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Options for multilateral initiatives to close the global 2030 climate ambition and action gap – Policy field forest protection

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Options for multilateral initiatives to close the global 2030 climate ambition and action gap – Policy field forest protection

by

Hannes Böttcher, Victoria Liste
Oeko-Institut, Berlin

Claire Fyson
Climate Analytics, Berlin

On behalf of the German Environment Agency

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Publisher
Umweltbundesamt
Wörlitzer Platz 1
06844 Dessau-Roßlau
Tel: +49 340-2103-0
Fax: +49 340-2103-2285
buergerservice@uba.de
Internet: www.umweltbundesamt.de

/umweltbundesamt.de
/umweltbundesamt

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This policy paper is part of the research project “Accelerating global climate action before 2030” (FKZ 3719 41 109 0) that investigates intergovernmental cooperation initiatives by G20 countries and their possible contribution to accelerate climate action before 2030. The project focuses on four policy areas: energy transition, synthetic e-fuels, sustainable food systems and forest protection; this paper looks at forest protection. The project is financed by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, supervised by the German Environment Agency and carried out by the Ecologic Institute, Oeko-Institut and Climate Analytics. The policy papers are scientific in nature, and all reflections and suggestions are derived by the authors’ experiences and from careful analysis. They aim to identify options to accelerate climate action in order to meet the globally agreed goal of staying within a temperature increase of well below 2°C above preindustrial levels and pursuing efforts to limit it to 1.5°C, without intending to prescribe specific policies.

Abstract: Options for multilateral initiatives to close the global 2030 climate ambition and action gap – Policy field forest protection

Achieving the Paris Agreement long-term temperature goal requires efforts for rapidly reducing GHG emissions while also increasing CO_2 removals by sinks. G20 countries have a crucial role to play in increasing climate policy ambition. Land use change contributes 15 % of current global anthropogenic CO_2 emissions, largely as a result of forest conversion to other land uses. To make forests part of the solution, a steep reduction in deforestation emissions is required, as well as policies to rebuild land-based carbon stocks. This policy paper provides a comprehensive but condensed analysis of the current landscape of multilateral initiatives promoting forest protection and restoration. It provides concrete options to improve existing and develop future initiatives in the land use sector with a focus on forests. Five existing initiatives were analysed: the Bonn Challenge, the EU Forest Law Enforcement, Governance and Trade (FLEGT), the Central African Forest Initiative (CAFI), the BioCarbon Fund's Initiative for Sustainable Forest Landscapes (ISFL), and the Accountability Framework initiative. Based on findings regarding existing gaps and potential opportunities, five options for bridging the gaps are suggested: 1) Increasing stakeholder participation, resolving land tenure issues and reducing information imbalances to improve ownership; 2) Establishing a facility for providing a consistent global reference data set of land use emissions for reconciling national data and supporting the development of transparent national monitoring systems; 3) Aligning jurisdictional approaches with certification and supply chain management standards to enhance private sector engagement and support longer-term commitments; 4) Encouraging countries for coherent forest protection and landscape restoration pledges and improving representation of land use in NDCs; and 5) Combine COVID-19 recovery with policies for forest protection and restoration to promote no-regret options.

Kurzbeschreibung: Optionen für multilaterale Initiativen, um die globale 2030-Klima-Ambitionslücke zu schließen – Politikfeld Waldschutz

Um das langfristige Temperaturziel des Pariser Abkommens zu erreichen müssen Treibhausgasemissionen schnell erheblich reduziert, aber auch die CO_2-Festlegung durch Senken erhöht werden. Die G20-Länder spielen eine entscheidende Rolle bei der Verwirklichung einer ehrgeizigeren Klimapolitik. Landnutzungsänderungen, insbesondere die Umwandlung von Wäldern in andere Landnutzungsformen, sind für 15 % der weltweiten anthropogenen CO_2-Emissionen verantwortlich. Um die Wälder zu einem Teil der Lösung zu machen, sind eine starke Reduzierung der Entwaldungsemissionen sowie politische Maßnahmen zum Wiederaufbau von Kohlenstoffvorräten in Landökosystemen erforderlich. Dieses Politikpapier bietet eine umfassende, aber komprimierte Analyse der gegenwärtigen Landschaft multilateraler Initiativen zur Förderung von Schutz und Wiederherstellung der Wälder. Es schlägt konkrete Optionen zur Verbesserung bestehender und zur Entwicklung neuer Initiativen im Landnutzungssektor mit Schwerpunkt auf Waldökosystemen vor. Fünf bestehende Initiativen wurden betrachtet: die Bonn Challenge, die EU-FLEGT Initiative gegen illegale Holzproduktion und Handel, die Central African Forest Initiative (CAFI), die Initiative für nachhaltige Waldlandschaften des BioCarbon-Fonds (ISFL) und die Accountability Framework Initiative. Basierend auf den Erkenntnissen zu bestehenden Lücken und Möglichkeiten wurden wiederum fünf Optionen für die Lückenschließung herausgearbeitet: 1) Stärkere Beteiligung von Interessensgruppen, Klärung von Fragen des Landbesitzes und Abbau von Informationsungleichgewichten für mehr Eigenverantwortung; 2) eine Organisation zur Bereitstellung eines konsistenten globalen Referenzdatensatzes für Landnutzungsemissionen zum Abgleich nationaler Daten schaffen und die Entwicklung transparenter nationaler Monitoringsysteme unterstützen; 3) Landschaftsansätze mit Zertifizierungs- und

Lieferkettenmanagementstandards abgleichen, um das Engagement des Privatsektors zu stärken und längerfristige Verpflichtungen zu unterstützen; 4) Ermutigung von Ländern Kohärenz zwischen nationalen Zusagen zu Waldschutz- und Landschaftswiederherstellung erhöhen und die Darstellung der Landnutzung in den NDCs zu verbessern; und 5) Post-COVID-19-Wiederaufbau mit Maßnahmen zum Waldschutz und zur Walderneuerung kombinieren.

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List of abbreviations

AFR100	African Forest Landscape Restoration Initiative
AFi	Accountability Framework Initiative
BeRT	UN-REDD Programme's Benefits and Risks Tool
BMEL	German Federal Ministry of Food and Agriculture
CAFI	Central African Forest Initiative
CBFF	Congo Basin Forest Fund
CO_2	Carbon dioxide
DRC	The Democratic Republic of Congo
EFI	European Forest Institute
ERPAs	Emission reductions purchase agreements
EU	European Union
EUTR	European Timber Regulation
FAO	Food and Agriculture Organization of the United Nations
FATF	Financial Action Taskforce
FLEGT	Forest Law Enforcement, Governance and Trade
FLR	Forest Landscape Restoration
FSC	Forest Stewardship Council
G20	includes 19 leading advanced and emerging countries plus the European Union
GTTN	Global Timber Tracking Network
IKI	German International Climate Initiative
IMM	FLEGT Independent Market Monitoring
ISFL	Initiative for Sustainable Forest Landscapes
ITTO	International Timber Trade Organisation
IUCN	International Union for Conservation of Nature
LDN	Land Degradation Neutrality
MRV	Measuring, reporting and verification
NbS	Nature-based solutions
NDC	Nationally determined contributions
NGOs	Non-governmental organisations
OTP	Open Timber Portal
PEFC	Programme for the Endorsement of Forest Certification Schemes
REDD+	Reducing Emissions from Deforestation and Forest Degradation mechanism
SDG	United Nations Sustainable Development Goals
STIX	Sustainable Timber Information Exchange platform
UN	United Nations
UNDG	United Nations Development Group
US	United States of America
VPAs	Voluntary Partnership Agreements
WRI	World Resources Institute
WWF	World Wide Fund for Nature

Summary

Land use change currently makes up about 15 % of global anthropogenic CO_2 emissions, of which most emissions result from forest conversion to other land uses. However, the majority of mitigation pathways consistent with the 1.5-degree temperature limit of the Paris Agreement (PA) achieve **net zero CO_2 emissions from land use** between 2025 and 2040. This requires a steep reduction in deforestation, and policies to conserve and rebuild land-based carbon stocks and protect natural ecosystems. A key challenge is the need to **balance many competing demands** for land: food production, human settlement, energy and raw material supply, carbon storage, maintenance of biodiversity and other ecosystem services.

There are many existing multilateral initiatives for the promotion of forest protection and restoration. We provide an overview of 11 prominent initiatives, and an in-depth analysis of five initiatives that we selected as being representative of the range of different multilateral approaches:

- the Bonn Challenge, an initiative launched and strongly supported by Germany, aiming at globally restoring forests on 150 million ha of land by 2020 and 350 million ha by 2030;
- EU FLEGT, an initiative of the European Union (EU) and policy framework to support EU efforts to tackle illegal logging and related trade;
- the Central African Forest Initiative (CAFI), an initiative focussing on high-forest cover countries in Central Africa, with the objective of protecting these forests to mitigate climate change and reduce poverty;
- the BioCarbon Fund's Initiative for Sustainable Forest Landscapes (ISFL), a multilateral facility that seeks to reduce GHG emissions from land use through grants and results-based financing;
- the Accountability Framework initiative (AFi), which aims to improve the accountability of ethical supply chain commitments in forestry as well as in agriculture.

