flows—undermining the rule of law, fueling social conflict, and eroding trust in institutions and governance systems, and depriving governments of vital revenue streams needed for sustainable development and public services. In some regions, the revenues generated through forest crimes are linked to armed conflict by enabling armed groups, corrupt actors, or criminal networks to finance their operations, which, in turn, further weakens governance and law enforcement, creating a cycle that accelerates further environmental degradation and loss of community control over resources.

Estimates suggest that between 61 and 94 percent of tropical deforestation for agriculture is illegal.[238] Environmental crime—including illegal deforestation, and timber and wildlife trafficking—generates as much as USD 281 billion annually.[239] These activities are tied to organized crime and corruption.

Box 4.2. Power dynamics and forest laws: why just enforcement matters

Ensuring that laws and regulations are enforced properly is as important as improving legal frameworks to provide for public participation, recognize rights, and support sustainable land use. Laws imposed by producer countries can support the clarification of land tenure and resource rights in production areas, and, if well-structured, can enable smallholders and communities to gain recognition, access support services, and qualify for sustainability programs or premiums. Such systems have the potential to reduce land disputes and overlapping claims and can provide the technical basis to enforce laws and align with import regulations. While not sufficient on their own, they are a critical foundation for equitable, transparent, and enforceable forest land governance, and thus require careful design and implementation.

As described in earlier sections, 2024 saw a handful of high-profile rollbacks to forest and environmental safeguards, such as those in **Peru**, **India**, and **Brazil**.[240,241,242] These cases are significant, but the larger, more chronic challenge lies in the lack of enforcement and implementation. "Just enforcement" requires not only adequate financial and human capacity, but also a commitment to applying laws fairly, equitably, and transparently—ensuring accountability for all actors and preventing impunity for powerful actors.

Furthermore, it is well-documented that in many forest-rich countries, enforcement of forest laws has disproportionately targeted the most visible and vulnerable actors in supply chains—small-scale forest users, hired loggers, or informal producers—while powerful actors remain untouched.[243,244,245,246,247,248,249] These "big fish," such as political elites, land speculators, financiers, and commodity traders, drive and profit from deforestation at scale but remain shielded by political connections, economic clout, or regulatory blind spots.[250, 251,252] Enforcement has often focused on minor infractions by poor rural actors rather than pursuing large actors orchestrating the trade in illegal timber, commodities, or land. [253, 254, 255,256,257] A just enforcement agenda must correct this imbalance—addressing entrenched power dynamics and enabling accountability at all levels—if forest and ecosystem governance is to achieve both justice and effective conservation.

Forest Trends estimated that across 23 tropical forest countries, about 69 percent of the deforestation driven by agriculture from 2013-19 violated national laws or regulations.[258] The total could be as much as 94 percent if it is assumed that all un-audited forest clearing from 2013-19 for agriculture was illegal, and 61 percent if it is assumed that none of the unaudited clearing for agriculture is illegal. This wide range reflects the fact that many countries only have limited data on which to assess illegality, and audits rarely occur, but where comprehensive audits have been completed, the figures are striking. In **Brazil**, between August 2023 and July 2024, while deforestation overall may have been declining, 91 percent of deforestation in the Amazon was unauthorized, highlighting the prevalence of illegal clearing practices.[259] In another example, while **Indonesia's** deforestation rate is rising after several years of decline (2024 marking the highest rate since 2021), the vast majority of forest loss is legal, occurring within existing land concessions. This is a stark difference from previous periods dominated by illegal deforestation and an indication that regulations are not effectively protecting remaining natural forests,[260] and in some cases, that officials are retroactively legalizing illegal plantations within forest zones through amnesty programs or other means.[261]

Environmental defenders—including Indigenous and community members, activists, journalists, and smallholder farmers—face high rates of physical violence and assassinations.[262]

