

Chapter 3

FINANCE FOR FORESTS

Theme 3 Assessment

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(Infographic)

KEY MESSAGES

Finance for forests remains far off track to meeting global goals to halt and reverse deforestation by 2030. Currently, domestic and international mitigation and adaptation finance for forests averages USD 2.2 billion per year – less than 1 percent of estimated needs for meeting global forest goals by 2050.

Progress on public finance

- Recent international forest finance pledges demonstrate increases in ambition to meet 2030 forest goals. Commitments amount to USD 28.9 billion between the years 2021-25, equating to an additional USD 4 billion in public and private finance for forests per year.^a However, a lack of information on how pledges will be operationalized and poor transparency on implementation hinders a full assessment of progress. As of October 2023, just over USD 5.7 billion has been disbursed. Half of the pledges are reported to be on track, but the remainder are not on track or have no progress reports available.
- Public finance committed to activities that have the potential to drive deforestation or forest degradation (“gray” finance) continues to far outweigh finance committed to forest protection (“green” finance). Between 2013-2018, grey public finance flows were estimated to range between USD 378 to USD 635 billion per year, globally. During the same period, governments committed just USD 26.5 billion in domestic and international funding to protect, conserve, and restore forests. These green finance flows amount to just USD 2.2 billion per year – less than 1 percent of grey flows.

- Governments are making moves toward cutting the flow of finance to deforestation. New regulations in the EU are ramping up corporate disclosure and due diligence requirements, signaling an essential shift from voluntary to mandatory action. However, the strength of impact will lie in implementation. These measures require support and investment for compliance in producer countries, and more consumer countries need to adopt similar measures for them to be truly effective.
- REDD+ remains an important lever for forest finance, however, most jurisdictional REDD+ initiatives still have far to go to halt tropical deforestation and restore forests. Incentives from donors are not commensurate with the investment needed and reforms that are required.
- Indigenous Peoples (IPs) and local communities (LCs) receive far less funding than their estimated finance needs for securing tenure rights and preserving their forest ecosystems. IPs and LCs are the most effective stewards and guardians of their forest territories, and key stakeholders and partners in the development of forest management and governance solutions. It is estimated that only 3 percent of the financial needs for transformational tenure reform is being met annually.

Progress on private finance

- Most financial institutions still fail to have any deforestation safeguards for their investments. Analysis by Global Canopy suggests that as of 2022, private financial institutions were providing USD 6.1 trillion in active financing to companies most at risk of driving tropical deforestation through agricultural commodity production. Of the 150 financial institutions funding these companies, two-thirds do not have a single deforestation policy covering their lending and investments.
- In recent years, an increasing number of financial institutions have adopted guiding principles to ensure the sustainability of their investments. However, these actions generally remain voluntary as many

^a Note that pledges cover different time periods, see **Table 1**.

do not formally require reporting on progress and implementation, so little can be concluded about their real impact on global finance flows.

- Green investments by the private sector remain poorly tracked and difficult to measure. Until regular, transparent reporting becomes the default, the extent of private sector support for activities that protect, enhance, and restore forests globally cannot be measured.

- Flows of finance to forests globally remain poorly tracked and difficult to quantify, due to poor transparency as well as a lack of global standards for tracking climate-related mitigation finance. While data availability is improving, it remains insufficient for conducting a comprehensive global assessment, particularly of private finance flows.

Alternative finance mechanisms

- Alternative forest funding mechanisms are gaining traction. Novel approaches such as funding for high integrity forests have entered the scene, while uptake of mechanisms including payment for ecosystem services (PES) schemes and debt-for-nature swaps by a handful of countries show promise for diversification of the forest finance landscape.
- Transactions of forest-based carbon credits are being affected by changing buyer preferences and the role of forest carbon credits in corporate climate strategies. Prices in the VCM remain far below the true costs of impactful conservation and restoration activities, and far below the price ranges economists foresee as necessary to meet the 1.5°C limit of the Paris Agreement.
- Credit quality has long been an issue of concern for forest-based carbon credits and was thrust into the spotlight in early 2023 when the findings of a research investigation into the climate impacts of a selection of REDD+ projects was widely publicized in the media. While competing investigations and some project developers have since sought to demonstrate the robustness of forest-based carbon credits, the criticisms have impacted stakeholder confidence in forest-based credits and will likely shape demand for such credits in the coming years.
- International market mechanisms introduced under Article 6 of the Paris Agreement create potential new channels for forest finance, however, it remains to be seen how burdensome engaging in such transactions will be for forest country governments, and which forest-based mitigation activities will be eligible.

INTRODUCTION

Why look at forest finance?

Achieving international forest goals requires substantial investment in protecting and restoring forests. Under the Paris Agreement, parties committed to making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development (Art.2.1.c).¹ The Forest Declaration Assessment Partners estimate that it will cost up to USD 460 billion per year to reduce deforestation and implement restoration and sustainable forest management at a sufficient scale to protect and restore forests globally.² This funding must be mobilized through both public and private sources - this report assesses the extent to which global public and private finance is currently aligned with forest goals.

Stopping deforestation not only requires more finance earmarked for forest protection and restoration (referred to as “green” finance in this report), but also a shift away from investments in potentially harmful activities (referred to as “gray” finance). Estimates suggest that every year, between USD 378 to USD 635 billion in public gray finance is being provided by governments in the form of agricultural subsidies - activities that are potentially harmful to forests (see **Section 1**).

What has been pledged on forest finance?

Recent international forest finance pledges demonstrate increases in ambition to meet 2030 forest goals. Commitments amount to USD 28.9 billion between the years 2021-25, equating to an additional USD 4 billion in public and private finance for forests per year. However, a lack of information on how pledges will be operationalized and poor transparency on implementation hinders a full assessment of progress.

As of October 2023, just over USD 5.7 billion has been disbursed. Half of the pledges are reported to be on track, but the remainder are not on track or have no progress reports available.

Pledges for “greening of gray” finance

Under the 2021 Glasgow Leaders' Declaration on Forests and Land Use (GLD), a total of 143 countries containing more than 90 percent of the world's forest pledged to “facilitate the alignment of financial flows with international goals to reverse forest loss and degradation, while ensuring robust policies and systems are in place to accelerate the transition to an economy that is resilient and advances forest, sustainable land use, biodiversity and climate goals.”

Similarly, the Kunming-Montreal Global Biodiversity Framework (GBF) also expresses a clear ambition to align financial flows with its overall vision, which is for a world living in harmony with nature by 2050. The GBF's Target 15 calls for large companies – including financial institutions – to assess and disclose nature-related risks, impacts and dependencies. Additionally, Target 18 calls for the phase-out of subsidies that harm biodiversity by at least USD 500 billion annually and for the ramping-up of incentives for the conservation and sustainable use of biodiversity. To date, no plan has been published on operationalizing the GLD, nor has there been any coordinated effort by signatories to report on their progress. Comprehensive reporting has also not yet begun under the more recently established GBF.

In recent years, a number of financial institutions have also made ambitious pledges to “green” gray finance by eliminating deforestation risks from investment portfolios. For example, as of September 2023, 37 institutions signed a financial sector commitment letter pledging that, by 2025, they will make their best efforts to eliminate commodity-driven deforestation from portfolios and only provide finance to clients that have met risk-reduction criteria and increase investment in nature-based solutions. As of 2022, 16 of these institutions were disclosing environmental information through CDP, 9 of which disclosed information on forests for the first time.³

Pledges for “green” investments

A range of recent international finance pledges, most of them made at COP26, intend to raise global ambition for forest goals (Table 3.1). The pledges by governments, financial institutions, companies, and foundations amount to USD 28.9 billion from 2021-25.^b A handful of larger pledges target not only forests but nature and biodiversity as a whole, totaling over USD 600 billion by 2025 (Table 3.2). A large majority of this USD 600 billion has been pledged under the GBF, which sets an ambition to mobilize USD 200 billion per year up to 2030 to help countries implement their National Biodiversity Strategies and Action Plans. It is not yet clear whether these finance pledges are additional to one another; as such, the overall pledge total may be an overestimation. For instance, the progress report for the IPLC Forest Tenure Pledge noted that the same finance contributions are likely being counted towards three pledges simultaneously: its own, the Global Forest Finance Pledge, and the Congo Basin Pledge.⁴

In late 2022, several pledges published progress reports, for many, marking the end of their first full year of operation. As of October 2023, just over USD 5.7 billion has been disbursed under these pledges.^c Pledges reporting on-track progress include the Congo Basin Pledge; the Global Forest Finance Pledge; the Innovative Finance for the Amazon, Cerrado, and Chaco; and the IPLC Forest Tenure Pledge.⁵ The Lowering Emissions by Accelerating Forest finance (LEAF) Coalition has secured finance commitments that exceed its original pledge volume, though finance has yet to be disbursed. One pledge – The Natural Capital Investment Alliance – did not clearly provide up-to-date progress reporting. Further progress reporting by pledges is expected at COP28 in late 2023.