Based on the in-depth analysis of the five existing initiatives we identified several gaps in the current landscape of initiatives:

- There is scope for increasing participation of stakeholders. This should include activities that can reduce information imbalances between stakeholder groups and help **to build ownership of processes and solutions** by stakeholders.
- Despite the fact that countries have improved forest data availability, there is a **need for transparent monitoring** to provide **global and national** data that is: transparent in the data sources, definitions, methodologies and assumptions used; free and open access (i.e. truly "barrier free" to all stakeholders); and complementary and comparable to mandated reporting by countries.
- To increase private sector engagement, there is a **demand for more results-based emission reduction programs** covering multiple land use activities and supply chains. However, there are remaining challenges regarding **non-permanence and leakage but**

also ownership and carbon tenure. The piloting of **jurisdictional approaches** can help to address the challenges that arise when seeking to eliminate deforestation from complex supply chains, reduce the risk of leakage within regions, and provide an important step towards consistent national accounting.

- Forests were recognised as a key sector during the first NDC submissions, with many countries including forest sector targets. However, few countries provided specific quantitative information. There is a need to **support and encourage countries to improve their representation of the land use sector, and forests in particular, in their NDCs, separate from and in addition to reducing emissions in the energy and industry sectors.** This improvement should also include safeguards to ensure environmental integrity of forest related mitigation activities, and alignment with other sustainable development and land protection and restoration pledges.
- Countries have made significant progress in effectively addressing deforestation and forest degradation, as well as illegal logging. The **COVID-19 pandemic** forms an unprecedented challenge to all countries. There is a risk that economic response and recovery programmes lead to **reduced ambitions regarding forest protection and restoration** and reduced capacities for effectively monitoring forests. This could eventually even result in **overexploitation of forests, increased degradation and forest loss**.

To close these gaps, we have developed and sketched out five sets of options for accelerating forest protection and restoration.

- Increasing stakeholder participation, resolving land tenure issues and reducing information imbalances to improve ownership ("Options for increasing participation");
- Establishing a facility for providing a consistent global reference data set of land use emissions for reconciling national data and supporting the development of transparent national monitoring systems ("Options for transparent monitoring");
- Aligning jurisdictional approaches with certification and supply chain management standards to enhance private sector engagement and support longer-term commitments ("Options for increasing private sector engagement");
- Encouraging countries for coherent forest protection and landscape restoration pledges and improving representation of land use in NDCs ("Options for increasing consistency of national targets");
- Combining COVID-19 recovery with policies for forest protection and restoration to promote no-regret options ("Options for green COVID-19 recovery").

The following Table 1 provides an overview of the five identified options and their assessment.

Table 1: Overview of options for further promoting the global uptake of forest protection

Criteria/ options	Options for increasing participation	Options for transparent monitoring	Options for increasing private sector engagement	Options for increasing consistency of national targets	Options for green COVID-19 recovery
Chances of success and effectiveness	High to medium	High to medium	High	High	High
Efficiency and Costs	High efficiency Low costs	High efficiency Medium to high costs	High efficiency Low costs	High efficiency Low costs	High efficiency Medium costs
Transparency, institutional structures	High	High	High to medium	High	High
Sustainability, environmental integrity	High	High	High to medium	High to medium	High to medium
Priority	High	Medium	High to medium	High	High

Source: own compilation.

This list formulates opportunities for generally improving the basis for existing and future initiatives through a number of potential actions at different levels. The options were grouped into five sections. However, they **do not constitute isolated blocks of activities**. Instead, they should be regarded as teeth of a chain wheel that need to work together to make transformational change happen. There can also be **interdependencies between options**. Therefore, a priority statement is challenging.

The analysis of existing initiatives has shown that there is not necessarily a need for entirely new approaches. Innovative initiatives have emerged that **need to be scaled up**. Their scope of application and integration into national policy needs to be supported and the **list of users extended**.

The chances of success of the presented options depend on the processes in which they will be brought forward and the mechanisms that are available within political processes. In this regard, the years 2021 and 2022 provide multiple windows of opportunity for international action and multilateral cooperation (e.g. G7 presidency UK in 2021, upcoming G7 presidency Germany in 2022, and G20 presidency of Italy in 2021, UNFCCC COP 26 in 2021, etc.).

1 Introduction

1.1 Relevance of the policy field

In 2020 land use change, in particular forest conversion to other land uses, made up about 15 % of global anthropogenic CO_2 emissions (Global Carbon Project, 2020). However, the majority of mitigation pathways consistent with the 1.5°C temperature limit of the Paris Agreement (PA) achieve net zero CO_2 emissions from land use between 2025 and 2040 (Fuentes Hutfilter et al., 2020). This requires a steep reduction in emissions from deforestation alongside policies to conserve and restore land-based carbon stocks and protect natural ecosystems. A key challenge is the need to balance many competing demands for land: food production, human settlement, bioenergy and raw material supply, carbon sequestration, maintenance of biodiversity and other ecosystem services. Importantly, this sectoral transformation cannot be used to offset the necessary fast decarbonisation of energy systems in order to reach an emissions pathway that is consistent with the PA 1.5°C temperature limit (Fuentes Hutfilter et al., 2020).

This paper provides an analysis of existing multilateral initiatives for the promotion of forest protection and restoration, including an in-depth evaluation of key initiatives in terms of their success, expected impact and cost-effectiveness. Drawing from this analysis, we develop and discuss options for future multilateral cooperation on forest protection in the years to come. **Forest protection in the title of this paper refers to activities that reduce emissions from deforestation and degradation, as well as activities aimed at increasing forest carbon stocks through forest landscape restoration and promoting sustainable forest management.** As discussed by IPCC (2019), such activities should include environmental safeguards and provide multiple benefits. They might not only refer to forests in the sense of the FAO definition but might include also trees outside forests, e.g. agroforestry options. However, this paper puts forest related activities into the focus.

Forest loss and forest degradation globally contribute to CO_2 emissions. In 2019, an area of 11.9 Mha of tropical forest tree cover was lost. Primary forests in the humid tropics sustained 3.8 Mha of that loss, resulting in CO_2 emissions of at least 1.8 Gt CO_2 in 2019 (WRI, 2020). Between 2009 and 2018, land use and land use change has emitted 6 Gt CO_2/yr (about 15 % of annual global fossil fuel emissions), driven largely by deforestation (Global Carbon Project, 2020). Over the same period, the global biosphere acted as a sink for 12 Gt CO_2 per year, as a natural response to human-induced environmental changes (Global Carbon Project, 2020). The main options to directly reduce emissions in the forestry sector are halting deforestation and reducing forest degradation, options which have a total mitigation potential of 0.4 – 6 Gt CO_2e per year (Roe et al., 2019).

According to recent estimates (FAO, 2016; FAO, 2020), the group of G20 includes countries that have made substantial progress in restoring their forests in past decades (e.g.: EU, USA, China). Within these countries, forests often form a strong sink for atmospheric carbon dioxide (CO_2) as forests are recovering after being overexploited in previous centuries. At the same time, the G20 includes countries with very high rates of forest loss and highest emissions from deforestation (Brazil and Indonesia). Other G20 countries have forests that are just starting to recover from over-exploitation but have recently been negatively affected by severe natural disturbances, partly amplified by climate change (e.g.: Canada, Russia, Central Europe).

Globally, forests are under immense pressure from direct and indirect anthropogenic disturbances. The most substantial disturbance is deforestation, which leads to total loss of the original ecosystem. The intensive use of forests can also lead to forest degradation and thus

severely affect ecosystem services of the forest. Climate change impacts pose an additional threat, which is set to worsen as temperatures rise (IPCC, 2019).

The loss of forest cover affects biodiversity, e.g. through habitat loss, regional climate conditions and the water balance. Deforestation also has severe impacts on the livelihoods of people relying on forest ecosystem services. It is clear that forests are directly and indirectly linked to a number of UN Sustainable Development Goals (SDGs), e.g. SDG 1 (income from forest products), SDG 3 (health benefits from medicinal plants), SDG 12 (sustainable consumption and production patterns), SDG 13 (carbon storage; resilience and adaptation) and SDG 15 (biodiversity).

Drivers for forest loss and forest degradation are to a large degree agricultural production, as well as forestry and mining, and vary greatly from region to region. In South America, two-thirds of forest loss can be attributed to commercial agriculture, whereas in Asia and Africa it is largely subsistence agriculture. In Asia and the Americas, the main driver of forest degradation is wood use, while in Central and West Africa charcoal production is an important driver (Keenan et al., 2015). Meanwhile, many countries contribute directly or indirectly to forest loss through the import of consumer goods, while at the same time increasing their own forest area, illustrating the importance of a global perspective on the drivers of forest loss.

In addition to the direct drivers of forest degradation and loss, other factors play a role in how strong the drivers are but also how effective instruments can be in addressing them. These include demography, gender equality, education, income and the political system, conflicts, corruption, but also the effects of climate change. The influencing factors and drivers, which are often very specific to each country and region, in turn offer leverage for instruments to use. Examples of possible leverage are ownership, rights of use, improved law enforcement, etc (IPCC, 2019).

There is an urgent need to address forest degradation and loss, not only as a climate change mitigation measure, but also to protect essential ecosystem services for adaptation and sustainable development. Tackling the drivers of forest degradation and loss requires global coordination and cooperation. The G20 countries, which host more than half of the world's forests (and over 60% of the world's primary forest), have a key role to play (FAO, 2020).