According to Global Witness, at least 142 land and environmental defenders were killed in 2024 (**Figure 4.5**).[263] Frontline Defenders reported 324 killings of human rights defenders from 32 countries in 2024, of which 20.4 percent were land rights defenders and 17.9 percent were Indigenous rights defenders. Frontline Defenders also found 2068 instances of human rights violations across 105 countries, of which 15 percent targeted land, Indigenous, or environmental defenders.[264] Some killings are facilitated by governments engaged in systematic and deliberate suppression and criminalization of IPs, LCs, and activists.[265] Governments justify their actions through legal mechanisms such as penal laws and anti-terrorist legislation. Environmental defenders are also targeted directly and indirectly by organized criminal networks and actors from private industry.[266]

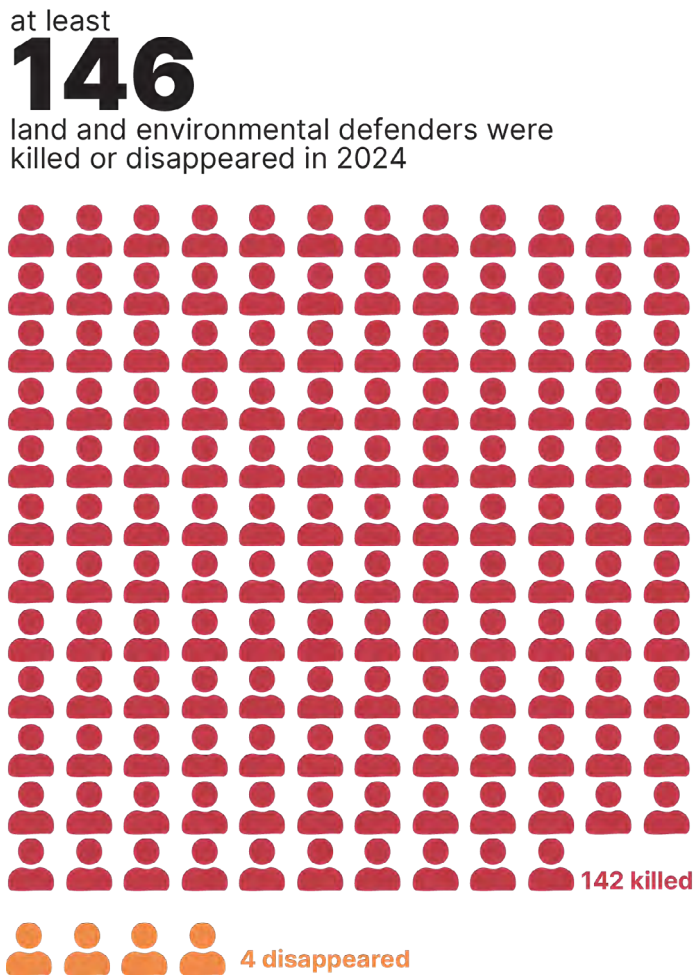
New understandings of forest crimes as threats to national security may be leading to intensified efforts by enforcement agencies to address forest crimes.[267] This was demonstrated by recent high-profile operations that engaged multiple enforcement agencies, including investigations into financial fraud within high-net-worth supply chains.

Over the past 5 years, analysis has been documenting how environmental crimes—including illegal logging, wildlife trafficking, and illicit mining—are often perpetrated by networks engaged simultaneously in arms and drug trafficking, human trafficking, financial fraud, and/or money laundering. They exploit the same smuggling routes, corrupt officials, and formal and informal financial systems, enabling the laundering of profits across sectors. Environmental crimes may appeal to criminal enterprises due to their low upfront investment, low risk of prosecution, high reward, and the fungibility of commodities like timber and minerals.