Table 3.1. Key finance pledges and initiatives for forests

Pledge or Initiative	Description	Intermediate targets and progress reporting	Final target
Lowering Emissions by Accelerating Forest (LEAF) Coalition (2021)	Public-private finance for tropical forests Emissions Reductions (ERs) at a floor price of USD 10 per ton of CO2 equivalent.	At COP27, LEAF announced that total commitments exceeded USD 1.5 billion.	Announced an original target of at least USD 1 billion (met in 2021, exceeded in 2022).
The Congo Basin Pledge (2021)	11 countries and one philanthropy pledge USD 1.5 billion from 2021-25 to support Congo Basin ecosystems.	In 2021, the donors provided over USD 508 million, with almost USD 311 million disbursed.	By 2025, mobilize USD 1.5 billion of public and private finance.
Finance Sector Deforestation Action (FSDA) initiative (2021)	38 signatories to the Financial Sector Commitment on Eliminating Agricultural Commodity-driven Deforestation committed to eliminate commodity-driven deforestation from investment and lending portfolios by 2025.	In 2022, the Commitment published shared investor expectations, and noted that several signatories have advanced on progress.	By 2025, make best efforts to eliminate commodity-driven deforestation from portfolios; finance only clients meeting risk-reduction criteria; increase nature-based solutions investment.
Global Forest Finance Pledge (2021)	12 countries pledged USD 12 billion (2021-25) for forest-related climate finance.	In November 2022, the pledge reported progress of over USD 2.6 billion (22% of total).	USD 12 billion by 2025.
IPLC Forest Tenure Pledge (2021)	23 countries and philanthropies pledged USD 1.7 billion (2021-25) for IPs and LCs tenure rights.	In 2022, the pledge reported USD 321 million in progress (19% of total).	USD 1.7 billion by 2025.
Innovative Finance for the Amazon, Cerrado, and Chaco (IFACCI) (2021)	The initiative aims to channel funds for sustainable beef and soy production models in these key geographies.	Per its 2022 Market Report, 15 signatories committed USD 4.3 billion and disbursed USD 111 million.	Commitments of USD 3 billion (by 2023) and USD 10 billion (by 2025). Disbursements of USD 200 million (by 2023) and USD 1 billion (by 2025).
Forest, People, Climate (FPC) (2022)	A coalition of philanthropies and civil society organizations mobilizing finance to reverse tropical deforestation.	At COP27, the FPC announced a total of USD 780 million (an extra USD 400 million on top of the USD 380 million	FPC aims to mobilize USD 1.2 billion in new philanthropic support over the five years from 2022.

^b Climate Focus calculation based on sum of finance pledges announced at COP26, assuming no overlap between different pledges.

^c Climate Focus analysis of publicly available progress reports provided on the pledges included in Table 1.

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Pledge or Initiative	Description	Intermediate targets and progress reporting	Final target
		over five years that FPC donors already planned to spend toward the goal).	
The Libreville Plan (2023)	At the 2023 One Forest Summit in Libreville, Gabon, 20 countries signed the Libreville Plan which aims to reconcile environmental ambition with economic development in African tropical forest countries.	The Plan overviews progress on Positive Conservation Partnerships (PCPs), an initiative first launched at COP27. The Plan announced that France, Conservation International, and the Walton Family Foundation created the first PCP contracts investment of EUR 100 million.	No final target.

Table 3.2. Key finance pledges and initiatives for biodiversity

Pledge or Initiative	Description	Intermediate targets and progress reporting	Final target
Kunming-Montreal Global Biodiversity Framework (2022)	Adopted by 196 Parties to the Convention on Biological Diversity at COP15 in December 2022 with the overarching goal to halt and reverse biodiversity loss by 2030 and live in harmony with nature by 2050.	Target 19 calls for a substantial increase in public and private financial resources – by at least USD 200 billion annually. Monitoring is planned but not yet available.	Progressively closing the biodiversity finance gap of USD 700 billion per year by 2050 (Goal D).
Nature Action 100 (2022)	Nature Action 100 aims to drive greater corporate ambition and action on tackling nature loss and biodiversity decline. It was formed at COP15 in December 2022 by a coalition of investment organizations. The initiative engages companies in key sectors that are deemed to be systemically important in reversing nature and biodiversity loss by 2030.	Nature Action 100 was launched in December 2022 and has not yet released progress reporting as of August 2023.	Nature 100 Action partners commit to the plan's Investor Expectations for Companies, which include six actions that help achieve the reversal of nature loss and biodiversity loss by 2030. These are related to ambition, assessment, target setting, implementation of plans to achieve targets, board oversight, and engagement with external parties.
Natural Capital Investment Alliance (2021)	15 finance institutions mobilize finance through investment products aligned with Natural Capital themes.	The NCIA notes that members have plans to launch USD 7.9 billion in combined funds but does not provide a timeline or a dated, consolidated report. It is not clear when the site was last updated.	By the end of 2022, mobilize at least USD 10 billion.
Finance for Biodiversity (2020)	140 financial institutions representing 23 countries and over 19.7 trillion euros in assets commit to protecting and restoring biodiversity through their investments.	Initiated in 2020 by a group of 26 financial institutions, the Pledge has been signed by 140 institutions as of 2023.	By signing the pledge, signatories commit to: collaborating and sharing knowledge, engaging with companies, assessing impact, setting targets, and reporting publicly on their progress before 2025.

How do we assess progress?

This chapter assesses the extent to which global public and private finance is aligned with forest goals. We assess the following indicators of progress:

- **Green finance** provided by the public or private sector that aligns with objectives for the conservation, protection, restoration, or sustainable use of forests – including REDD+ finance, and finance for IPs and LCs.
- **Gray finance** provided by the public or private sector that has no stated objective to positively impact forests, but has potential to negatively impact them – we focus primarily on government subsidies for the agriculture and forestry sectors.
- **Policies** for redirecting gray finance away from forest-risk activities: in the public sector, how regulation is helping to “green” gray finance flows; in the private sector, how companies are using internal policies to safeguard their investments.
- **Innovative finance mechanisms** that are helping to establish new channels for forest finance, including market and non-market mechanisms.

This chapter relies predominantly on publicly available finance datasets like the Organization for Economic Cooperation and Development (OECD) and Food and Agriculture Organisation Statistics platform (FAOSTAT). The chapter also relies on existing analyses from Forest Declaration Assessment Partners, including Global Canopy’s Forest 500, CDP, Rainforest Foundation Norway, Forests & Finance, and Forest Trends’ Ecosystem Marketplace. Where quantitative data is unavailable, the report relies on qualitative research.

Overall, flows of finance to forests globally are poorly tracked and difficult to quantify, and are therefore not fully captured in this assessment. This monitoring challenge can be partly attributed to a lack of global climate finance tracking standards. With no standardized way to track financial flows, there is risk of overestimating global progress on forest finance due to overlapping commitments. Finance specifically for forests is also not easily disaggregated from broader, cross-cutting interventions. This means that finance estimates must sometimes be compiled from project-level information, which can be difficult to interpret or contain information gaps.

Gray finance estimates – particularly from domestic sources – are also hindered by limited data availability. However, there is a move to improve reporting infrastructure. Since 2022, financial institutions have been able to disclose to CDP forests-related portfolio exposures, risks, and opportunities.⁶

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. That said, this year’s Assessment aims to include more information on developed country progress where data is available.

FINDINGS

3.1 Have governments aligned finance flows with forest goals?

3.1.1 Gray public finance flows

Finance to business-as-usual activities that have the potential to drive deforestation or forest degradation continue to dwarf finance dedicated to forest protection and restoration. Public support to agriculture and forestry sectors, such as the use of subsidies, is often geared toward advancing development objectives related to food security and poverty reduction. However, such support can present risks to forests. Subsidies can reduce farmers' production costs, distorting their decisions on where and how much to produce, and incentivizing expansion into forest areas.⁷ The report considers public subsidies to agriculture and forestry sectors as “gray” finance due to the threats they pose to forest ecosystems.

Estimates suggest that between 2013-2018, gray public finance flows – in the form of government subsidies for the agricultural sector – ranged between USD 378 to USD 635 billion per year, globally. The upper bound is estimated at as much as USD 1 trillion per year, if data for all countries were available.^d

A comprehensive assessment of public gray finance's negative impact on forests (i.e., precisely how much deforestation or degradation can be directly linked to harmful subsidies) is not available. However, these subsidies' overall harmful impacts on forests is clear. Research from the World Bank finds that agricultural subsidies are associated with the loss of 2.2 million hectares of forest cover per year.⁸

How do we assess progress?

GREEN PUBLIC FINANCE: Green public finance can support forest protection, sectoral research and capacity building, and economic incentives for leveraging private finance. We assess how much green finance governments are committing to forests domestically and internationally.

- **PROGRESS UNDER REDD+:** REDD+ is the United Nations Framework Convention on Climate Change (UNFCCC) framework for “Reducing Emissions from Deforestation and Degradation plus conservation, sustainable management, and enhancement of forest stocks”. REDD+ provides developing country policy makers with a framework for national (or subnational) climate action in the forest sector. We assess progress made under REDD+ and examine implementation barriers.
- **INCREASING FINANCE FOR IPs and LCs:** Protecting IPs' and LCs' land rights is an evidence-based climate change solution that costs a fraction of other mitigation options. Policies and laws that recognize and protect the tenure and governance rights of forest communities are essential for securing forest protection. We assess current funding for IPs and LCs, and the extent to which it is meeting their needs.

GRAY PUBLIC FINANCE: Public support provided to the land sector – including agriculture, forestry, and land use – can greatly shape the extent to which forests mitigate or contribute to climate change. Government support for the land sector – such as the provision of subsidies – can present huge risks to forests if appropriate safeguards are not in place. We assess the current state of gray public finance globally.

- **“GREENING” GRAY FINANCE:** Opportunities for “greening” gray finance include making support conditional upon achieving environmental objectives and removing or redirecting agricultural production support to other public goods and services. We assess regulatory developments to this end and what specific countries are doing to “green” gray finance flows.

Public finance committed to activities that have the potential to drive deforestation or forest degradation (“gray” finance) continues to far outweigh finance committed to forest protection (“green” finance). Between 2013-2018, gray public finance flows were estimated to range between USD 378 to USD 635 billion per year, globally. During the same period, governments committed just USD 2.2 billion per year protect, conserve, and restore forests– less than 1 percent of gray flows.

The negative impact of subsidies can be amplified as global market fluctuations make agricultural commodity production more profitable, incentivizing producers to expand further into forest frontiers.⁹ For more on this topic, including other examples of fiscal policy tools, see **chapter 2** on sustainable production & development.

^d This range is based on estimates made by FAO and the World Bank of public subsidies provided to the agricultural sector between the years 2013 and 2018. See **Annex** for a breakdown of these figures.

3.1.2 Green public finance flows

Between 2010-22, we estimate that governments committed USD 26.5 billion in domestic and international public green finance (Figure 3.1).¹⁰ This equates to approximately USD 2.2 billion per year. While no other comprehensive estimates of public finance for forests exist; other analyses which consider public finance for agriculture, forestry and other land use (AFOLU) as a whole suggest that finance dedicated to forests specifically falls in the same order of magnitude as the estimate reached by this Assessment.¹¹ A range of different financial instruments can be used to channel finance to forests, such as grants, debt, guarantees, nature-linked insurance, and equity. However, most of these tools are not yet widely implemented and are therefore difficult to measure. As such, most of the figures presented in this chapter – including those presented in this subsection – reflect standard grants and loans. For more information on other instrument types, see Section 3.3.