1.2 Background and development regarding multilateral cooperation

As the implications of forest loss and degradation become more apparent, forest protection has gained importance on the agendas of many countries. In 2007, the international community recognised the role of forest protection for climate change mitigation in the Bali Action Plan, referring to emissions from deforestation and forest degradation (REDD) in developing countries (later extended to the policy framework for reducing emissions from deforestation and degradation and foster conservation, sustainable management of forests, and enhancement of forest carbon stocks (REDD+)). The UN-REDD Programme was started to assist countries in developing the capacities needed to meet the UNFCCC requirement and to qualify for results-based payments. In 2013 the Warsaw Framework for REDD+ was established, specifying further requirements, e.g. for forest reference levels for assessing performance.

Meanwhile a whole range of instruments and multilateral cooperation already exist (for a brief non-comprehensive overview see Table 2) that approach forest protection for climate change mitigation from different angles by aiming to reduce emissions from deforestation and forest degradation, promote sustainable forest management, restore forest landscapes and prevent illegal wood use.

Rapid advancements in the field of monitoring forest extent have been achieved through national and international initiatives in the scientific community and private sector (e.g. Global Forest Watch) as well as through building national capacities (Romijn et al., 2015). These were facilitated by reduced costs and increased availability of wall-to-wall mapping information from satellites. However, further capacity building is still required in many countries to detect and accurately assess forest area change (Herold et al., 2019).

Focusing on the drivers of deforestation is key to reduce deforestation. The EU has identified its supply chains as one of the drivers of global forest loss and set up policies to combat illegal logging, protect existing forests and restore degraded ecosystems (European Commission 2019). The European Commission currently carries out an impact assessment of regulatory and non-regulatory options for additional demand side measures to minimize the risk that products linked to deforestation are placed on the EU market and to develop a definition of deforestation-free supply chains.

Finally, the land sector has been included in 121 Nationally Determined Contributions (NDCs). However, only very few of these provide a fully quantitative target with clear information on how land use and land use change and forestry mitigation will contribute towards the target (Fyson and Jeffery, 2019). Moreover, it remains unclear to what degree countries will rely on the land sector in the long-term to provide negative emissions that are supposed to balance remaining emissions by 2050. In the short-term, until 2030, sectoral transformations have to happen in parallel and in an integrated manner. Thus, efforts in the land use sector should not distract from necessary transformations in other sectors. There is no space for offsetting one sector against the other, given the urgency to achieve additional emission reductions (Fuentes Hutfilter et al., 2020).

There is clearly a gap between the magnitude of multilateral and international initiatives and their concrete consideration in NDCs, where ambition for 2030 is set. There is clearly a gap between the magnitude of multilateral and international initiatives and their concrete consideration in NDCs, where ambition for 2030 is set. In 2020 and beyond, the COVID-19 pandemic provided a potential additional obstacle for countries to implement their commitments and to achieve their targets due to priority for measures to contain the pandemic and respond to economic implications.

1.3 Role of the G20 and other relevant states in the policy field

The G20 countries Argentina, Australia, Indonesia and Brazil have high deforestation rates due to the high demand for timber production and agricultural expansion (Climate Transparency, 2019). It is essential to address those drivers of deforestation in order to lower land-based emissions. Certification schemes for sustainable supply chains and the redirection of public subsidies away from industries that are fostering deforestation could be possible ways of addressing the issue. However, businesses and governments in the G20 should be aware of the risk that certification schemes for carbon sequestration in forest ecosystems could pose for overall mitigation. Issues of leakage, non-permanence, and non-additionality of land use emissions reductions and removals might limit their use in offsetting fossil fuel emissions (Mace et al., 2018).

Few G20 countries have policies and explicit national targets for reaching net-zero deforestation (e.g. Mexico by 2030). Brazil had in 2008 set itself a target of reaching “net-zero deforestation“ by 2015 but has corrected this to a target of “zero illegal deforestation“ by 2030 (Climate Transparency, 2019). The EU has implemented the LULUCF Regulation and committed to a “no-debit” target for 2021-2030 (European Commission, 2018a). Germany aims to “maintain and

enlarge" its current LULCUF sink until 2050 (BMU, 2016). China has committed to increase the forest stock volume by around 4.5 billion m^3, compared to 2005 levels, and has implemented forest conservation policy through the early 21st century. For example, its National Forest Protection Program aims to recover native forests and has more recently been expanded to ban commercial logging in native forests (Climate Action Tracker, 2020a).

India has committed to creating an additional (cumulative) carbon sink of 2.5–3 Gt CO_2e through additional forest and tree cover by 2030 (Climate Action Tracker, 2020b). The government's support of coal mining expansion has brought concerns about some regions with large tree cover loss and destruction of biodiversity (Climate Transparency, 2020).

On the EU level, the EU Renewable Energy Directive of 2018 defined sustainability criteria for imported biofuel. Therefore, companies need to demonstrate that their production does not lead to direct land use changes and to minimise the risk of indirect land use change (European Commission, 2018b). More recently, the EU adopted a communication on stepping up EU action to protect and restore the world's forests. It aims at protecting and improving the health of existing forests, especially primary forests, and significantly increasing sustainable, biodiverse forest coverage worldwide. The communication sets out five priorities: 1) reduce the footprint of EU consumption on land; 2) work in partnership with producer countries to reduce pressures on forests; 3) strengthen international cooperation to halt deforestation and forest degradation, and encourage forest restoration; 4) redirect finance to support more sustainable land-use practices; and 5) support the availability and quality of information on forests and commodity supply chains (European Commission, 2019).

Stable and strong institutional capacities to monitor and ensure compliance are essential for the effectiveness of such directives and regulations. For example, the record-breaking number of forest fires in 2019 and increasing deforestation rates in Brazil are partially a result of the weakened monitoring authorities (Climate Transparency, 2019).

Strassburg et al. (2020) found that 299 Gt CO_2 could be sequestered if 15 % of converted lands in priority areas were restored. Such priority areas are partly located in G20 countries, namely India, China, Indonesia, Mexico, and Brazil. The restoration of these high priority areas would have implications for all G20 countries, either directly or indirectly through supply chains and trade. It will be essential for multilateral initiatives for forest protection to go beyond the G20, for example by involving countries of the Congo Basin that together host the second largest tropical forest region. Such initiatives will also need to be developed to maximise potential synergies with a sustainable development and at the same time minimise potential trade-offs (IPCC, 2019).

1.4 Methodology and structure of the paper

Section 2 of this paper provides a non-exhaustive overview of the multilateral initiatives on forest protection, with particular focus on intergovernmental initiatives. The section further assesses a subset of initiatives in greater detail. The analysis of initiatives uses the following criteria elaborated in detail in the methodology report (Böttcher and Cames, 2021):

- **Chances of success and effectiveness**: What were the general lessons learned, success stories, failures, as well as internal and external hurdles that the initiative has faced? What were the obstacles to political feasibility?
- **Efficiency and costs**: How cost-effective is the abatement potential that the initiative expects to mobilize, and how cost-effective is the initiative's approach for doing so?

What are the (transaction) costs of the initiative in question? What other costs and/or benefits need to be considered?

- **Transparency and institutional structures**: Can the initiative be implemented within existing institutional structures? To what extent does the multilateral framework offer the possibility of ensuring transparency in the cooperation between states and the resulting emission reductions?
- **Sustainability and environmental integrity**: To what extent does the initiative produce positive or negative ecological effects through the reduction of emissions? Which aspects of the UN Sustainable Development Goals (SDGs) are positively or negatively affected?
- **Scope for improvements and need for additional multilateral cooperation**: What are the gaps in the initiative's scope that need to be addressed? Which opportunities exist for the initiative to be expanded to other actors and/or additional countries? How can coherence between initiatives be increased?

Based on the findings of the assessment and the overview of the landscape of initiatives, section 3 identifies several options for developing new initiatives or enhancing existing ones. The suggestions are developed with a view on closing the mitigation ambition and action gap as discussed in Fuentes Hutfilter et al. (2020). The conclusions and recommendations derived from this assessment are presented in section 4.

2 Evaluation of existing initiatives for multilateral cooperation

2.1 Selection of initiatives

Initiatives of international cooperation in the policy field of forest protection and restoration are numerous and the selection of a very limited number for the analysis cannot provide a comprehensive coverage. Almost 50 international initiatives were identified and grouped into different types of collaboration, ranging from legally binding bilateral treaties and international funding sources for implementing forest protection to voluntarily subscribed standards by companies and intended collaboration at governmental level.

Not all identified initiatives are strictly speaking multilateral. Some are mainly driven by the private sector; some represent donors that provide funding for mitigation projects. However, such initiatives can form the basis for options of multilateral cooperation. Initiatives are successful if they can provoke transformative changes in the policy field. These require engagement by private and public stakeholders as well as civil society.

Moreover, not all initiatives directly target emission reductions from land use or enhancement of natural sinks but are instead driven by rural development, biodiversity protection and restoration targets. However, the initiatives have in common that they all address land use change and its implications, which includes emissions of GHGs and carbon storage.

Table 2 provides an exemplary overview of 11 prominent initiatives. The initiatives were selected to cover the broad range of potential approaches to forest protection, provide insights into different geographical scopes and address different drivers at work related to forest protection. Moreover, they represent initiatives with significant political importance in the policy field.

Emission reductions and increased removals by the land use sector can be achieved through different pathways, addressing different stakeholders, processes and drivers. Important pathways are avoided deforestation and degradation, forest protection and forest restoration. Important stakeholders are government actors at different policy levels, the private sector, consumers, donors and civil society. Important processes and drivers are sustainable consumption of forestry and agriculture products, trade and legality.