In **Mexico**, organized crime groups in states like Chihuahua and Michoacán have diversified into illegal logging, wildlife trafficking, and land grabbing. In Michoacán, cartels have infiltrated the avocado trade, deforesting land to expand control, while in Chihuahua, timber is extracted under threats of violence and laundered into legal supply chains—blurring the lines between environmental and criminal economies.[268] In the Golden Triangle region, where **Myanmar** and **Laos** meet, timber and wildlife products have been trafficked alongside methamphetamines, counterfeit goods, and smuggled humans. When enforcement cracks down on higher-profile operations, these networks can quickly pivot back to environmental crimes with minimal financial loss.[269]

The impacts of these crimes can also contribute to cycles of armed conflict. In **Myanmar**, the illicit timber trade has become a critical revenue stream for sanctioned government entities, armed groups, financing weapons, and prolonging conflict in a failed state that now destabilizes the broader Southeast Asian region.[270] Reports from **Mozambique** suggest that terrorist organizations are engaged in the illicit trade of timber to fuel their activities.[271,272] Illegal wildlife trade—valued at USD 7-23 billion annually—has similarly been linked to financing for organized crime and insurgent groups.[273]

Figure 4.5. Land and environmental defenders killed in 2024



Source: Adapted from Global Witness (2025): "Roots of Resistance"

Once niche concerns, forest and wildlife crimes are now considered national security threats, drawing increasing attention from INTERPOL, UN Office on Drugs and Crime (UNODC), and U.S. agencies such as the Department of State and Department of Defense. **Brazil** launched an International Police Cooperation Center in Manaus to strengthen intelligence and capacity to counter environmental crime across the seven countries of the Amazon Cooperation Treaty Organization.[274] The Brazilian federal police also launched Operation Green Justice on the tri-border area with **Colombia** and **Peru** in 2024, an initiative supported by the **United Arab Emirates'** Ministry of the Interior to prevent and investigate crimes in the Amazon.[275]

In **Brazil**, raids led by the Brazilian Institute of Environment and Renewable Natural Resources across Amazonas, Pará, and Rondônia seized over 5,000 truckloads of illegal timber, shut down nearly a dozen illicit sawmills, and imposed roughly BRL 15.5 million in fines—demonstrating political will and capacity to target large-scale loggers rather than just small actors.[276] Paraguayan authorities, coordinated by INTERPOL, deployed 100 officers from 14 agencies to arrest 26 suspects, dismantle two criminal networks, and seize some 1,000 logs of native quebracho wood—showing effective multiagency, cross-border cooperation against organized forest crime.[277] In May 2025, a joint operation of forest, police, and revenue authorities in Keonjhar district in **India** seized USD 2 million worth of high-value timber from three organized "timber mafias," signaling a willingness to go after well-connected illicit operators, not just subsistence loggers.[278] In 2024, an American couple and their employee who were illegally importing Russian timber that was processed in **China** were charged under **U.S.** customs fraud and duty-evasion statutes rather than the Lacey Act,[g, 279] illustrating how authorities can stack customs, fraud, or even anti-money laundering tools to target illicit timber flows when Lacey Act convictions aren't attainable.[280]

→ International efforts to prevent and combat environmental crimes (including forest crimes) have potentially been strengthened with the adoption of the Convention on the Protection of the Environment through Criminal Law.

The Convention, adopted in May 2025 by the Council of Europe, is the first legally binding international instrument to comprehensively address environmental crimes and criminalize acts that are harmful to the environment (**Box 4.3**). It establishes several offenses, including deterioration of protected habitats, trading unlawfully harvested timber, and ecocide, as well as offences of aiding and abetting these offences. More importantly, parties to the Convention are required to take necessary legislative measures to establish these offenses as criminal offences under domestic law, and to ensure that offenders are punishable by proportionate and dissuasive sanctions. The Convention is yet to come into force, as it is awaiting ratification, and will be open for signature in December 2025.[281]

g U.S. Federal Law that prohibits trafficking of certain plants and wildlife.

Box 4.3. Why is the adoption of the *Convention on the Protection of the Environment through Criminal Law* a key milestone?

There is currently no international legal instrument that comprehensively covers or criminalizes environmental crimes. This means that such offenses are not defined with specificity. There is no way to hold countries accountable for not taking domestic measures to address the crimes, and there is no mechanism to monitor how countries are addressing environmental crimes. It also makes international cooperation in preventing and prosecuting environmental crimes impossible.