BOX 3.1. DEFINING “GREEN” AND “GRAY” FINANCE

Though the availability of “sustainable” investment products and opportunities continues to grow and diversify globally, there is not yet a universally accepted definition for sustainable finance, not least for sustainable forest finance. Recent research on the topic found the landscape to be complex, with different financial and forest sector actors holding vastly different perceptions of what constitutes sustainable forest finance, regarding risks and opportunities; the definition of “sustainable”; and whether interventions should be state- or private-sector led.¹²

In light of this complexity and poor data availability, limiting analysis of both public and private finance, we make a simple distinction between “green” and “gray” finance. In the context of this chapter:

Green finance includes any domestic, international, public, or private finance that is aligned with objectives for the conservation, protection, restoration, or sustainable use of forests. This may include direct investments, capacity building, technology development and transfer, results-based finance or support for the development of forest strategies and green economy pathways, action plans, policies, and measures.

Gray finance is defined as finance that has no stated objective to positively impact forests but has potential to negatively impact them. In the context of this assessment,

we consider primarily finance for agricultural activities (particularly government subsidies) as gray finance.

Figure 3.1 International and domestic public finance committed to activities aligned with global forest objectives between 2010-2022, in billion USD



Source: OECD DAC External Development Finance Statistics; Forest Carbon Partnership Facility.

Just over one-third of the USD 26.5 billion in public green finance was provided as forest-related international development finance. Flows of such finance – which is committed by governments, multilateral development banks, and multilateral organizations – have increased since 2010 (Figure 3.2). Though there was a significant period of growth from 2015-20, finance flows fell by almost half in 2021, possibly due to countries’ changing budget priorities in the wake of the COVID-19 pandemic.¹³ Data has yet to show an uptick in finance committed to forest sectors since this decline.⁹

From 2010-21, multilateral climate funds and bilateral donors committed USD 6.9 billion under the REDD+ framework.¹⁴ However, disbursements of REDD+ results-based payments remain slow, with just under half (49 percent) of

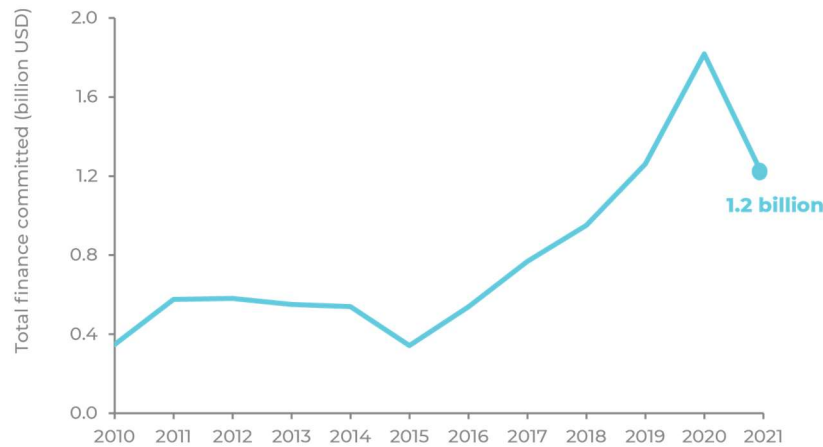
⁹ Note that the public finance trends observed in this year’s assessment vary slightly when compared to last year’s assessment. This has been attributed to retroactive data updates applied to the OECD DAC External Development Finance Statistics database. The variations are not significant and do not change the observable trend line or the magnitude of the overall finance total.

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committed finance disbursed to date.^f During the 2010-21 period, governments in high deforestation countries also committed USD 10.1 billion to activities under their domestic REDD+ plans.^{g,15} These commitments were largely made towards the beginning of the decade, however, and information on their implementation is not available.

Still, there were signs of positive progress. In 2022, there was a notable increase in disbursements under several REDD+ funds, like the Forest Carbon Partnership Facility (FCPF), which made new disbursements of around USD 100 million, and the Forest Investment Program, which made new disbursements of about USD 80 million. Under REDD+, donors channel finance to mostly tropical or subtropical countries in three phases: readiness, implementation, and payment for results (see **Figures 3.3** and **3.4**).

Figure 3.2 Trends in international and domestic public finance committed to activities aligned with global forest objectives over the period 2010-2021, in million USD



Source: OECD DAC External Development Finance Statistics.

^f REDD+ stands for Reducing Emissions from Deforestation and Forest Degradation in developing countries, a framework developed as a part of the Paris Agreement. Under the framework, developing countries can receive results-based payments (payments for already achieved results) for emission reductions achieved through activities that reduce deforestation and forest degradation, and/or help to conserve forest ecosystems.

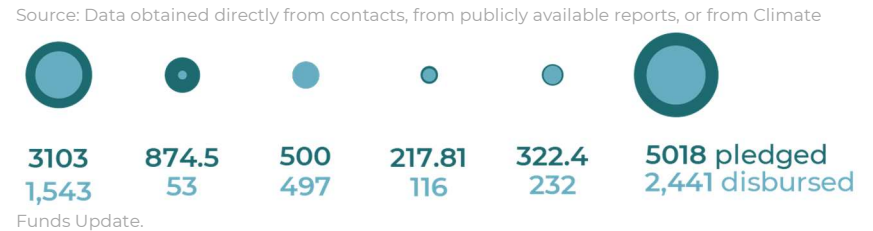
^g High deforestation countries are those with an annual average deforestation rate that exceeds 30,000ha.

Figure 3.3 International REDD+ Readiness and Implementation finance, in million USD (cumulative since 2010)



Source: Data obtained directly from contacts, from publicly available reports, or from Climate Funds Update.

Figure 3.4 International REDD+ Results-based finance, in million USD (cumulative since 2010)



Source: Data obtained directly from contacts, from publicly available reports, or from Climate Funds Update.

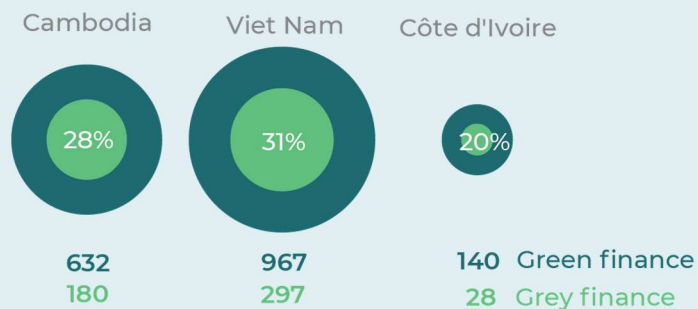
BOX 3.2 PUBLIC FINANCE CASE STUDIES

In the absence of comprehensive global data, case studies offer a snapshot of public green and gray finance flows within specific country contexts. The Land-use Finance Tool, developed by the EU REDD Facility and Climate Policy Initiative, was developed to help country governments understand how public and private spending is aligned with climate and forest objectives.¹⁶ The tool has been used to map trends in land-use financing in a handful of countries, which all show low shares of green finance.

In Cambodia in 2018, 28 percent (USD 180 million) of total land-use expenditure financed activities directly or indirectly related to reducing deforestation and forest degradation, while promoting sustainable management, conservation of natural resources and contributing to poverty reduction (green flows). The remaining 72 percent of land-use expenditure (USD 461 million) financed other types of land-use activities – the majority infrastructure-related – with an unknown impact on forests.¹⁷ A similar trend can be seen in Viet Nam, where around one-third (USD 297 million) of all land-use finance disbursed to the Central Highlands between 2016-2020 was considered “green” and in alignment with national REDD+ objectives. The remaining two-thirds (USD 669 million) was not linked to any deforestation safeguards and/or was considered a potential contributor to deforestation.¹⁸ Public finance in Côte d’Ivoire paints a similar picture, where in 2015, USD 28 million was channeled to REDD+ aligned activities, while over USD 140 million went to gray activities that did not explicitly account for deforestation risks.¹⁹

Efforts to tackle forest loss in the Global North largely relate to restoration activities. In Canada, CAD 3.2 billion has been pledged for the 2 Billion Trees program, a ten-year tree planting initiative supported by the Natural Climate Solutions Fund.²⁰ In the United States, according to the REPLANT Act, the Biden-Harris administration has pledged to plant more than one billion trees by 2030, to address a reforestation backlog of four million acres. The program is set to receive an annual average of USD 123 million.²¹ The EU, as part of its European Green Deal, has committed to plant at least three billion trees under the EU Biodiversity Strategy for 2030, although finance commitments are to date unclear.²²

Figure 3.5. Public finance for land use in Cambodia, Viet Nam and Côte d’Ivoire, in million USD (varying timeframes)



Source: Land-use Finance Tool (EU REDD Facility, Climate Policy Initiative)

3.1.3 Public policies for redirecting “gray” finance

Governments are making moves toward cutting the flow of finance to deforestation. New regulations in the EU are ramping up corporate disclosure and due diligence requirements, signaling an essential shift from voluntary to mandatory action. However, the strength of impact will lie in implementation. These measures require support and investment for compliance in producer countries, and more consumer countries need to adopt similar measures for them to be truly effective.

Risk assessment and disclosure tools remain the exception

Comprehensive and mandatory disclosure policies are necessary to ensure that businesses and financial institutions are fully transparent about their investment activities, and held accountable for their contributions to deforestation. An analysis by CDP of environmental disclosure policies and regulations across the G20+ group^h shows that forest-related disclosure requirements are currently an exception in the international landscape. Only in a few cases do policy makers require businesses or financial institutions to disclose forest-related information connected to biodiversity- or climate-risks.²³ For example, in the EU and Brazil, land use change, including deforestation, is framed as a potential driver of biodiversity loss and financial risk that requires monitoring, assessment, and potential disclosure. Similarly, biodiversity-related disclosure mandates across G20 are nascent, with just a few jurisdictions – notably the EU and Indonesia – requiring companies to disclose biodiversity-related information. Most disclosure policies and regulations lack clarity on biodiversity impact metrics, overlook supply chain implications, and miss considerations to request disclosure on biodiversity transition plans.