The list of 11 initiatives was reduced to five initiatives that were used for the further analysis by the authors. This limitation set a focus on a few representative initiatives but still allowed a reasonable overview of different angles, pathways, stakeholders, processes and drivers that need to be considered for improving multilateral cooperation. The selection also considered the **expected effectiveness** of the initiative, especially regarding its contribution to closing the ambition gap, the occurrence in NDCs and other policy documents but also the **geographical scope** to balance the representation of countries engaged in or targeted by the analyzed initiatives. The selection of initiatives was also oriented towards **identifying G20 and other important countries that play a special role** in the selected policy areas (Böttcher and Cames, 2021).

In the following sections we present and analyse five existing initiatives for forest protection and restoration, including initiatives for:

- restoring degraded forest ecosystems (Bonn Challenge),
- addressing illegal logging and trade of timber through bilateral treaties (EU FLEGT),

- regional engagement for forest protection in high forest area countries (CAFI),
- funding for jurisdictional approaches to reducing emissions from deforestation and degradation (REDD+, BioCarbon Fund ISFL), and
- cleaning supply chains of globally traded commodities from deforestation (Accountability Framework initiative).

Table 2: Exemplary overview of existing international activities for forest protection and restoration

Name of the initiative	Active since	Type of initiative/activities covered	Focus	Membership
Bonn Challenge	2011	Forest restoration	Mobilizing political support and regional initiatives to restore forests	61 countries
EU FLEGT	2003	Legality of timber production and trade	Reducing illegal logging by strengthening sustainable and legal forest management, improving governance and promoting trade in legally produced timber	7 countries
Central African Forest Initiative (CAFI)	2015	Reducing forest related emissions	Forest protection, land use and agricultural activities; close collaboration with UN-REDD Programme and building on work of other regional initiatives	6 participating countries, 6 donor countries, 1 partner and several collaborations
BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL)	2013	Reducing forest related emissions	Reduce GHG emissions from the land use sector through grants and results-based financing for REDD+, climate smart agriculture, and smarter land use planning and policies	5 participating countries, 5 donor countries, several companies involved
Accountability Framework initiative (AFi)	2019	Supply chain management	Ethical supply chain commitments in agriculture and forestry	Multiple stakeholders
Trase	2016	Information system	Provide public supply chain information system for companies, governments, investors etc.	8 donors (countries, NGOs, foundation), open access platform
Rainforest Alliance	1986	Certification	Conserve biodiversity and ensure sustainable livelihoods by transforming land use practices, business practices and consumer behaviour	Over 5000 companies, projects in over 70 countries
REDD Early Mover Programme	2012-2019	Reducing forest related emissions	Supported REDD pioneers who took the initiative themselves in forest conservation for climate change mitigation	Was active in 3 countries
Governors' Climate and Forests Task Force (GCF)	2009	Reducing forest related emissions	Protect tropical forests, reduce emissions from deforestation and forest degradation, promote realistic pathways to forest-maintaining rural development	38 countries
UN Green Climate Fund	2010	Reducing forest related emissions	Helping developing countries reduce their greenhouse gas emissions and enhance ability to respond to climate change	25 countries
Global Forest Watch	2014	Information system	Providing data and tools for monitoring forests to empower people to protect global forests	Over 4 million users (multiple actors), 9 funders (countries and institutions), several partners and founding partners

Source: own compilation.

2.2 Bonn Challenge

2.2.1 Short description

In 2011, the Bonn Challenge was launched by the International Union for Conservation of Nature (IUCN) and the Government of Germany[1]. It aims to mobilise political support and regional initiatives to restore forests on 150 Mha of land by 2020 and 350 Mha by 2030. The latter is the aim of the UN New York Declaration on Forests (NYDF) endorsed at the United Nations Climate Summit in 2014.

As of today, the Bonn Challenge involves 61 countries with 74 voluntary pledges for restoring more than 210 Mha (IUCN, 2020). The Bonn Challenge builds on the Forest Landscape Restoration (FLR) approach, a concept introduced by the World Wide Fund for Nature (WWF) and IUCN that aims to reduce and reverse land degradation in order to restore ecological integrity and enhance human well-being across deforested or degraded forest landscapes[2].

The aims of the Bonn Challenge are aligned with the Paris Agreement, the Sustainable Development Goals (SDGs), the Land Degradation Neutrality (LDN) goal, and the Aichi Biodiversity Targets. Further, the initiative motivates participating countries and organisations to collaborate politically and technically on challenges through regional platforms. In this regard, the following initiatives have been established: Initiative 20x20 in Latin America and the Caribbean, the African Forest Landscape Restoration Initiative (AFR100), the Agadir Commitment in the Mediterranean region, and ECCA30 in Europe, Caucasus and Central Asia[3].

2.2.2 Chances of success and effectiveness

The Bonn Challenge is a voluntary initiative. This involves nationally determined pledges that refer to very different types of restoration activities (IUCN, 2020). The initiative has been successful in collecting pledges from countries and organisation during the first decade. It involves large developing and emerging countries (e.g. Brazil, India) but also developed countries (e.g. USA). However, a number of important players are missing, including China, Indonesia and the EU.

Due to its voluntary character, the total sum of pledged restoration area is relatively high. Nationally determined targets for restoration also result in a high ownership by countries and stakeholders. However, the realization of restoration on the pledged areas requires multi-stakeholder and multi-governance commitment in countries for these targets. The Bonn Challenge Barometer, an IUCN project funded by the German International Climate Initiative (IKI) analysed the state of implementation of pledges in selected countries and found that 13 countries reported a total of 43.7 Mha in transition to restoration (Dave et al., 2019). This represents 29 % of the Bonn Challenge 2020 target. The Barometer also indicates that the benefits from documented activities include an additional 354,000 jobs and 1.4 Gt CO_2e sequestered (Dave et al., 2019).

The definition of restoration is very broad and includes natural regeneration but also plantations and agroforestry. Consequently, the activities included in the country pledges vary greatly. Lewis et al. (2019) report that almost half of the pledged area is set to become commercial plantations. Their analysis shows that plantations make up 45 % of all commitments, especially in large countries such as Brazil, China, Indonesia, Nigeria and the Democratic Republic of the Congo. Due to the broad definition, pledges include timber species

[1] https://www.bonnchallenge.org
[2] https://www.iucn.org/theme/forests/our-work/forest-landscape-restoration
[3] https://www.bonnchallenge.org/regional-action

like Eucalyptus and Acacia as well as rubber and even oil palms. Meanwhile, they found that only about one-third of the total area is to be restored through natural regeneration. These findings contrast with those of the Bonn Challenge Barometer, which analysed five countries in detail (Brazil, El Salvador, Mexico, Rwanda and the United States) and found that restoring degraded forest lands through silviculture and natural regeneration, and the improvement of agricultural lands through agroforestry, are the main FLR strategies (87 %, Dave et al. 2019). Commercial plantations only accounted for 2 % of FLR activities that were reported to the Barometer. The difference in these findings may lie partly in their coverage: Lewis et al. include other national commitments (totalling 292 Mha of restoration, of which 135 Mha is committed to under the Bonn Challenge), while the Barometer uses data from the five countries with in-depth Barometer application.

For assessing the effectiveness of restoration regarding storage of carbon in vegetation and soil, the quality of restoration matters. According to Lewis et al. (2019), restoration of the total 350 Mha to natural forests could sequester an additional 154 Gt CO_2 by 2100. Restoring the same area with plantations would store only 4 Gt CO_2, and agroforestry 26 Gt CO_2. This reveals that the level of effectiveness greatly varies with restoration type. Lewis et al. (2019) estimate that the current mix of restoration types pledged would limit the carbon storage to one third of the full potential. Apart from its mitigation potential, impacts on biodiversity and other ecosystem functions vary greatly between plantations and natural regeneration.

The Bonn Challenge initiative targets restoration of degraded forest ecosystems and does not address forest protection. The challenge earned criticism from NGOs that it diverts investment efforts of countries from forest protection, which is often seen to be more urgent than forest restoration as undisturbed forests are generally more carbon and species rich than regenerating forests. To increase effectiveness, critics advocate for an inclusive perspective that advances restoration of different ecosystem types, not only forests (Temperton et al., 2019).

2.2.3 Efficiency and costs

It can be hypothesised that countries are joining the challenge with different motivations. Depending on the type of restoration, the proposed measures result in different socioeconomic benefits, from increased crop yields and biomass supply to enhanced flood resilience and dust storm prevention. From estimated overall annual benefits of 84 billion USD (including wood products, non-timber forest products, carbon sequestration, increased crop yields and other co-benefits) the estimated yearly budget required for the implementation (36 billion USD for restoration of 150 Mha) would be more than compensated for (FAO and UNCCD, 2015). Verdone and Seidl (2017) estimated that the Bonn Challenge could in total generate a net benefit of between 0.7 and 9 trillion USD due to assumed co-benefits.

2.2.4 Transparency and institutional structures

The IUCN's Bonn Challenge Barometer is a framework for tracking progress and supporting pledgers in providing sufficient information to assess the implementation of national and subnational FLR pledges. Based on a standardized protocol, it records policies and institutional frameworks, financial flows and technical planning information as well as results and benefits, including the land area brought into restoration, climate mitigation, biodiversity conservation and job creation benefits associated with it.