The Convention could address these gaps if it comes into force, as it clearly defines offenses affecting the environment, places obligations on states to take measures to criminalize these activities to define the sanctions and enables states to exercise territorial and extraterritorial jurisdiction over environmental crimes. It also requires states to cooperate in preventing, prosecuting, and investigating the offenses as well in enforcing judgments and establishes a mechanism to monitor the implementation of the Convention.

While the Convention is a positive move toward combating environmental issues and promoting international cooperation, its effectiveness may be affected by the number of countries that are subject to it. It is currently open for signature by only 46 Council of Europe member states and non-member states that participated in the drafting, and other non-members may be invited to accede to it.

4.2 Challenges in the enforcement of forest laws

There continue to be significant challenges in the enforcement of laws. Law enforcement is sometimes used to target communities or small actors while ignoring large drivers of deforestation. The effectiveness of laws is also undermined by inconsistent implementation or weak enforcement and poorly implemented due diligence and import regulations or bans that are routinely circumvented.

Enforcement of forest laws is sometimes used to target small players, with few or no consequences for large industries that drive higher levels of deforestation.

In **Cambodia**, for instance, for many years, there have been reports of enforcement selectively enabling economic land concessions while evicting villagers, effectively eroding forest protections.[282] In **Indonesia**, activists observe that authorities have historically cracked down on small farmers and Indigenous communities who cultivate only a few hectares, instead of pursuing the large plantation companies responsible for industrial-scale deforestation[283] and who may owe as much as USD 1 billion in unpaid fines.[284] In **Kenya**, deforestation continued after authorities forcibly evicted Ogiek people from their ancestral homes in the Mau Forest, reflecting an imbalance where "encroachers" from poor local communities were targeted while politically connected land-grabbers and speculators continued to operate.[285]

Weak enforcement, loopholes, and poorly implemented due diligence significantly limit the effectiveness of legal frameworks designed to protect forests and restrict illegal timber.

For example, **Papua New Guinea** has a legal framework in place but weak implementation and enforcement, as well as the exploitation of loopholes such as the Special Agricultural Business Leases. Particularly, the failure to effectively prosecute and penalize money laundering in the forestry sector, with evidence suggesting that large companies have paid little to no tax through opaque practices,[286] now threatens to land the country on the Financial Action Task Force's grey list.[287] In **Mozambique**, there are reports of corruption among officials and weak oversight that have allowed large-scale operations (e.g., licensed concession holders, Chinese firms, port officials, and global shipping lines) to move illegal

timber largely unchecked and enabled well-connected financiers and traders to avoid persecution, while enforcement efforts target small-scale loggers, who are the most accessible, low-level players.[288] Similarly, activists note the lack of implementation of the **DRC's** unprocessed log export ban, which has enabled two Chinese logging companies, with over 3 million hectares of forest concessions in the DRC – to disregard the DRC's forest laws and export massive volumes of unprocessed wood to **China**.[289]

There has been a decline in demand in global markets for logs from countries with log export bans.[290] **Gabon** has been able to stop nearly all exports of logs since it banned their export.[291] Sanctions on **Myanmar** have been linked to drops in direct trade of timber products to the sanctioning jurisdictions,[292] although there is evidence that timber is still leaving Myanmar.[293,294] However, trade restrictions are circumvented through trade via third countries or regions. For example, a ruling by the European Court of Justice in 2024 stated that timber exported from Myanmar to the **Taiwan** region, processed there and then re-exported to the EU, can be stated as timber from Taiwan.[295] Timber export companies and politically exposed persons from Myanmar and **Russia** are designated on sanctions lists in the **EU**, **U.S.**, **UK**, and **Canada**, yet timber from both countries continues to flow in regulated markets.[296,297,298] European sanctions against Russian timber have been largely circumvented, with studies showing over EUR 1.5 billion of banned wood entering Europe since mid-2022 via other countries.[299,300]