To support policy makers and financial regulators, CDP has developed 10 principles for high quality mandatory disclosure (HQMD) that can support the shift of financial flows towards a net-zero, nature positive future and help institutions to align with the goals of the Paris Agreement and Global Biodiversity Framework. Targeting the financial sector exclusively, the EU Sustainable Finance Disclosure Regulation (SFDR) aims to increase transparency on sustainability-related issues through entity-level and financial product-level disclosures. Although deforestation is included as a voluntary principle adverse impact (PAI) indicator, in its current form, the regulation does not cover the impact of investments on biodiversity and deforestation throughout the entire value chain.²⁴

Examples of green budgeting and other risk management tools

Nonetheless, improved disclosure alone cannot cut the flow of finance to activities that drive deforestation.²⁵ Mandatory environmental disclosure must be accompanied by top-down action that tackles forest-risk investment decisions at their origin. In a few countries, green budgeting tools are being developed to assess the extent to which budgetary and fiscal policies are coherent with the delivery of national and international climate and environmental commitments. Green budgeting involves evaluating the environmental impacts of budgetary and fiscal policies and assessing opportunities for aligning public investment and taxation with climate goals.²⁶ The Organisation for Economic Co-operation and Development (OECD) Paris Collaborative for Green Budgeting is working with governments and experts to define methodologies for aligning national and international budgetary policies.

Other types of risk management tools are also emerging to help public finance institutions address the systemic risks that biodiversity loss and ecosystem degradation pose to their investments. Green taxonomy tools provide a standardized classification system that identifies projects with environmental objectives and mobilizes public and private finance to such activities. Taxonomies may provide general screening requirements to avoid

^h CDP's High Quality Mandatory Disclosure (HQMD) Policy Brief was launched in September 2023 during G20 and aims to support policy makers to design comprehensive, high-quality, and coherent mandatory environmental disclosure policies. The assessment focuses on policies and regulations around the disclosure of climate-, biodiversity- and water-related information and considers the crucial importance of a holistic approach to disclosure policies and the interrelation of climate, water and biodiversity issues. The brief also includes a focus on Singapore, Hong Kong and Switzerland. Read the full report here: <https://www.cdp.net/en/policy/program-areas/mandatory-environmental-disclosure>

deforestation-related investments (in some cases – but not all – leading to exclusion of those that do not meet requirements) or outline more detailed guidance on issues such as improved forest management, estimation of carbon impacts, and appropriate time periods for assessment.²⁷ These tools are being developed partly in response to growing sustainable finance markets, which, reaching up to 35.3 trillion USD in 2020, are increasingly exposed to greenwashing.²⁸ Governments including the EU, the UK, South Africa, and Colombia are pioneering the application of taxonomy tools to guide investors on what can be considered a sustainable or green investment. Despite growing uptake, defining technical criteria – especially for forest biodiversity conservation and restoration – has been proven difficult, at least within the EU, due to diverse interests.²⁹ See **Annex 2** for more examples of green budgeting and risk assessment tools in the public sector.

Such findings suggest that policy makers are increasingly recognizing the need to enhance the quality and availability of corporate disclosures. However, policy makers' dominant focus on climate and/or financial impact often comes at the expense of forests and other impacted ecosystems. Nations should strive for greater transparency and mandatory disclosure which considers the entire scope of environmental risk; CDP's Principles for HQMD can guide policy makers to design comprehensive, high-quality, and coherent mandatory environmental disclosure policies.³⁰

Emerging regulatory initiatives in the EU, Brazil, and China

Besides new regulatory measures on corporate reporting standards and taxonomy, new supply-chain legislation emerging across Europe has the potential to green large flows of public and private finance. The EU European Deforestation-free Products Regulation (EUDR) will require companies importing to and exporting from the EU market, products that play a substantial role in global deforestation, to carry out due diligence to ensure their imports or exports are deforestation-free. This regulation represents a significant step towards greater transparency and accountability for corporations that currently profit from importing and trading deforestation-linked products in the EU. Until now, this trade has been largely unchecked in import markets. Also at the EU level, the Corporate Sustainability Due Diligence Directive (CSDDD), still under negotiation, is intended to expand deforestation, environmental, human rights and social due diligence requirements across supply chains to all large firms operating in the EU.³¹

While all steps in the right direction, these regulatory measures have been met with some pushback.³² Financial institutions do not currently have any obligations under the EUDR. Two years after implementation, the Commission will conduct an impact assessment on the role of financial institutions in deforestation and forest degradation, and assess whether deforestation due diligence obligations should be implemented; however, this does not guarantee their subsequent inclusion in the regulation.³³ The current CSDDD proposal has also come under criticism. While it is, on the one hand, considered a useful “umbrella” measure to complement the product-specific EUDR, the scope of the CSDDD's proposed due diligence requirements have been called out for having insufficient scope.³⁴ In its current form, the regulation remains limited to the activities of the direct clients or investee companies of a financial institution, leaving activities further up the value chain – and thus the bulk of a financial institutions' impact – unchecked.³⁵ For a deeper analysis of regulatory developments around the world, see Chapter 4 on forest rights and governance.

At the national level, Brazil is finalizing important regulations which will require the financial sector to implement due diligence checks to assess links to illegal deforestation. In May 2023, the Brazilian Federation of Banks (FEBRABAN) issued a regulation that defines guidelines and procedures for financial institutions to support credit operations with slaughterhouses and meatpackers, ensuring that activities are free from illegal deforestation.³⁶ By the end of 2023, the Brazilian Central Bank (BCB) is expected to replace the Rural Credit and Proagro Operations System (Sicor), currently used by financial institutions, with a Sustainable Rural Credit Bureau.³⁷ This will integrate government databases to improve financial institutions' risk management processes for granting rural credit. In 2021, the BCB issued more strict rules defining social, environmental, and climatic impediments to the granting of rural credit across the country.³⁸ Based on this, ensuring CAR (Rural Environmental Registry) and compliance with human rights aspects are now mandatory for the granting of rural credit in all biomes. Rural credit is currently prohibited for rural areas involved in illegal deforestation in all Brazilian Biomes.³⁹

3.1.4 Advancing jurisdictional REDD+ initiatives

REDD+ remains an important lever for forest finance, however, most jurisdictional REDD+ initiatives still have far to go to halt tropical deforestation and restore forests. Incentives from donors are not commensurate with the investment needed and reforms that are required.

Over the last decade, governments have engaged in jurisdictional REDD+ programs, which cover entire countries, states, or provinces. These programs have been spearheaded through initiatives like Forest Carbon Partnership Facility (FCPF),⁴⁰ administered by the World Bank, and the Green Climate Fund (GCF).⁴¹ Progress under these programs has been slow. For example, only 6 of the 45 developing countries that have engaged in the preparatory “readiness” stage for REDD+ as part of the FCPF program have received payments for results (see Chapter 2 on sustainable production & development). As of August 2023, the FCPF has signed ERPAs with a total of 15 countries.⁴² This slow progress has several reasons:

- The incentive provided by REDD+ payments is insufficient and not commensurate with the challenge. The theory of change underlying REDD+ is that donor payments will help forest country governments – and ground-level actors – to overcome critical constraints to implement climate mitigation activities.⁴³ These constraints can include a shortage of technical knowledge or capacity to implement their locally developed REDD+ strategies. Currently, investments needed to adequately protect forests are estimated at USD 30-50 per metric ton of carbon dioxide (tCO₂).⁴⁴ Pay-for-performance systems for large-scale REDD+ programs currently range in price from USD 5-10 per tCO₂.⁴⁵ These price ranges fall far below the cost range economists recommended for meeting the Paris Agreement’s 1.5C degree limit, which is estimated at a minimum of

USD 100 per tonne of CO₂.⁴⁶ Current REDD+ payments also fall far below estimates of the social cost of carbon, estimated at up to USD 200 per tonne of CO₂.⁴⁷ Depending on the program, REDD+ finance may also fall short in covering project transaction, implementation, and opportunity costs, as well as measurement, reporting and verification (MRV) project costs.⁴⁸

- Protecting and restoring forests is complicated. REDD+ requires bold reforms, backed by legislative consensus and political will. To achieve results, governments face tradeoffs between environmental, social, and economic objectives. Global political-economic trends can also complicate REDD+ implementation, as seen in the case of Guyana, where fluctuations in the world gold price led to significant increases in mining activity and deforestation in the country, triggering unexpected hurdles for REDD+ program implementation.⁴⁹
- REDD+ countries face a multitude of standards, program requirements, price offers, and donor expectations in addition to the requirements of UNFCCC frameworks.^j For example, certification standards diverge in their approaches to safeguards, reference levels, and MRV systems.⁵⁰ Furthermore, REDD+ programs are often implemented independently from other government programs and not integrated into relevant sectoral policies,⁵¹ including countries’ Nationally Determined Contributions, despite mechanisms for multi-stakeholder coordination.⁵²
- Institutional readiness among the most challenging barriers for successful REDD+ implementation.^k Achieving a strong institutional foundation for REDD+ implementation relies on political will for REDD+, which can be difficult to target through international technical assistance.⁵³ One review of REDD+ readiness in Bhutan, India, Myanmar, and Nepal finds that levels of institutional readiness were typically lower than financial, technical, and strategy

^l It should also be noted that REDD+ is designed for areas of high historic deforestation and as such, is not well suited to provide incentives to high forest-low deforestation countries (see Section 3).

^j The Warsaw Framework for REDD+ (WFR) sets out four requirements for countries to obtain RBP from REDD+ activities: (i) a national strategy or action plan, (ii) national Forest Reference (Emission) Levels (FRL/ FREL), (iii) a national forest monitoring (MRV) system, and (iv) a Safeguard Information System (SIS). See UNFCCC Warsaw Framework for REDD+, <https://unfccc.int/topics/land-use/workstreams/redd/redd-resources#warsaw-framework-for-redd>.