However, measuring progress is based on voluntary feedback from the respective countries and other stakeholders, bearing the risk of incomplete reporting. There is also a lack of technical quality assurance in relation to the protection of biodiversity and the involvement of the local population regarding the implementation of pledges (Hillbrand et al., 2019).

The Bonn Challenge has been endorsed by civil society and private sector stakeholders. Still, funds from the private sector are underrepresented. There is the potential for stakeholders from industrialised countries as well as local investors sourcing products from the restored landscapes to provide investment (Hillbrand et al., 2019).

2.2.5 Sustainability and environmental integrity

Restored forests can help to alleviate poverty in low-income regions, as well as conserve biodiversity and support the United Nations Sustainable Development Goals — notably, goals 1 (no poverty), 6 (clean water), 11 (sustainable communities), 13 (climate action) and 15 (life on land). However, the concept of FLR does not resolve conflicting land use issues automatically. Moreover, there is a risk of increasing land use and also land tenure conflicts in targeted regions if there are no environmental and social safeguards regarding the implementation of restoration. As discussed above, the definition of FLR is too broad to mitigate the risk of large-scale monoculture plantations being counted under the restoration initiative (Hillbrand et al., 2019).

There are also feedbacks to be expected from the implementation of restoration pledges. Increasing the area of plantations could reduce profitability, currently a driver for implementation. Lewis et al. (2019) estimate that if current restoration plans of the initiative are enacted, the world's tropical and subtropical plantation estate would rise by 157 Mha to 237 Mha, with likely implications for prices of woodchip and paper products. There is currently only a limited understanding of the socio-economic implications of such changes in markets (Lewis et al., 2019).

Overall climate and environmental integrity depend on the net effects of FLR and its interactions with other policy targets, such as the reduction of deforestation. A comprehensive representation of restoration targets in NDCs and national long-term low emissions development strategies is therefore of utmost importance to improve the coherence and sustainability of policies.

2.2.6 Scope for improvements and need for additional multilateral cooperation

The UN declared the next decade (2021-2030) as the Decade on Ecosystem Restoration. This offers the opportunity to address the challenge from various multilateral angles.

Forest landscape restoration is most effective when disturbed lands are transferred close to their previous high-carbon state. There is a lack of clear definitions, transparent reporting and identification of trade-offs between different restoration types (Lewis et al., 2019). Even the definition of "degraded" is difficult and subject to national circumstances, reducing comparability of efforts and assessment of effectiveness. To better address potential trade-offs when setting restoration objectives, stakeholders need to be supported in identifying optimum responses to competing pressures for food, fuel, fodder, fibre and other ecosystem services on the lands targeted with FLR.

The Bonn Challenge makes no reference to the issue of non-permanence, a key criterion for assessing mitigation options in the land use sector. Non-permanence of regained carbon stock can be a particular issue for ecosystems that are restored as actively managed land for commercial production. There are concepts for addressing non-permanence that can be drawn from other processes, for example regarding carbon crediting and certification. Implementing safeguards against non-permanence would reduce the nominal climate mitigation impact of the initiative that can be accounted for. It will be important to assess the mitigation potential of restoration realistically, taking non-permanence risks from climate change impacts and management decisions into account.

A transparent and independent monitoring system for the Bonn Challenge does not yet exist. It is thus difficult to obtain a general overview of measures currently being implemented, particularly at the local level. In general, there is too little emphasis on the earth observation technologies needed for generating transparent data regarding FLR potential assessment, planning and implementation.

There is potential for better aligning activities under the Bonn Challenge with other international organisations, policies and initiatives. This includes the need for a better representation of national restoration goals in NDCs, with sufficient detail on the nature of planned restoration activities to ensure that they align with climate mitigation objectives. The 2020 Bonn Challenge report states that there is a lack of clear quantitative linkages to countries' NDCs: of 166 NDCs analysed, 128 countries included targets aligned with FLR, but only 30 % of the NDCs expressed quantitative targets (IUCN, 2020).

2.3 EU Forest Law Enforcement, Governance and Trade (FLEGT)

2.3.1 Short description

In 2003, the EU adopted the Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan. It includes the EU Timber Regulation (EUTR) that came into force in 2013 to address illegal logging by ensuring that no illegal timber or timber products can be sold in the EU. EUTR forms an important policy framework to support EU efforts in tackling the problem of illegal logging and related trade[4]. The Action Plan includes measures to address the issue of illegal timber through different action areas, including activities to promote trade in legal timber (e.g. through licensing of exports), promotion of public timber procurement policies, and support for private sector initiatives (e.g. through voluntary codes of conduct for private companies to source legal timber).

Core element of FLEGT are bilaterally agreed and legally binding Voluntary Partnership Agreements (VPAs) between the European Union and timber-producing countries outside the EU. So far, seven countries have signed VPAs with the EU[5] (Cameroon, Central African Republic, Ghana, Liberia, Republic of Congo, Vietnam and Indonesia). In these countries, systems have (Indonesia) or are being developed to control, verify and license legal timber. Indonesia is currently the only country that is issuing FLEGT licenses. Two more countries have concluded negotiations with the EU (Guyana, Honduras) and six more are in negotiations with the EU in order to participate in FLEGT (Côte d'Ivoire, Democratic Republic of the Congo, Gabon, Laos, Malaysia and Thailand).

2.3.2 Chances of success and effectiveness

In recent years, the FLEGT initiative has been assessed by EU bodies and scrutinised by NGOs and the scientific community. In 2014, the European Commission started an evaluation of the first years of implementation (2003-2014) of the Action Plan. A following performance audit (ECA, 2015) resulted in conclusions of the Council (Council of EU, 2016), as well as a Commission Staff Working Document (EC, 2016) and finally a resolution of the European Parliament (European Parliament, 2019).

Where implemented, VPAs und FLEGT are seen to be an effective instrument in promoting and improving forest governance, especially through the establishment of effective multi-

[4] http://www.flegt.org
[5] https://www.flegtimm.eu/index.php/vpa-countries

stakeholder participation processes, the clarification of legal frameworks, policy reforms, increased transparency and accountability, and awareness raising.

Crucial for the overall success of the initiative is the involvement of major timber producing countries, including both developing and emerging economies. In 2019, FAO recorded India, China, Brazil, Indonesia, Ethiopia, Democratic Republic of the Congo and Nigeria as being within the group of the largest roundwood producers, with some of them being major suppliers to the EU. However, among those only Indonesia has achieved a legal agreement with EU, and major import streams remain insufficiently regulated.

The largest timber importing countries besides the EU are China, Canada, Korea, India, and the USA. Similar legal requirements for imported timber have been introduced for the US (Amendment of the Lacey Act), Korea (Sustainable Use of Timbers Act), Australia (Illegal Logging Prohibition Act), China (Forest Law amended to include a nationwide ban on illegally sourced timber and increased traceability) and Japan (Green Purchasing Law). FLEGT stands out from these national regulations as the negotiated VPAs aim to reconcile ambiguous and contradictory legislation in producer countries and fill regulatory gaps, instead of simply imposing regulation. Moreover, it addresses the underlying governance issues that give rise to illegal harvesting and related trade, instead of applying merely requirements for placing legal timber on the market.

As the VPA ensures legality to all exported, imported and domestically marketed timber, there are spill over effects through the recognition of FLEGT licenses by other trade partners. An important aspect of the VPA process is the high ownership that can be achieved for producing countries, leading to higher chances for longer commitments by countries. However, it is also a factor slowing the establishment of FLEGT to more countries.

2.3.3 Efficiency and costs

The process of establishing VPAs is complex for producer countries and requires intensive communication and coordination between different authorities, improved transparency and accountability, and commitment for reforms of forest governance. The process from negotiations to VPA signature and ratification typically stretches over several years. However, the establishment of effective national processes to guarantee legality of timber production increases overall accountability of authorities and can also support the development of similar processes for other supply chains. For example, there is an initiative in Indonesia broadly inspired by the FLEGT approach that includes palm oil production (Terpercaya Initiative[6]). The initiative builds on national stakeholders' identifying indicators of sustainability derived from the national legal framework and using them as a basis of a jurisdictional sustainability monitoring system. A jurisdictional approach refers to a government-led, comprehensive approach to forest and land use across one or more legally defined territories (Boyd et al., 2018). The cleaning effect on the supply chain for timber and achieved consensus at national level on what is legal production and trade can thus provide fertile grounds for other goods and markets.

VPA implementation is typically financially supported by funds for projects from EU and EU Member States. According to the European Commission-and Member State-Surveys 2015 undertaken in the context of the FLEGT evaluation, the total amount spent on all FLEGT actions in the period 2003–2014 by the EC and MS amounted to 882 million EUR.

[6] https://www.euredd.efi.int/publications/demonstrating-and-promoting-district-level-sustainable-commodity-production

2.3.4 Transparency and institutional structures

VPAs include as central elements a system for assuring timber legality and transparency requirements for access to information on forest management and administration. They establish platforms for dialogue amongst producer country representatives, including civil society, businesses and government and a committee for joint oversight of the VPA with the EU, within which stakeholders can raise and manage issues around the VPA's implementation. Such instruments form the basis for transparency and similarly build ownership at country level as an important prerequisite for successful implementation at all institutional levels.

The EU funded FLEGT Independent Market Monitoring (IMM)[7] project of the International Timber Trade Organization (ITTO) independently assesses trade and market impacts of VPAs in the EU and partner countries. IMM aims also to provide a reliable data basis on FLEGT timber trade. It collects, analyses, reports and disseminates information on acceptance and trends of FLEGT-licensed timber on the EU market and develops the Sustainable Timber Information Exchange platform (STIX)[8]. IMM thus contributes to monitoring the impacts of FLEGT by tracking trade between EU and partners that results from FLEGT activities.