Some have argued that the European Commission's approach to EUDR implementation—which favors the use of partnerships under two recently established EUDR implementation mechanisms (the EU Forest Governance & Value Chains Programme and the Team Europe Initiative on Deforestation-free Value Chains) over the use of Voluntary Partnership Agreements (VPAs) established under the EU's Forest Law Enforcement, Governance and Trade Regulation—offers an overall less robust, concrete and ambitious framework than that offered by VPAs.[301,302,303,304] Meanwhile, the U.S.-Vietnam Timber Agreement—established in 2021 after an investigation to improve Vietnam's Timber Legality Assurance System—appears to have stalled. Vietnam has said that it has fulfilled all requirements stemming from the investigation into its timber sourcing practices. Meanwhile, the **U.S.** is not prioritizing environmental aspects of the agreement and ended formal support to the U.S.-Vietnam Timber Working Group in a wave of foreign aid suspensions in January 2025.[305]

Another factor is weak due diligence in jurisdictions with well-developed import regulations, such as the U.S. and the EU. A recent investigation of Colombian timber exports to the **U.S.**, **EU**, and **Canada** backs this assertion, finding significant issues with enforcement and due diligence along the supply chain.[306]

There are some examples of improvements in the Latin American region.

In the Belém Declaration (2023),[307] Amazonian leaders committed to, among other actions, boosting joint enforcement.[308] **Brazil** also launched an International Police Cooperation Center in Manaus to improve cross-border intelligence against environmental crime.[309] In 2024, the Brazilian federal police launched Operation Green Justice in the tri-border area with **Colombia** and **Peru**.[310]

4.3 Monitoring and transparency

Monitoring of illegal activity and transparency around forest impacts are critical pillars of effective enforcement, helping to expose violations and unsustainable practices, deter corruption, and build public trust. When supported by strong legal frameworks, adequate resources, and protections for whistleblowers, monitoring and transparency systems become powerful tools for reform. Equipping the public with credible information can further build political will by enabling advocacy that puts pressure on leaders to address entrenched problems. Transparent systems increase accountability and counter corruption, which is essential to foster political will for the conservation and sustainable management of forests.

Divergent approaches to reporting on forest degradation and deforestation pose challenges in holding countries accountable under international forest governance frameworks.

Countries with boreal and temperate forests, due to challenges with mapping those biomes[311] and policy choices, have been particularly limited in the scale and depth of their monitoring and reporting of metrics

related to forest degradation. For the 2020 Forest Resources Assessment (FRA), for example, the Food and Agriculture Organization requested, for the first time, that countries indicate whether they monitor forest degradation and, if so, to provide their working definition of degradation and their monitoring processes and results. Only 58 countries—representing 38 percent of the global forest area—reported that they monitor the area of degraded forest. Reporting was most extensive in South America, and one-third of reporting countries were in Africa. While boreal forests represented only 4 percent of the reported area and temperate forests 15 percent, 72 percent of the reported forest area was tropical.[312]

Reporting on primary forest area also varies, with many governments relying on imprecise proxies such as protected areas.[313] **Canada**, for example, does not have a national definition of primary forest, nor original data on primary forests. While plantations there, according to government reports, are rare, the government does not distinguish them from "other planted forests" in their reporting.[314] As of the 2020 FRA, **Australia** did not have data on areas that were temporarily unstocked and/or recently regenerated.[315] In 2023, the **U.S.** released the first map of its old-growth forests.[316]

Community-led monitoring—especially when grounded in local knowledge and institutionally recognized—can legitimize enforcement efforts and amplify sustainable forest management. There are important examples of community-led monitoring increasing transparency and legitimizing the enforcement of forest laws.

Community-led monitoring plays a pivotal role in monitoring changes in forest landscapes by combining local knowledge, rapid detection, and social legitimacy. Often, LCs' understanding of local dynamics allows for more accurate monitoring and identification of repeat offenders or shifting deforestation patterns, and they are often seen as more trustworthy and accountable than distant government agencies, particularly in regions with low institutional credibility. A study in **Brazil** found that protected areas monitored with a community-based voluntary patrolling system saw an 80 percent decrease in environmental crimes over 11 years, while there was no decrease in environmental crime in adjacent areas patrolled by government-led enforcement.[317]

Mixed ranger groups—comprised of both enforcement agencies and community or CSO representatives—offer a powerful model by combining the legal authority and logistical resources of government bodies with the local knowledge, community trust, and independent oversight that community members and CSOs bring. They have also shown to be more equitable and responsive to community concerns, reducing the risk of abusive practices or unfair targeting of local communities and creating space for dialogue between authorities and civil society.