^k REDD+ readiness refers to the efforts a country undertakes to develop the capacities needed to demonstrate and implement REDD+, and meet UNFCCC REDD+ requirements.

readiness.⁵⁴ In general, weak intersectoral coordination remains a significant obstacle to institutional readiness.⁵⁵

While significant barriers remain to its effective implementation, REDD+ continues to be an important lever for forest finance. REDD+ has improved understanding of deforestation drivers and increased stakeholder engagement in forest policy matters, including improving policy coordination among national ministries involved in forest governance.⁵⁶ In Colombia, REDD+ readiness finance elevated forests to the political agenda, leading to the establishment of a national multi-stakeholder platform and a subsequent pledge to achieve zero net deforestation in the Colombian Amazon by 2020.⁵⁷ REDD+ finance has also contributed to improved forest monitoring capacities and the implementation of compliance mechanisms, such as in the DRC and Mexico.⁵⁸ All of these developments are essential components in the fight towards achieving 2030 forest goals.

3.1.5 Increasing public finance for Indigenous Peoples and Local Communities

IP and LCs receive far less funding than their estimated finance needs for securing tenure rights and preserving their forest ecosystems. IPs and LCs are the most effective stewards and guardians of their forest territories, and key stakeholders and partners in the development of forest management and governance solutions. It is estimated that only 3 percent of the financial needs for transformational tenure reform is being met annually.

Funding received by IPs and LCs remains far below their estimated needs for securing tenure rights and preserving the ecosystems in their territories. Rainforest Foundation Norway (RFN) estimates that from 2017-20, funding to projects supporting IPs' and LCs' tenure and forest management was relatively static, remaining between USD 250 and 300 million per year.⁵⁹ Of this total, only 11 percent was provided to projects that advanced tenure

security – meeting only 3 percent of estimated needs. Total global finance needs for securing land rights for IPs and LCs to enable forest mitigation activities are estimated at USD 8.9 billion, equaling just over USD 315 million per year between now and 2050.⁶⁰

Progress under the Forest Tenure Pledge shows promise, with over USD 321 million being disbursed to support IPs' and LCs' forest tenure since it was initiated in 2021.¹ However, only 7 percent (USD 17 million) was provided directly to IP- and LC-managed associations and funds.⁶¹ The funders group of the Forest Tenure Pledge are exploring multiple financial pathways for a more equitable financial flow for the remaining years of implementation.⁶²

IP and LC groups have consistently expressed their need for self-sufficient finance to implement Indigenous and traditional stewardship approaches without relying on ongoing donor support. For some groups, REDD+ remains an important support mechanism. In 2023, an open letter signed by Indigenous-led organizations in over 40 countries expressed support for the effectiveness of REDD+ in traditional conservation. The letter notes that despite criticisms, “well-managed REDD+ projects enable local communities to build strong Indigenous-led and nature-based economies that do not have to depend on extractive activities.”⁶³

At the same time, other IP representatives have expressed concern over REDD+, especially in relation to their often precarious land tenure rights.⁶⁴ They have called for the creation of direct climate finance mechanisms, including funds that distribute grants directly to community members,⁶⁵ as opposed to finance that is channeled through intermediaries. Recent developments in this regard include the creation of the Nusantara Fund, Indonesia's first direct funding mechanism for IPs and LCs, launched with an initial USD 3 million in international support.⁶⁶ CLARIFI (the Community Land Rights and Conservation Finance Initiative, by the Rights and Resources Initiative and Campaign for Nature), is another funding mechanism aiming to contribute to the sector goal of raising USD 10 billion by 2030 and strategically deploying public and private funds to strengthen communities' territorial governance and management, advancing gender justice, fighting

¹ The Forest Tenure Pledge is an agreement signed by 23 of the largest public and private donors in the forest conservation space at COP26. Under this agreement donors pledge to collectively distribute USD 1.7 billion of financing to support the advancement of Indigenous Peoples' and local communities' forest tenure rights.; see Forest Tenure Funders Group.

criminalization and establishing an enabling legal environment for securing their rights.⁶⁷

Organizations contributing conservation finance are increasingly pushing for greater collaboration with IPs and LCs. More organizations are trying to work with these groups as partners rather than beneficiaries. The Grand Bargain, launched in 2016, is a framework developed to help donors better support local and national partners. The Grand Bargain aims to increase the volume as well as quality of funding provided.⁶⁸ A second iteration of The Grand Bargain was launched in 2021, and the initiative continues to gain traction. As of October 2022, 65 signatories – including 25 national governments, the World Bank, and UN Development Programme (UNDP) – had pledged to follow the guidance. A 2023 review of the Grand Bargain reported improvements in the localization of funding efforts.⁶⁹ In the same vein, in 2022, United States Agency for International Development (USAID) announced a policy of supporting locally led development, which has been backed by an array of national governments.⁷⁰

3.2 Has the private sector aligned finance flows with forest goals?

Most financial institutions still fail to have any deforestation safeguards for their investments. Analysis by Global Canopy suggests that in 2022 alone, private financial institutions provided USD 6.1 trillion to companies most at risk of driving tropical deforestation through agricultural commodity production. Of the 150 financial institutions funding these companies, two-thirds do not have a single deforestation policy covering their lending and investments.

3.2.1 Gray private finance

There is growing recognition that companies and financial institutions should consider not only the material impacts of environmental risk on their operations, but also the risks their activities pose to the environment.⁷¹ Institutions can implement policies which account for these impacts and help to redirect finance and investment away from deforestation-linked activities. Recent analyses of the lending behavior of financial institutions with forest-risk investments showed that most still do not have deforestation safeguards in place. As of 2022, the 150 financial institutions included in Global Canopy's Forest 500 assessment are providing USD 6.1 trillion in active financing to the 350 companies with the greatest influence in forest-risk commodity supply chains.^{m,72} Of this total, USD 0.6 trillion is being provided to companies without a single deforestation commitment. USD 2.4 trillion is being provided to companies with deforestation commitments for all relevant commodity supply chains, and USD 2.1 trillion to companies with deforestation commitments for only certain commodities.⁷³

How do we assess progress?

GRAY PRIVATE FINANCE: Private sector investment policies can be designed to incentivize emission reductions, redirect finance flows away from unsustainable agriculture, and provide support for sustainable production models. This section assesses what progress the private sector has made to reduce the negative impacts of investments.

FOREST-RISK MANAGEMENT: Assessing forest- and other climate-related risks can be complex and burdensome for private sector actors, especially when the risks to business are poorly understood. Risk management and disclosure guidance initiatives can be transformative in providing businesses with the tools they need to understand, manage, and mitigate forest-related risks. This section assesses the uptake of these initiatives and where gaps remain.

GREEN PRIVATE FINANCE: Private finance has considerable power to steer commodity production onto a sustainable trajectory and enable forest protection and conservation. This section assesses the extent to which private investment is directed into activities that increase the sustainability of commodity production and forest management, whether through targeted green investment or the implementation of investment safeguards.

Furthermore, only a small portion of these financial institutions internally address deforestation as a systematic risk. The 2022 assessment shows that only 58 of the 150 institutions have published a deforestation policy for at least one relevant commodity, and only 42 actively monitor compliance of their clients/holdings with the deforestation policy. Just 11 financial institutions were found to be actively monitoring compliance for all deforestation risk commodities within their portfolio.

Around a third (56/150) of financial institutions assessed by Global Canopy disclosed through CDP's financial services sector questionnaire for forests in 2022, yielding similar findings on progress. 26 percent (96) of financial institutions had a policy framework with forest-related requirements that clients or investees needed to meet. But of those institutions, few had specific requirements; only 10 percent included requirements in their policies for clients or investees to set third-party certification targets, and only 6

^m Global Canopy identifies and assesses the 150 financial institutions providing the most finance to the 350 companies with the greatest exposure to tropical deforestation (as identified by the Forest 500 assessment). This figure includes shareholdings, loans, underwritings, and bondholdings.

percent included requirements for clients or investees to set traceability targets. While these findings signal some progress, gaps remain.

Data from Forests & Finance shows that financial services received by over 300 companies directly involved in the palm oil, soy, pulp and paper, beef, rubber, and tropical timber supply chains exceeded USD 343 billion from 2010-22.⁷⁴ From 2016-22, banks also provided USD 353 billion in finance to 23 mining companies operating in the world's three largest tropical forest regions. Of this total, 45 percent went to activities in Latin America, 32 percent to activities in Southeast Asia, and 23 percent to Central and West Africa.⁷⁵ Mining is a significant driver of deforestation (see Chapter 2 on sustainable production & development).

3.2.2 Helping the private sector to address forest risks

In recent years, an increasing number of financial institutions have adopted guiding principles to ensure the sustainability of their investments. However, these actions generally remain voluntary as many do not formally require reporting on progress and implementation, so little can be concluded about their real impact on global finance flows.