Technical support to FLEGT for improved monitoring of timber trade is also provided by the Global Timber Tracking Network (GTTN)[9], which promotes the operationalisation of innovative tools for species identification and for determining the geographic origin of wood to verify trade claims. The GTTN is coordinated by the European Forest Institute (EFI) and financed by the German Federal Ministry of Food and Agriculture (BMEL). In addition, the Open Timber Portal (OTP)[10] by the World Resources Institute (WRI) provides independent country-specific information about forest management and harvesting to increase the effectiveness of regulations on illegal logging.

According to the EU FLEGT Facility, Indonesia is planning to refer to FLEGT in its second NDC. The country has also started other initiatives for sustainable supply chains, building on the processes established through the VPA. However, linkages between FLEGT and the UNFCCC processes under the Paris Agreement seem to be rather limited, despite potential synergies.

Stronger transnational linkages exist with the Central African Forest Initiative (CAFI), where FLEGT is referred to in letters of intent, e.g. by Gabon (FLEGT negotiating country).

2.3.5 Sustainability and environmental integrity

Access to the EU timber market is the motivation for producer countries to get engaged with FLEGT, and the development of legal timber markets is an explicit aim of FLEGT. However, it is important to note that legality of timber production is a necessary but not sufficient condition for sustainability of forest use (Jonsson et al., 2015) and issues of legality are only one aspect of global forest loss and degradation. There is thus the risk that established markets increase pressure on forests through increased (legal) timber production leading potentially to forest degradation.

Another risk for environmental integrity relates to producers redirecting illegal timber products to other countries without comparable regulations, or to domestic consumers. Increasing legal wood production can thus have net effects on overall wood production with negative impacts on environmental integrity. There is also a risk that legality compliance processes produce

[7] https://www.flegtimm.eu/
[8] https://stix.global/
[9] https://globaltimbertrackingnetwork.org
[10] https://www.opentimberportal.org/

advantages for large, export-oriented companies compared to smaller firms, due to the perceived costs of legality verification (Jonsson et al., 2015).

Private sector certification schemes such as the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification Schemes (PEFC) serve as safeguards for economic, social and environmental sustainability. FLEGT does not regard certification as a tool for demonstrating legality as liability for effectively excluding illegal timber from the market lies with the operator. Still, there is room for more mutual reference and alignment of requirements. Stringent certification can provide additional checks by third party organisations and support traceability and control of illegal timber not entering the supply chain.

2.3.6 Scope for improvements and need for additional multilateral cooperation

The recent evaluation and scrutiny of FLEGT has identified gaps and weaknesses but also opportunities for FLEGT. One gap relates to a lack of evidence that FLEGT contributes to overall increased legality of timber production. The new work plan for FLEGT implementation for 2018-2022 therefore envisages the construction of an indicator-based framework for monitoring the global impact of the initiative and mechanisms to review progress on VPA negotiation and implementation. Recent research by CIFOR provides first evidence that VPA processes have contributed towards a decrease in illegal logging rates in Ghana and Indonesia (Cerrutti et al. 2020)

Zeitlin and Overdevest (2020) derive an overall positive picture of FLEGT. They see the initiative in the centre of a transnational timber legality regime. They identify potential for important future improvements regarding enforcement reciprocity between the EUTR and other timber legality legislation outside EU. They also see the need for more mutual learning from the implementation phase, e.g. through collaborative trainings and assessments.

The global information basis on illegal logging has been advanced considerably in recent years through civil society and the scientific community. To further increase the coherence of efforts to promote and enforce timber legality, more mutual references between private certification schemes and FLEGT could be useful to complementarily improve sustainability of practices through certification not only at the operator but also the overall sector level. While certification schemes could benefit from evaluations by FLEGT to align legality definitions in standards, FLEGT could relate to certification schemes to go beyond timber legality and include socioeconomic development standards and objectives as it is already an option for VPA countries.

To go beyond the effective reduction of illegal logging to reduced deforestation and forest degradation, closer linkages between FLEGT and other supply chains could be established. Initiatives on other supply chains can build on the FLEGT approach by grounding the definition of sustainability into national legal frameworks and establishing sustainability indicators through an inclusive multi-stakeholder process for application in national monitoring systems.

2.4 Central African Forest Initiative (CAFI)

2.4.1 Short description

The Central African Forest Initiative (CAFI) was launched in 2015 during the United Nations Sustainable Development Summit in New York. This initiative is focussed on high-forest cover countries in Central Africa with the objective of protecting these forests to mitigate climate change and reduce poverty, while supporting REDD+ and low emission development investments (FAO 2020). CAFI aims to scale up international support to achieve

transformational reforms and investments on the ground. The initiative works in collaboration with the UN-REDD Programme and builds on experiences and lessons learned from the Congo Basin Forest Fund (CBFF). In order to achieve the objective, CAFI's approach is to conduct a "high-level policy dialogue and direct investments on the ground" (CAFI, 2020). CAFI's expected outcomes and its underlying Theory of Change are described in the Terms of Reference (CAFI, 2019).

At the start of the process, each partner country must develop a national investment framework to address drivers of deforestation and forest degradation, which is then reviewed by independent experts. Afterwards, the CAFI Executive Board, together with the partner countries' government, create a Letter of Intent. In this document, the agreed upon policy reforms and programs, and the corresponding financial aid given by CAFI are determined. The financial aid is provided by CAFI after reaching the milestones, also determined in the Letter of Intent, which could be e.g. developing and adopting policies or setting and achieving emission reduction targets. Implementing organisations, e.g. World Bank or FAO, support the partner countries with developing and implementing their programs[11]. As of June 2020, CAFI counted 22 active programs in 6 partnering countries and about 219 million USD allocated funds[12]. The six partnering countries are: Central African Republic, Republic of Congo, Democratic Republic of the Congo, Cameroon, Equatorial Guinea and Gabon.

2.4.2 Chances of success and effectiveness

Of the six country partnerships, the partnership between CAFI and the Democratic Republic of Congo (DRC) has made most progress and can provide helpful lessons learned for the other partnerships. By 2018, more than 70 % of the formulated milestones in the Letter of Intent of the DRC were either fully or partially met. In the forest sector, e.g. the provincial Forest Reference Emissions Level was submitted to the UNFCCC and studies on alternatives to wood energy were carried out (CAFI, 2020). However, in both the DRC and Gabon, some of the developed programmes have led to tensions between the implementing agencies and the government. According to the annual report of 2019 (CAFI, 2020), the reason for these tensions was the very slow start of the programmes, which delayed achievement of the milestones and therefore delayed the receipt of financial support by CAFI. However, the report does not explain what slowed down the process. It could be assumed that political instabilities are one factor. CAFI plans to address the issue of delays in their revised Terms of Reference 2020. Additionally, an identified internal obstacle is the understaffed CAFI Secretariat, which is affecting the initiatives performance negatively and delays processes (CAFI, 2020).

Despite some of the initial challenges, there are positive features of the initiative that improve the chances of success. Due to the geographical vicinity and similar conditions for the partnering countries under CAFI, processes and activities can be transferred between them more easily. In addition, the close collaboration between participating countries and the implementing agencies, as well as with UN-REDD Programme and other initiatives in the region (e.g. Congo Basin Forest Fund), offers a good basis for effective implementation.

2.4.3 Efficiency and costs

The initiative aims to achieve GHG emission reductions through its activities. Emissions reductions of 40 million tonnes of CO_2eq are estimated to be the total result of the programmes implemented so far. However, this estimation presented in the annual report 2019 is only based

[11] https://www.cafi.org/content/cafi/en/home/our-work/governance.html
[12] https://www.cafi.org/content/cafi/en/home/our-work/our-portfolio.html

on data available from provincial programmes in DRC. The participating countries did not commit to a joint reduction target, therefore national targets can vary greatly.

A new agreement was achieved in 2019 between CAFI and Gabon, with a value of up to 150 million USD for results-based payments over a 10-year period, including already verified results since 2016, and future results up until 2025. The agreement sets a carbon price floor of 10 USD per tonne of certified results and covers both reducing emissions from deforestation and forest degradation as well as removals by natural forests (accounted against a historical reference level) (CAFI, 2020).

Until December 2019, CAFI disbursed over 22 million USD towards the forest sector[13]. In total CAFI disbursed over 137 million USD so far. The largest share was directed in 2019 towards the demography (25 %) and agriculture (24 %) sectors. The forest sector received 15 % of CAFI's investments in 2019 (CAFI, 2020).

CAFI's indirect support costs amount to 7 % of the programme costs. This corresponds to the rate established by the United Nations Development Group (UNDG and CAFI, 2020).

2.4.4 Transparency and institutional structures

CAFI is managed by three different entities: 1) the Executive Board, which decides about allocation of resources from the CAFI fund and coordinates the participating countries, 2) the Multi-Partner Trust Fund Office of the United Nations, which manages the CAFI fund, and 3) UN agencies, the World Bank as well as bilateral cooperation agencies, which organise the implementation of projects within the partnering countries. Next to the six Central African partnering countries, a coalition of donors including the European Union (EU), France, Norway, Germany, UK, Netherlands and South Korea as well as the south-south partner Brazil participate in the initiative. Until the end of 2019, only France, Norway and the EU made deposits to the CAFI Fund, but in 2019 funding commitments have been signed by Germany (30 million USD) and South Korea (2 million USD) (CAFI, 2020).