New technologies can improve forest monitoring and enable faster, more effective enforcement through real-time alerts and advanced data analysis that strengthen protections for forests when used in conjunction with community and CSO advocacy.

Isotope or DNA "fingerprinting" of timber is an emerging tactic that can be used to identify timber that has been laundered or shipped through third-party states to avoid sanctions.[318,319] Elements found in wood can indicate that a tree likely came from a specific country or region. However, more work is needed to map the isotopes and DNA of the world's forests for such fingerprinting to consistently be able to trace the origins of timber. Initiatives such as World Forest ID are working to improve transparency in supply chains and facilitate enforcement.[320]

In another example of harnessing new technologies, **Brazil's** Federal Prosecutor's Office has partnered with SpaceX's Starlink to combat Amazon rainforest crime by restricting the use of satellite internet by illegal operators in remote areas by introducing mandatory user ID verification, real-time geolocation sharing, and the ability to disable service to terminals linked to illicit activities. If implemented ethically, this kind of tech-enabled, preventative enforcement model could redefine how governments tackle environmental crime in hard-to-reach areas. However, critics have raised concerns that the agreement could undermine privacy rights, give disproportionate control to a foreign tech company, and risk misuse against legitimate users—while highlighting that in the past, Starlink terminals could be deployed with false identities.[321]

Community-led monitoring can also benefit significantly from the advances in technology. In the Congo Basin, the ForestLink system enables communities to report illegal activities in real-time, even in areas

without connectivity.[322] In **Liberia**, the Talkay App has empowered citizens to report corruption in real-time, particularly concerning illegal logging and the misuse of Forest Management Contracts.[323, 324, 325] In **Romania**, an Artificial Intelligence (AI)-driven app enables any person to support real-time detection of illegal logging activities, utilizing technologies like license plate recognition and optical character recognition to identify unauthorized timber transport.[326]

Enforcement agencies and watchdog groups are increasingly using AI to analyze satellite and drone imagery to detect illegal logging, mining, and land encroachment, while tools like those developed by Rainforest Connection's solar-powered acoustic sensors can identify chainsaws or vehicles in real time.[327] **Gabon** has implemented the Forest Foresight tool, which uses AI to predict areas at risk of illegal deforestation. This predictive system enables authorities to take proactive measures, such as deploying rangers to high-risk areas, thereby preventing deforestation before it occurs. AI is also being applied to customs and shipping data to flag suspicious timber and wildlife trade, with organizations like UNODC piloting risk-based profiling systems.

However, new technologies or large datasets are only tools, and as such, their effectiveness depends on how they are used. When used strategically to complement the frontline knowledge of IPs, LCs, and CSOs[328] and promote accountability, access to, and analysis of large datasets can help to address forest loss and corruption. In **Liberia**, forensic analysis of opaque public revenue accounts revealed that the government owed nearly USD 25 million to forest communities, including USD 9 million already collected from concession fees but not disbursed.[329] This was followed by public protests by civil society, after which the government released a portion of the owed funds. Similar analysis in **Myanmar** exposed millions of dollars in timber revenues being diverted to military-controlled bank accounts, rather than the central treasury, where they could support public services. These breakthroughs depend on access to reliable forest management information systems (FMIS) and broader transparency initiatives, such as the Extractive Industries Transparency Initiative, which piloted expanding into the forest sector in countries like Liberia and, before the coup, Myanmar. Yet many FMIS systems, including in **Peru** and Liberia, suffer from poor maintenance or are not made publicly accessible (even when required by law)—undermining their potential to support accountability and reform.[330]

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Conclusion

As of 2024, the state of global forests paints a sobering picture: despite years of commitments, we remain off track to meet critical forest goals by 2030. Despite this challenging reality, there are compelling signs that change is possible. Across all themes, promising examples and initiatives—from emerging forest finance mechanisms to advances in traceability and instances of improved participation in forest decision-making—demonstrate the potential to accelerate progress.