Tools that help institutions assess their risks, dependencies, and impacts on nature continue to be developed. The Equator Principles, launched in 2003, were the first widely adopted framework for managing social and environmental risk in project finance. As of 2023, 139 financial institutions and 39 countries are signatories to the Principles.^{n,76} It is estimated that financial institutions complying with the Principles manage over 80 percent of global project finance transactions.⁷⁷

Tools for the private sector to assess, manage, and disclose nature-related risks have developed in recent years:

- In 2018, the **ENCORE Partnership's** ENCORE tool was established jointly by Global Canopy, the United Nations Environment Programme Finance Initiative (UNEP FI) and UN Environment Programme World Conservation Monitoring Centre (UNEP-WCMC). ENCORE helps financial institutions identify the risks that environmental degradation – such as deforestation – pose to their operations.
- In 2021, the **Task Force on Nature-related Financial Disclosures (TNFD)** was launched by Global Canopy, UNDP, UNEP FI, and WWF to develop risk management and disclosure guidance for organizations to report and act on nature-related risks. The TNFD released its final framework in March 2023 and final recommendations in September 2023.⁷⁸ TNFD's framework is intended to align with other relevant standards such as those from the International Sustainability Standards Board (ISSB) and the Global Reporting Initiative (GRI), as well as emerging regulatory standards. Prior to the TNFD's official framework release, it had seen significant uptake: 200 organizations are actively piloting aspects of the draft framework across a range of global sectors.
- In 2022, **CDP** began requesting financial institutions to report portfolio data on forests-related issues (as well as on water-related issues), in recognition of the role financial institutions have in supporting the shift towards greening financing and investments. Disclosure through the CDP questionnaire can help prepare financial institutions for disclosure in line with upcoming TNFD requirements. Results from disclosures in 2022 were mixed, showing that while some financial institutions are acting on forest-related risks and opportunities, the sector as a whole has a long way to go to fully address deforestation risks. Only 25 percent of the companies disclosing forest-related information reported assessing exposure to forest-related risks and opportunities within their risk management process. Further, exposure to forest-related risk and opportunities was only considered as a specific ESG-related risk management process for 37 percent. CDP expects that the ability of

ⁿ Signatories commit to integrating ten EPs – which include impact assessment, stakeholder participation, reporting, transparency, and other investment considerations – within their internal policies, procedures, and standards for project financing; as well as withholding project finance or loans to clients that are unable to comply with the EPs. Integrated throughout the EPs are the International Finance Corporation's (IFC) Performance Standards, which are widely adopted and considered an “international good banking practice.”

financial institutions to disclose complete and high-quality data will increase with time and will help to boost the ambition of institutions' pledges and the quality of their progress reporting.

3.2.3 Assessing private sector support for forests

Green investments by the private sector remain poorly tracked and difficult to measure. Until regular, transparent reporting becomes the default, the extent of private sector support for activities that protect, enhance, and restore forests globally cannot be measured.

The limited data available suggest that annual private green finance reaches several billion USD, a tiny fraction of private finance compared to gray finance flows that are potentially putting forests at risk. One estimate suggests that the private sector spends an average of USD 7 billion per year on sustainable supply chains.⁷⁹ Other private funding is channeled into sustainable land practices through public-private investment funds, with an estimate from 2020 suggesting that globally, these funds held at least USD 683 million at the time of the assessment.⁸⁰ On the philanthropic side, of the average USD 1.7 billion per year channeled to climate change mitigation from 2017-21, around USD 140 million annually was dedicated to direct activities that align with forest objectives.⁸¹ In 2021, USD 260 million was channeled to such activities, making forest objectives the second most funded and fastest growing sector for philanthropic support, capturing 9 percent of total funding for the year.⁸²

3.3 Are other finance mechanisms contributing to forest finance?

Alternative forest funding mechanisms are gaining traction. Novel approaches – such as funding for High-Integrity forests – have entered the scene, while uptake of mechanisms including payments for ecosystem services (PES) schemes and debt-for-nature swaps by a handful of countries show promise for diversification of forest finance.

3.3.1 New finance for high integrity forests

High integrity forests are those that have not experienced significant degradation from human activities and have a high degree of ecological integrity or intactness based on the FLII.⁸³ 40.5 percent of global native forest areas have high integrity, the largest areas lying in Russian and Canadian glacial areas and in tropical regions, including the Amazon Biome and the Congo Basin. The majority of high integrity forest areas are outside national protected areas, and are thus under private management or are without government protection. High integrity forests are mostly excluded from public policies and investment schemes that could fund their management and conservation, and as such, few incentives exist for their protection.⁸⁴ In recognition of this, a number of new finance mechanisms have emerged in recent years to create new finance channels for these important areas.

- The **High Integrity Forest (HIFOR) investment initiative** is being developed by the Wildlife Conservation Society (WCS) to drive finance toward these vital ecosystems. The HIFOR initiative is intended to incentivize the protection of high integrity forests through the sale of HIFOR units.⁸⁵ A HIFOR unit will represent a verified net tonne of CO₂ sequestered by a well-managed forest, but – importantly – will not be eligible for carbon offsetting use. In contrast to offset credits created and sold on carbon markets, HIFOR units do not reflect an additional greenhouse gas removal against a short-term baseline scenario, and as such, cannot be used for offsetting purposes or against claims of carbon neutrality.⁸⁶

How do we assess progress?

EMERGING FINANCE MECHANISMS: Direct grantmaking has dominated the forest finance landscape in recent decades. Financing approaches which integrate different types of capital with innovative new tools and mechanisms can help to crowd in private finance and create new investment opportunities. This section assesses the growing uptake of new, non-market based finance mechanisms.

HIFOR units are intended to reflect the continuous benefits that high integrity forests provide in terms of climate regulation, biodiversity conservation, and other ecosystem services. Proceeds from the sale of HIFOR units can finance protected areas, support IPs and LCs, strengthen governance, fight deforestation drivers, or invest in sustainable development activities outside the HIFOR Crediting Area. The development of the first HIFOR pilot program is currently in progress in Amazonas State, Brazil, under a Memorandum of Understanding between the State Environment Secretariat and WCS Brasil.⁸⁷

- The **Global Innovation Lab for Climate Finance**, a program at Climate Policy Initiative, has recently launched a new dedicated activity stream to accelerate the development of ideas relating to monetizing forests with high integrity. The objective is to select and develop innovative financial solutions which can benefit these forest types. The UK government has provided approximately USD 900 thousand in support of this initiative, alongside another program which has a focus on Latin America and the Caribbean.⁸⁸

3.3.2 Other finance instruments

Alternative financing tools that show potential for impact but have only been used a few times to date in the forest sector include debt-for-nature swaps and PES schemes. PES schemes involve the provision of financial incentives to farmers or landowners in exchange for ecosystem stewardship that supports the delivery of ecological services, such as watershed management or soil health. PES schemes can also support sustainable rural livelihoods. While PES schemes have yet to become a default environmental financing tool for national governments, recent developments show promise. For

example, in 2021, the Brazilian government established a National Policy of Payment for Environmental Services that provides targets, monitoring criteria, and a national PES registry for activities including reducing deforestation and forest restoration.⁸⁹ (For more on how forest country governments are using policies to promote sustainable land management, see Chapter 4 on forest rights & governance and Chapter 2 on sustainable production & development).

Debt-for-nature swaps typically involve the provision of debt relief to a developing country in return for a government commitment to conservation or other environmental protection activities. Since the concept was first introduced in 1987, around 140 such deals have been struck around the world.⁹⁰ Two examples of debt-for-nature swaps come from Belize and Ecuador:

- In 2001, Belize entered its first debt-for-nature swap project, committing to preserve 23,000 acres of rainforest in exchange for debt reduction of USD 9.7 million by the US government through The Nature Conservancy (TNC).⁹¹ In 2021, supported again by TNC, the country entered a much larger deal, worth around USD 553 million, in exchange for domestic commitments to marine conservation.⁹²
- In 2023, Ecuador refinanced USD 1.6 billion of its commercial debt at a discount in exchange for dedicating at least USD 12 million a year towards conservation in the Galápagos islands.⁹³
- Also in 2023, Peru finalized a debt-for-nature swap and forest conservation agreement under the Tropical Forest and Coral Reef Conservation Act (TFCCA). The agreement was developed with the support of Conservation International (CI), TNC, WCS, and WWF and will reduce Peru's debt payments to the United States Government by over USD 20 million over the next 13 years.⁹⁴

Though many recent swaps have focused on marine conservation, the increasing value of these deals, and their ability to address developing countries' economic and environmental concerns simultaneously, suggest they could be a promising mechanism for scaling up forest finance.⁹⁵

3.4 Are market-based mechanisms contributing to forest finance?

Transactions of forest-based carbon credits are being impacted by changing buyer preferences and the role of forest carbon credits in corporate climate strategies. Prices in the VCM currently remain far below the true costs of impactful conservation and restoration activities, and far below the price ranges economists foresee as necessary for meeting the 1.5°C climate goal of the Paris Agreement.

3.4.1 Forest-based carbon credits in the VCM

The Voluntary Carbon Market (VCM) remains a consistent – albeit small – source of finance for forests. While the VCM cannot, and should not, be relied on to achieve forest finance objectives, it can be a useful tool for mobilizing forest finance, particularly from the private sector.

Forest-based carbon activities may produce emission reduction, avoidance, or emissions removal credits. Avoidance or reduction credits are generated from carbon activities that reduce emissions from a baseline scenario. For example, REDD+ activities such as improved forest management (IFM) can avoid or reduce emissions of CO₂ or other greenhouse gases (GHGs) into the atmosphere. Removal credits are generated when emissions are removed from the atmosphere permanently, or for a set period of time, through activities such as afforestation and reforestation.

To date, the majority of forest-based credits transacted in the VCM have been emissions avoidance credits. This is in large part due to the fact that removal activities typically have larger upfront and implementation investment requirements than avoidance activities, and removal activities usually issue credits at a slower rate than avoidance activities.

How do we assess progress?

VOLUNTARY CARBON MARKET: The voluntary carbon market (VCM) allows public and private sector actors to purchase carbon credits generated by emission reduction projects certified by recognized carbon standards. Carbon markets can play a critical role in delivering climate action above and beyond science-based targets to contribute to reaching global net-zero. This section assesses how much the VCM is contributing to forest finance, and how quality initiatives are helping to ensure market integrity.

FOREST-BASED CREDITS UNDER ARTICLE 6: The new mechanisms introduced under Article 6 for the first time create a risk of overlap in the governance of the voluntary carbon market and regulated markets. This section assesses the implications of Article 6 for the development and transaction of forest-based carbon credits.

As a result, removal activities have historically received less investment than avoidance activities. Removal credits currently account for less than one third of all issuances from nature-based solution (NBS) projects.⁹⁶

The makeup of forest carbon credits in the VCM may be set to change following a number of developments in the way credit buyers engage with the market. Under the Science Based Targets initiative's (SBTi) Corporate Net Zero standard, emissions avoidance credits are not permitted for use by companies towards their near-term targets (5-10 years) and may only be used for beyond value chain mitigation activities. Removal credits, on the other hand are permitted, though only to counterbalance residual GHG emissions at the end of the journey to net zero.⁹⁷ It is possible that such guidance, combined with recent quality concerns (see **Section 3.4.2**), may trigger a shift in corporate demand away from emission reduction and avoidance credits and towards removals, to support the achievement of internal climate targets.