Transparent monitoring and reporting procedures seem to be an important part of CAFI's work. Annual reports, the Executive Board decisions as well as meeting protocols, progress reports of the partnerships and financial annual statements are easily available on the CAFI website. However, in 2020, Transparency International (TI) reviewed CAFI's internal procedures and concluded that the policies and practices of CAFI in regard to integrity, transparency and accountability show several weaknesses (TI, 2020). One weakness is stated to be that CAFI relies on its member countries to adhere to their own integrity systems, instead of having its own anti-corruption and transparency policy. Also, besides the Executive Board members, no external third party, such as civil society or indigenous people representatives, are allowed to participate in board meetings. These stakeholders should be able to act as observers in all funding decisions.

2.4.5 Sustainability and environmental integrity

Beyond direct CO_2 emissions reductions achieved through protecting tropical rainforests in Central Africa, CAFI aims to achieve additional environmental benefits.

Countries need to report information on how relevant safeguards have been addressed and respected during the implementation of CAFI-supported activities, e.g.: actions to address the risks of reversals and/or actions to reduce displacement of emissions. Specific benefits and risks anticipated from the activities should be outlined (CAFI, 2019). For this assessment, CAFI recommends the UN-REDD Programme's Benefits and Risks Tool (BeRT), which was developed

[13] https://www.cafi.org/content/cafi/en/home/our-work/our-results/Forests.html

for countries to better address and respect the Cancun Safeguards[14]. The provided guidance is also used for the assessment of the proposed National Investment Frameworks by potential partner countries.

The initiative addresses the following SDGs: (13) climate action and (1) no poverty as main impacts[15], augmented by (5) gender equality, (15) life on land and (17) partnerships for the goals.

2.4.6 Scope for improvements and need for additional multilateral cooperation

Central challenges for CAFI are instable political conditions, low levels of transparency and insufficient governance, especially in the forestry sector in some of the partner countries (CAFI 2020). Lack of political engagement and continuity of processes are an issue. Electoral transitions within the country can provide new difficulties and delays in planning and implementation processes. The risk of corruption is high, resulting in a poor business environment, as evidenced by the World Bank Doing Business Index[16]. However, CAFI already supports countries in improving the situation of land tenure, transparency, and simplification of forest and natural resources governance (such as permitting and taxing). CAFI's efforts regarding national investment plans need to be complemented by an engagement of the private sector in the region, both local and international.

The initiative has achieved most progress in the DRC. Only three of the six participating countries have programmes implemented or planned in the forest sector (Letter of Intent). There is a need to improve capacity building in all countries. This should include an improved public access to information for monitoring of forests in CAFI countries. The Executive Board requested that the CAFI Secretariat together with the implementing agencies develop monitoring and reporting standards and processes for countries and programmes, including spatial data that relate directly to the reporting requirements and develop a concept proposal for a comprehensive monitoring and evaluation system. Such a system is needed to facilitate transparent tracking of progress and impacts of programmes across spatial scales, from the field to provincial and national level. This includes also monitoring of compliance regarding commitments made by stakeholders, e.g. the private sector or local communities.

In order to enable and support synergies between CAFI programmes and other initiatives with similar targets and geographical scope, an alignment of activities is needed. This will not only increase the combined impact of initiatives but also avoid double funding of activities and build more trust among stakeholders, especially donors.

2.5 BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL)

2.5.1 Short description

The BioCarbon Fund (BioCF) Initiative for Sustainable Forest Landscapes (ISFL) is a multilateral facility that seeks to reduce GHG emissions from the land use sector through grants and results-based financing for REDD+, climate smart agriculture, and smarter land use planning and policies[17]. It started its operations in 2013 and is managed by the World Bank and supported by donor governments (Norway, USA, Germany, Switzerland, United Kingdom). Participating

[14] https://anti-corruption.org/un-redd-programme-launches-benefits-and-risks-tool-bert-supporting-countries-to-address-and-respect-the-cancun-safeguards/
[15] https://www.cafi.org/content/cafi/en/home/our-work/SDG%20Action.html
[16] https://www.doingbusiness.org/en/rankings
[17] https://www.worldbank.org/en/news/feature/2013/11/20/biocarbon-fund-initiative-promote-sustainable-forest-landscapes

countries of ISFL to this date are Colombia, Ethiopia, Indonesia, Mexico and Zambia[18]. Many private stakeholders are also involved in this initiative.

The BioCF ISFL integrates public and private sectors, with the aim of reducing deforestation driven by agriculture while supporting sustainable agriculture. The ISFL pilots programs and interventions at a jurisdictional scale in order to test approaches and share lessons learned broadly. A jurisdictional approach refers to a government-led, comprehensive approach to forest and land use across one or more legally defined territories (Boyd et al., 2018). The ultimate aim of the initiative is to enable such land management activities to benefit from the carbon market. The key design elements are working at scale, leveraging partnerships, incentivizing results, and building on experience[19].

The ISFL provides two funding instruments, the BioCFplus and the BioCF Tranche 3. The BioCFplus instrument funds the development of monitoring and reporting systems as well as systems to verify GHG emissions reductions. Further, it supports capacity building efforts and technical assistance in each jurisdiction. The direct funding link with the International Finance Cooperation (IFC) is designed to enhance private sector interest and benefit farmers as well as other private stakeholders directly[20]. The BioCF Tranche 3 offers results-based finance by purchasing verified emissions reductions. With these instruments, the ISFL aims to provide flexible funding opportunities "to generate a feedback loop of funding for sustainable land use" (UNEP, 2019).

In addition to the BioCarbon Fund, the World Bank hosts other complementary climate and forest initiatives, such as the Forest Carbon Partnership Facility (FCPF) and the Forest Investment Program (FIP), each of which has a specific focus.

2.5.2 Chances of success and effectiveness

ISFL has not yet entered its full implementation phase. No emission reductions purchase agreements (ERPAs) or resulting benefit-sharing agreements have been completed. First results providing concrete evidence of reforms in forest and land use policy, legislations or other regulations as a result of ISFL support are expected in 2021 with the signature of ERPAs (ISFL, 2019).

One internal hurdle is the diversity of funding sources that slow progress and increase transaction costs, in addition to the complexity of institutional arrangements of the ISFL. According to an evaluation of ISFL, challenges include competing interests among multiple stakeholders around land use, complexity of implementation in very large jurisdictions, and unequal distribution of emission sources across jurisdictions (DAI, 2019). The evaluation found that in order to improve the ISFL effectiveness, it would be necessary to increase coordination between donor countries, programs and activities (DAI, 2019).

Additionally, as for many other initiatives, ISFL faced substantial barriers to implement its programs in 2020 due to the global pandemic of COVID-19 (ISFL, 2020).

2.5.3 Efficiency and costs

In 2019, 16.7 million USD were disbursed to programs and 87 million USD were leveraged from the private and public sector for ISFL programs (ISFL, 2020). 131 million USD were pledged to the BioCF*plus* to provide countries with resources to develop systems for monitoring, reporting,

[18] https://www.biocarbonfund-isfl.org/who-we-are
[19] https://www.biocarbonfund-isfl.org/approach
[20] http://climateinitiativesplatform.org/index.php/BioCarbon_Fund_Initiative_for_Sustainable_Forest_Landscapes_(ISFL)

and verifying reductions in GHG emissions. Meanwhile, pledges to support BioCF Tranche 3 amounted to USD 218 million in total, aiming at results-based finance through the purchase of verified emission reductions (ISFL, 2020).

The ISFL adopts a landscape-scale approach to address multiple drivers of deforestation. This requires a high level of engagement and cross-sectoral collaboration involving multiple government agencies and ministries across different sectors at the local, subnational and national levels. Therefore, the ISFL can be considered an ambitious program, although there are few pre-existing case studies and lesson-learned to draw upon (DAI, 2019).

By operating within an ecosystem of REDD+ initiatives, the ISFL is able to build on existing work and add value at the jurisdictional level, without needing to develop the necessary institutional infrastructure from scratch.

2.5.4 Transparency and institutional structures

Working with a landscape approach in a jurisdiction implies having to deal with different sectors and different levels of government. The ISFL coordinates international, multilateral, and bilateral agencies using a complex and decentralized structure. The evaluation by DAI (2019) pointed to issues of reporting and communication within and between the various agents that slow processes in the initiative.

The ISFL relies on the national REDD+ readiness work of the Forest Carbon Partnership Facility (FCPF) and the United Nations REDD Programme (UN-REDD) regarding the institutional infrastructure for large-scale land use programs. This allows the ISFL to concentrate efforts at the jurisdictional level, adding value to existing platforms, while not duplicating existing processes.

The ISFL aims to engage relevant stakeholders in participating countries, taking into consideration the existing mechanisms in the country, as well as agents within agriculture, energy, infrastructure, and other relevant sectors.

2.5.5 Sustainability and environmental integrity

The ISFL considers biodiversity and other ecosystem services in its overall design, monitoring and in-country programmes. Ecosystem services are included in several specific activities such as restoration and sustainable land use change as well as in site selection criteria. Social, economic and environmental benefits are included in project planning and implementation, through the application and reporting of safeguards (DAI, 2019).

Through the covered activities (private sector engagement, carbon accounting, gender and social inclusion), ISFL addresses the SDGs (2) zero hunger, (13) climate action and (15) life on land[21].