The findings of this report reinforce that systemic shifts will need to occur across governance, finance, corporate action, and civil society engagement:

- **Governments must value forests.** A continuation of piecemeal efforts by a few corporate leaders alone will not suffice; voluntary efforts must be complemented—and in many cases superseded—by mandatory regulations that ensure accountability, traceability, and compliance. A true shift also requires pricing in the real costs of deforestation and forest degradation. The era of treating forests as free goods must end. Companies can no longer externalize forest destruction while privatizing profits – governments must ensure that these hidden costs are accounted for through tougher regulations and law enforcement, as well as fiscal policies and trade measures.
- **Action must become integrated, not siloed.** The climate crisis, biodiversity loss, and escalating social inequality are not separate challenges requiring separate solutions. They are interconnected crises demanding integrated responses that operate across governance levels, from landscapes to national scale, and throughout value chains. Narrow, sector-specific action will not achieve the necessary scale of change to preserve and restore the world's forests. Integrated approaches are already demonstrating how aligned incentives can transform production models, but these approaches remain the exception rather than the rule.
- **Decision-making must be inclusive and participatory.** Rapid progress toward 2030 forest goals will not come from exclusive, top-down processes. It requires the leadership and full participation of Indigenous Peoples, local communities, women, and civil society. Equitable and lasting forest stewardship requires secure land tenure rights, transparency and accountability, and law enforcement grounded in justice and human rights.

If these shifts are realized, by the end of the decade, we could see a fundamentally different forest landscape: forest loss curtailed, biodiversity stabilized and restored, finance flowing to forest-positive initiatives at scale, and the rights of Indigenous Peoples and local communities securely recognized and protected.

This vision aligns with the 2030 Global Forest Vision: a shared, civil society-led framework to unite governments, companies, financiers, and communities around a coherent action agenda for halting and reversing deforestation by 2030. The Vision is not another pledge, but a practical roadmap that translates existing commitments into the near-term Priority Actions that different actors must take to stay on track. For governments and financial actors, these Priority Actions have already been published; private sector guidance will follow. Together, they offer detailed and actionable pathways for reviving stalled efforts and delivering on the long-broken promise of halting and reversing deforestation and forest degradation globally.

COP30 offers a pivotal opportunity to move from commitments to concrete action on forests. Under Brazil's leadership, holding the COP presidency, countries are expected to forge stronger links between climate, forests, and biodiversity by expanding commitments across the land sector. This includes scaling innovative finance for standing forests, advancing deforestation- and conversion-free supply chains, supporting resilient food systems, and upholding the rights of Indigenous Peoples and local communities. To be credible, these commitments must also be embedded in the next round of NDCs so that the Global Stocktake drives tangible national and international progress.

The path forward will not be easy. It will require breaking down the barriers of short-termism, overcoming entrenched power imbalances, and committing to shared responsibility across the Global North and South. And it will require a paradigm shift: recognizing forests not as expendable resources, but as critical, living systems vital to our survival and wellbeing. Only through collective ambition, transparent governance, and genuine inclusion can we turn the tide and ensure that forests thrive for generations to come. The window for meaningful change is closing fast. But with urgent, systemic shifts and unwavering commitment, the story of 2026 can—and must—be one of hope, resilience, and recovery.

Forest Declaration Assessment

Accountability Framework initiative

Brazilian Coalition on Climate, Forests and Agriculture

Brazilian Restoration and Reforestation Observatory

CDP Disclosure Insight Action

Centre for Sustainability Philippines

CIFOR

World Agroforestry

climate & company

Climate Focus

CTrees

Forest Trends

FSC

IGES Institute for Global Environmental Strategies

Levin Sources

NRDC

One Tree Planted

RESTOR

Rights + Resources

SEI

Swansea University Prifysgol Abertawe

The Sustainability Consortium

WWF

ZSL Zoological Society of London