At the same time, corporate guidance is increasingly emphasizing the need for a shift in focus – away from reliance on carbon credits and short-term offsetting transactions towards direct, within-supply chain mitigation action and beyond supply chain action through a contributions approach, which together can achieve emission reductions plus benefits for people and

⁹⁶ NBS carbon projects are any project designed to avoid and reduce emissions through nature conservation and nature restoration activities.

nature over the long term. A key objective of the SBTi Forest, Land and Agriculture (FLAG) guidance, developed for AFOLU sector companies, is to encourage within-supply chain mitigation efforts that can facilitate a systemic shift towards more sustainable agricultural and commodity production practices.⁹⁸

Demand for carbon credits in the VCM is driven by a variety of actors with diverse objectives and as such, is difficult to predict. In the absence of any other measure, issuances can be used as a proxy to understand demand for certain credit types, as credits will often only be issued from VCM activities when there is an interested buyer. Issuances of forest-based carbon credits showed an upward trend from 2016-21, reaching an all-time high of around 157MtCO₂e in 2021. They subsequently declined, falling to 83MtCO₂e in 2022, and reaching just 58MtCO₂e by the end of Q3 2023 (Figure 3.6).

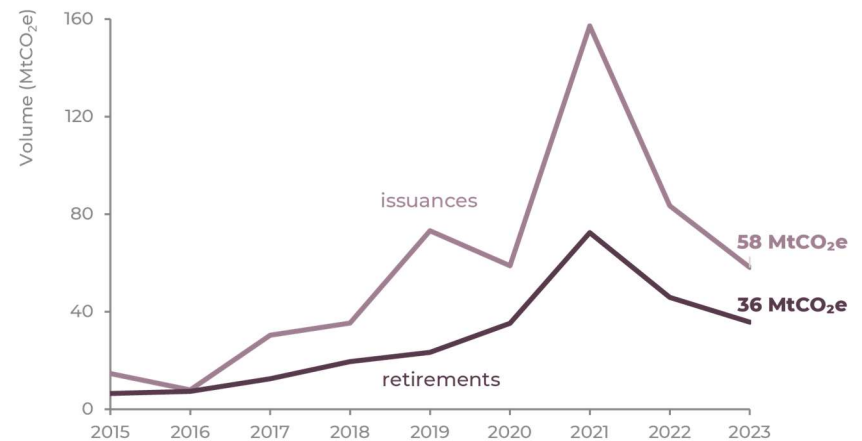
A similar trend can be observed in credit retirements, which grew year on year from 2016-21, peaking at over 72MtCO₂e in 2021. Since, retirements have declined steadily, totaling just under 46MtCO₂e in 2022, and 36MtCO₂e by the end of Q3 2023.⁹⁹

The declines observed in both issuances and retirements are largely attributed to mounting concerns over the quality of REDD+ credits. In early 2023, concerns around the carbon integrity of REDD+ credits grew after the findings of an investigation into the climate impacts of a selection of REDD+ projects were made public (see Section 3.4.2). For some market actors, the findings cast doubt over the extent to which REDD+ credits account for real emission reductions and were linked to a notable decline in demand for these credit types.

Carbon credit pricing

The price of forest-based carbon credits remains low. One source estimates that as of the third quarter of 2023, the price of nature-based and forestry credits falls between USD 4-5, compared to between USD 8 and 10 over the second half of 2022.¹⁰⁰ The price of REDD+ credits in particular has dropped significantly since the negative coverage of REDD+ projects in early 2023, falling to a low of USD 2.75 in mid-August 2023.¹⁰¹

Figure 3.6. Issuances and retirements of forest-based carbon credits in the VCM, in tCO₂e



Source: Climate Focus VCM Dashboard

While the price of REDD+ and other forest-based credits varies considerably, current pricing remains far below the cost range economists recommend for meeting the Paris Agreement's 1.5 degree limit, which ranges between USD 50 and 250 per tonne of CO₂.¹⁰² Higher prices for forest carbon credits allow forest carbon activities to compete with subsidized agriculture and other land uses, creating incentives for more investment into forest protection activities. While the current prices of forest-based credits may cover activity implementation costs and provide some benefits to impacted communities, they are unlikely to incentivize conservation and reforestation over competitive land uses at a large scale.¹⁰³

Jurisdictional programs

To date, most forest-based credits transacted in the VCM have been issued from standalone projects – activities implemented in a defined forest area, with baseline emissions calculated for that specific area. Non-governmental carbon crediting programs, such as Verra's VCS Jurisdictional and Nested REDD+ (JNR) Framework,¹⁰⁴ and more recently the Architecture for REDD+ Transactions (ART) initiative and its REDD+ Environmental Excellence Standard (TREES),¹⁰⁵ have been making moves to link REDD+ results-based payments and jurisdictional programs with the VCM. Jurisdictional programs can include carbon projects through nested approaches, which effectively integrate projects into jurisdictional carbon accounting and enable projects to either directly generate carbon credits or receive benefits through the jurisdictional program. Jurisdictional programs can offer more benefits than standalone REDD+ projects. Most importantly, jurisdictional programs are more scalable than REDD+ projects and depend on high levels of government involvement and backing, which is crucial for addressing the underlying drivers of deforestation and aligning REDD+ activities with national policies.

In 2022, Guyana became the first country to issue forest carbon credits from a jurisdictional activity that is also eligible for use under the VCM. The program issued 30 million credits under ART-TREES.¹⁰⁶ Currently, 14 other countries and large sub-national jurisdictions are in the process of developing programs targeting ART-TREES registration.¹⁰⁷ Though the inclusion of jurisdictional credits under the VCM signals progress and creation of a potential new channel for forest finance, the Guyana program has so far come under fire from a number of angles. In early 2023, a formal complaint was launched by a Guyanese NGO claiming that IPs were not properly consulted on the carbon project implementation plans and raising concerns around ART's grievance mechanism.¹⁰⁸ Though the complaint did not lead to

any formal action, the case highlights the importance of full, transparent, and participatory processes in the development of jurisdictional programs. In addition, ART-TREES' reliance on High Forest Low Deforestation (HFLD) credits has drawn criticism. HFLD carbon credits are generated from countries or jurisdictions that have high forest cover and low historical rates of deforestation. Some market voices argue that such credits are not fungible with legitimate carbon offsets on the basis that they cannot prove the basic condition of additionality – one of the core elements of a credible carbon credit.¹⁰⁹ While it is acknowledged that HFLD credits could make meaningful contributions to forest conservation, critics urge that they should not be used for offsetting purposes, for the sake of maintaining market integrity.¹¹⁰

3.4.2 Ensuring quality in forest-based carbon credits

Credit quality has long been an issue of concern for forest-based carbon credits and was thrust into the spotlight in early 2023 when the findings of a research investigation into the climate impacts of a selection of REDD+ projects was widely publicized in the media. While competing investigations and some project developers have since sought to demonstrate the robustness of forest-based carbon credits, the criticisms have impacted stakeholder confidence in forest-based credits and will likely shape demand for such credits in the coming years.

Forest-based carbon credits have long come under scrutiny over a range of issues, including additionality, leakage, risk of adverse social impacts and, in particular, issues relating to permanence and crediting baselines.¹¹¹ Permanence is defined as the length of time carbon will remain sequestered or stored from a project activity without risk of reversal, while robust crediting baselines are essential to accurately quantify the emission reductions or removals generated by a carbon project. Both have been key quality concerns for forest-based carbon credits in recent decades.

Quality issues recently became particularly acute for REDD+ credits, which became the target of prominent criticism over the last year. An investigation carried out by a group of researchers on a selection of 27 REDD+ projects, of an approximate 89 million credits generated, 71 percent originated from projects that did not significantly reduce deforestation, and a further 29 percent originated from projects likely associated with some avoided deforestation, but not to the extent expected by the project developers.¹¹² The

findings were widely publicized by major news outlets – including The Guardian and Die Zeit - stating that 90 percent of rainforest credits issued by Verra, the largest certifier in the market, do not represent real emissions reductions.¹¹³ While other assessments find that a higher proportion of projects correctly estimate baselines – up to 44 percent¹¹⁴ – the initial findings seem to have considerably impacted both pricing and demand for forest-based credits (see Section 3.4.1). While criticism around baseline setting in REDD+ projects is not new, it highlights the need for renewed attention to integrity in forest-based carbon projects.

A number of market-guided initiatives for addressing the integrity of the VCM have emerged in recent years. A key development in this regard was the establishment of the Integrity Council for the Voluntary Carbon Market (IC-VCM).¹¹⁵ The IC-VCM was established in 2021 by the Taskforce on Scaling Voluntary Carbon Markets (TSVCM). The objective of the initiative was to develop a clear roadmap to determine a global benchmark for carbon credit quality. The IC-VCM has since been actively developing guidance and recently released a full set of criteria for assessing categories of credits and crediting methodologies, including the Core Carbon Principles (CCP), which set a (minimum) standard for high-quality carbon credits.¹¹⁶ These include guidelines for nature-based projects on handling reversal risks, as well as separate permanence requirements for Jurisdictional REDD+ Programs. Market experts have reported that a “good number” of carbon credits will fail to meet the CCP label, and thus the guidance is expected to help buyers and other market actors to identify high quality credits.¹¹⁷ However, the label has also been criticized for its approach to permanence in nature-based projects. The framework sets a minimum bar of 40 years for monitoring permanence in projects with a risk of reversal – compared to a period of 100 years set by other standards – as well as currently leaving Jurisdictional REDD+ projects exempt from monitoring. The next iteration of the framework will be released in 2026.

Other efforts to boost market integrity include:

- The **Tropical Forest Credit Integrity (TFCI) guide** is an example of an initiative that is specifically targeting environmental integrity issues associated with tropical forest activities, offering guidance to companies on sourcing high integrity forest credits from legitimate certifying bodies.¹¹⁸ The TCFI Guide promotes a shift in corporate climate action towards using carbon credits as a complement to, and not a substitute for, a company’s decarbonization. The guide

states that companies first commit to a science-based emissions reduction target, validated by the SBTi, and use the mitigation hierarchy to guide their decarbonisation actions.¹¹⁹ It also recommends that purchasers rapidly shift demand towards credits originating from jurisdictional-scale programs that are verified and validated to the most rigorous standards. When companies do invest in carbon credits, the guide encourages the prioritization of investment into NBS emission reduction activities – including protecting, restoring and sustainably managing forests – before removals.¹²⁰ Companies must first quantify any emissions that cannot be directly mitigated – taking into account also the indirect social and environmental cost of their emissions – before investing in climate solutions or financing carbon credits which generate wider benefits for nature and society.

- At the standard level, Verra is currently developing **a new, updated REDD+ methodology** to minimize the risk of errors such as overcrediting – where more credits than tonnes of CO₂e achieved are issued by a given project. The methodology draws on the VCS Jurisdictional and Nested REDD+ (JNR) framework, which sets baselines using deforestation data generated from an entire jurisdiction, rather than specific project area. The new methodology is due to be released in the third quarter of 2023.¹²¹
- The search for quality is also being facilitated through a growing number of **carbon credit ratings agencies**¹²² that have entered the VCM in recent years. These firms offer credit rating style scores for carbon credits to guide buyers in their decision making, and extend their assessments to nature-based projects. Their work helps buyers and investors navigate the complex landscape of projects, filtering out low quality credits and helping to restore trust in the market.

3.4.3 Forest finance under Article 6

International market mechanisms introduced under Article 6 of the Paris Agreement create potential new channels for forest finance, however, it remains to be seen how burdensome engaging in such transactions will be for forest country governments, and which forest-based mitigation activities will be eligible.

New rules for international carbon markets under the Article 6 of Paris Agreement were defined at COP26 in 2021, potentially improving the prospects for forest finance over the long term. COP26 saw the finalization of the Article 6 rulebook, which provides guidance on the operations and requirements of the proposed market mechanisms under Article 6. The rulebook sets the conditions for the international trading and transfer of emission reduction units by enabling two market-based mechanisms – Article 6.2 cooperative approaches and the Article 6.4 mechanism (the successor of Kyoto Protocol's Clean Development Mechanism). Under Article 6.2, countries engaged in cooperative approaches are responsible for defining the types of activities allowed to generate tradeable mitigation outcomes. Under Article 6.4 the rules are more complex. Countries will need to agree on whether Article 6.4 activities could include emission avoidance and conservation enhancement activities at COP28, in December 2023.¹²³ However, formal rules for activities involving removals (including land-based) under Article 6.4 are currently under development.¹²⁴

Forest-based credits, including REDD+, must comply with the same Article 6 rules as credits generated from any other sector. Forest projects and programs of activities will be subject to the same new reporting and accounting requirements, as well as adjustment measures to ensure that the same emission reductions are not used twice. The application of “corresponding adjustments” is intended to ensure that the same emission reductions are not claimed by both the project host country and buyer, thus avoiding “double counting” the same mitigation. In practice, however, implementing corresponding adjustments presents different burdens to different host countries, who may be limited by economic or capacity constraints.

In September 2023, the first sovereign REDD+ credits to be offered for international trade under Article 6 were made available by Suriname. The

country is issuing 4.8 million tonnes of emission reductions, to be sold on a new platform created by the Coalition for Rainforest Nations (CfRN).¹²⁵ The Forest Reference Level has been reviewed by the UNFCCC, and the resulting credits are eligible for use by other countries towards their NDCs, providing that corresponding adjustments are applied.¹²⁶ Soon after, three other tropical forest countries – Honduras, Belize and the Democratic Republic of Congo (DRC) – announced their intention to issue REDD+ credits eligible for trade under Article 6 mechanisms. Honduras and Belize have each announced upcoming issuances of over 10 million credits, and no volumes have yet been disclosed by DRC, which is at a much earlier stage of project development.¹²⁷

While these issuances of REDD+ credits suggest that new international market mechanisms may provide a future channel for international forest finance, the Article 6 UNFCCC infrastructure and Article 6.4 rules, together with most national Article 6 regulatory frameworks, are still under development. Article 6 may be fully operational by late 2025, depending on how quickly major host countries implement the necessary capacities and institutional procedures to participate in Article 6 collaboration.

CHAPTER 3 ENDNOTES

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¹⁰⁰ Data obtained from Allied Offsets via the Carbon Pulse Voluntary Carbon Market portal, <https://carbon-pulse.com/vcmp/>. AlliedOffsets is a data aggregator, providing information on projects across various carbon standard registries. Indices are constructed by estimating the price of the most retired projects across each field. The project price estimates are driven by a combination of project sampling, tokenized credit prices, and external data points.

¹⁰¹ See e.g., Gourlay, P. (2023, August 31). [Carbon credit retirements tumble in August in wake of ICVCM release](#). Carbon Pulse.

¹⁰² See e.g., Bhat, P. (2021, August 25). [Carbon needs to cost at least \\$100/ton now to reach net zero by 2050: Reuters poll](#). Reuters.; High-Level Commission on Carbon Prices. (2017). [Report of the High-Level Commission on Carbon Prices](#). Washington, DC: World Bank.

¹⁰³ Pachama. (2023, May 9). [How Much Should a Reforestation Carbon Credit Cost?](#). Pachama.

¹⁰⁴ Verra's VCS Jurisdictional and Nested REDD+ (JNR) Framework, <https://verra.org/programs/jurisdictional-nested-redd-framework/>.

¹⁰⁵ Architecture for REDD+ Transactions (ART) initiative, <https://www.artredd.org/trees/>.

¹⁰⁶ See ART (2022, December 1). [ART Issues World's First Jurisdictional Forestry TREES Carbon Credits to Guyana](#). Architecture for REDD+ Transactions.

¹⁰⁷ ART (2022, December 1).

¹⁰⁸ Amerindian Peoples Association. (2023). [Comment on latest approved ART documents for Guyana and complaint about issuance of credits for 2016-2020](#). Georgetown, Guyana: Amerindian Peoples Association. <https://www.artredd.org/wp-content/uploads/2023/05/APA-Complaint-Letter-March-8-2023.pdf>.

¹⁰⁹ See Streck, C. et al. (2022, April 14). [COMMENT: We must protect intact forests, but CORSIA got it wrong](#). Carbon Pulse.

¹¹⁰ Streck, C. et al. (2022, April 14).

¹¹² See e.g., West, T.A.P., Börner, J., Sills, E.O., & Kontoleon, A. (2020). [PNAS](#), 117(39), 24188-24194. <https://www.pnas.org/doi/10.1073/pnas.2004334117>; Pan, C. et al. (2022). [Key challenges and approaches to addressing barriers in forest carbon offset projects](#). *Journal of Forestry Research*, 33, 1109-1122. <https://link.springer.com/article/10.1007/s11676-022-01488-z>; Streck, C. (2021). [REDD+ and leakage: debunking myths and promoting integrated solutions](#). *Climate Policy*, 21(6), 843-852.

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¹¹² West, T.A.P., et al. (2023). [Action needed to make carbon offsets from tropical forest conservation work for climate change mitigation](#). *Science* 381(6660), 873-877. <https://www.science.org/doi/10.1126/science.ade3535>.

¹¹³ See: Greenfield, P. (2023, January 18). [Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows](#). The Guardian.; Criticisms of forest credit quality were also reported by a number of Australian researchers citing similar issues in local avoided deforestation and reforestation projects. See: Australian National University College of Law. (2022, March 24). [Australia's carbon market a 'fraud on the environment'](#). Australian National University College of Law.

¹¹⁴ See e.g., Fenix Carbon (2023, January). [Offsets have a bad reputation. But they're not as worthless as you might think](#). Fenix Carbon.

¹¹⁵ Integrity Council for the Voluntary Carbon Market (IC-VCM), <https://icvcm.org/>.

¹¹⁶ IC-VCM. (2023). [Core Carbon Principles, Assessment Framework, and Assessment Procedure](#). London, UK: IC-VCM.

¹¹⁷ Gourlay, P. (2023, September 20). [Voluntary carbon market braces for 'ICVCM impact' after framework release](#). Carbon Pulse.

¹¹⁸ Tropical Forest Credit Integrity Guide. (2023.) [Tropical Forest Credit Integrity Guide for Companies Version 2](#). Tropical Forest Credit Integrity Guide.

¹¹⁹ Tropical Forest Integrity Guide (2023) [Tropical Forest Credit Integrity Guide for Companies Version 2. Differentiating Tropical Forest Carbon Credits by Impact, Quality, and Scale](#).

¹²⁰ Tropical Forest Integrity Guide, <https://tfciguide.org/>.

¹²¹ Verra Consolidated REDD Methodology, <https://verra.org/methodologies/redd-methodology/>.

¹²² See Sylvera, <https://www.sylvera.com/>; Calyx Global, <https://calyxglobal.com/>; and BeZero, <https://bezercarbon.com/>.

¹²³ UNFCCC. (2023). 7/CMA.4 Guidance on the mechanism established by Article 6, paragraph 4, of the Paris Agreement, Para 9 (a), https://unfccc.int/sites/default/files/resource/cma2022_10a02_adv.pdf; Emission avoidance under Article 6 in general will also be a matter of discussion at COP29, in November 2024.

See also: 6/CMA.4 Matters relating to cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement, Para 16 (b) (ii)

¹²⁴ UNFCCC (2023). Information note: Workplan of the Supervisory Body 2023. https://unfccc.int/sites/default/files/resource/a64-sb006-aa-a01_1.pdf.

¹²⁵ Coalition for Rainforest Nations, <https://www.rainforestcoalition.org/>.

¹²⁶ Gourlay, P. (2023, September 14). Suriname to offer first sovereign forestry credits for sale under Paris' Article 6. Carbon Pulse.

¹²⁷ Manuell, R. (2023, September 20). Three rainforest nations poised to offer tens of millions of sovereign carbon credits under Article 6. Carbon Pulse.