However, there are concerns that the ISFL's objective of enabling the selling of carbon credits from land management activities on the carbon market cannot guarantee environmental integrity. Furthermore, the selling of such credits under the Paris Agreement's Article 6 market mechanisms would result in the host country not being able to count the associated emissions reductions towards its national target if credits are retained (Carbon Market Watch, 2020).

2.5.6 Scope for improvements and need for additional multilateral cooperation

Overall, there is scope for improvement regarding a closer combination of results-based finance funds with sustainable supply chain commitments on the one hand and climate finance

[21] https://www.biocarbonfund-isfl.org/approach

commitments by companies and countries on the other. This would require improved information flows to better engage stakeholder groups and increase collaboration with a wider group of potential partners. This combination should target results-based finance for direct mitigation as a way of supporting the host country's NDC implementation and not for offsetting through carbon markets.

Barriers for effective delivery of the ISFL country programs are transaction costs of working with different sectors that require time to be familiarized with ISFL objectives and adjust their agendas. Changing government administrations create additional costs, as ownership and capacities need to be rebuilt.

There is a lack of finance for the technical capacity building stage regarding the financing of emission reductions after results have been achieved and verified. This shortfall limits the ability to expand ISFL more rapidly.

Given the challenges associated with land-based mitigation, including non-permanence and measurement uncertainties, as well as the limited Monitoring, Reporting and Verification (MRV) capacities of many developing countries, an alternative option that may be suitable in some contexts is practice-based credits. Such credits would be associated with lower MRV requirements and costs and would prevent greenwashing as companies would use the practice-based credits to demonstrate the provision of financial support, rather than to claim "carbon neutrality" (Carbon Market Watch, 2020).

2.6 Accountability Framework Initiative (AFi)

2.6.1 Short description

The Accountability Framework Initiative (AFi) was launched in June 2019. The main focus of the initiative is to improve the accountability for ethical supply chain commitments in forestry as well as in agriculture (AFi, 2018). Multiple stakeholders are involved in AFi: a Steering Group, which consists of eight different initiatives or organisations and two independent experts; several Supporting Partners; Regional Teams in Asia, Africa and South America; and a Backbone Team consisting of the Meridian Institute and the Rainforest Alliance. Donors are listed as Germany, Norway, Switzerland, United Kingdom and the Gordon and Betty Moore Foundation[22]. Different stakeholders, but especially companies, are encouraged to participate and use the Accountability Framework. AFi provides norms, definitions and guidance to partners on reporting, evaluating and demonstrating progress towards fulfilling commitments regarding sustainable supply chain practices. The initiative aims to bring coherence between governments, private sector, NGOs and other stakeholders (Rainforest Alliance, 2019).

Twelve Core Principles form the foundation of the Accountability Framework. These include principles for setting targets (e.g. for the protection of forests and other natural ecosystems (principle 1)) and principles for implementing ethical supply changes (e.g. supply chain assessment and traceability (principle 5), collaboration for landscape and sectoral sustainability (principle 10), and monitoring and verification (principle 11) (AFI, 2019a).

2.6.2 Chances of success and effectiveness

Since AFi is a fairly new initiative, assessing its chances of success and effectiveness is challenging. From 2017 until 2019, Phase 1, the focus of AFi was to develop and publish the framework and to promote its initial applications. Currently, the initiative is in Phase 2 (2020-

[22] https://accountability-framework.org/about/about-the-initiative/who-is-involved/

2022), which focuses on the broad application of the AFi framework as well as refining and adjusting the framework periodically. Every nine to 18 months, based on user feedback and external context shifts, the framework is planned to be updated (AFi, 2020).

AFi's potential lies in offering practical guidance for private stakeholders to achieve their commitments towards other initiatives regarding sustainable supply chain management and supporting an increased alignment among the various implementation standards and systems. The initiative also promotes and develops a list of existing tools and platforms for monitoring, including instruments for accessing and interpreting remote sensing land cover data. One of those monitoring platforms is Global Forest Watch Pro, which supports companies in measuring and managing the risk of deforestation in commodity supply chains.

More than 400 commitments to avoid deforestation in commodity supply chains have been made by companies (Forest Trends, 2015), but the recent Forest500 report by Global Canopy found that only two companies with commitments under the New York Declaration on Forests are implementing and reporting against them (Global Canopy and Forest500, 2019). A report by Forest Trends came to a similar conclusion: of over 800 companies considered to have forest risk exposure, only 21 have both made commitments to net zero deforestation and are reporting quantitative progress against them (Rothrock et al., 2019). This indicates that there is likely to be demand for the kind of guidance and support that AFi provides.

2.6.3 Efficiency and costs

AFi is mainly an advising and information platform for companies to improve their supply chain actions and mechanisms. Therefore, it only indirectly contributes to measurable GHG emissions reduction through forest protection. Based on the initiative's activities and its mainly indirect contribution to global GHG mitigation, no quantifiable target has been adopted. Comprehensive information about the attributed funds and costs of the initiative were not found as of yet.

2.6.4 Transparency and institutional structures

Generally, multiple global stakeholders are involved in AFi and form a complex network of institutional structures: there are the regional teams, supporting partners, Steering and Backbone Team, independent experts and the donors. In their Theory of Change, AFi grounds its monitoring and evaluation system, which is executed by their Steering group and Backbone Team. However, since AFi was initiated only in the summer of 2019, there are no reports about its activities or assessment of its impact so far.

However, before the official launch of AFi in June 2019, the development team already engaged with stakeholders from the private sector, regional governments, production groups and civil society in order to get feedback on the Accountability Framework. The six consultation workshops were held in Liberia, Ghana, USA, UK, Indonesia and Cameroon[23]. In 2020, AFi started offering a series of company training and learning webinars, which covered e.g. an introduction into AFi's framework but also more specific topic areas such as how to report on forest-risk commodities[24]. Due to the ongoing global COVID-19 pandemic, AFi also co-hosted a webinar with Innovation Forum with the title 'Ethical supply chains in the age of COVID-19'. Featured in this webinar were representatives of commodity-producing companies from Cameroon and Ghana. Furthermore, AFi is providing guidance for companies on how to apply definitions used

[23] https://accountability-framework.org/highlights-from-afi-consultation-workshops-around-the-globe/

[24] https://accountability-framework.org/company-training-and-learning-webinar-series/

in the Accountability Framework and related to deforestation, protection of ecosystems and conversion (AFi, 2019b).

2.6.5 Sustainability and environmental integrity

AFi aims to align their targets with the Sustainable Development Goals (SDGs) and the New York Declaration on Forests. The participating companies or organisations are also encouraged to apply for further standards, partnerships etc. in order to address additional important sustainability issues (AFi, 2019a). AFi addresses important issues, next to forest protection, in their Core Principles, including principle 2) respect for human rights; principle 8) land management and long-term protection; principle 10) collaboration for landscape and sectoral sustainability (AFi, 2019a).

The initiative therefore supports the following Sustainable Development Goals (SDGs): (5) gender equality, (12) responsible consumption and production, (15) life on land and (17) partnerships for the goals.

2.6.6 Scope for improvements and need for additional multilateral cooperation

AFi aims at increasing coherence between the private sector, governments, NGOs, and other actors. However, it remains unclear how measures promoted by AFi relate to national target setting. The initiative makes no reference to the role of supply chains in NDCs. The question can be expanded to other pledges, targets, and initiatives. The Accountability Framework considers itself a reference for setting, implementing, monitoring, and reporting on ethical supply chain commitments. As such it serves to complement and increase the level of alignment and compatibility among existing recognised tools, standards and frameworks. This includes certification and roundtables, international norms and policies, monitoring and reporting tools, jurisdictional and regional initiatives, and responsible finance and investment. In this respect, the initiative already provides a broad basis for increasing coherence. However, details of the alignment still need to be elaborated.

AFi puts supply chain companies into the centre of its activities. However, there are further stakeholders that can be important for enabling, supporting, and incentivizing progress in addressing deforestation. The Accountability Framework could also offer those groups opportunities for improving definitions, tools and approaches. This includes governments seeking to design effective policies and programs supported by private sector and civil society as well as financing institutions seeking to clean their portfolios from deforestation.

With significant dynamics at the national level (e.g. Germany, France, Netherlands, UK and others signature countries of the Amsterdam Declarations) and at the level of the EU (see Communication on Stepping up EU Action on Deforestation and Forest Degradation (European Commission, 2019)), there is a window of opportunity for increasing scope and engagement of AFi and similar initiatives targeting sustainable supply chains.

2.7 Conclusion on gaps and opportunities for multilateral cooperation

There are a multitude of initiatives, alliances, partnerships and networks that are devoted to promoting different aspects of forest protection and forest restoration. Above five existing initiatives were presented and analysed, including initiatives for restoring degraded forest ecosystems (Bonn Challenge), addressing illegal logging and trade of timber through bilateral treaties (EU FLEGT), regional engagement for forest protection in high forest area countries (CAFI), funding for jurisdictional approaches to REDD+ (BioCarbon Fund ISFL), and cleaning supply chains of globally traded commodities from deforestation (AFi).

In general, the analysis has shown that initiatives are effective when they follow a multi-stakeholder and multi-governance approach. The involvement of different levels of governance and different groups of stakeholders can increase ownership and accountability of the groups involved. Such an approach requires more effort and takes more time but is expected to provide a more sustained basis for change. This is especially required if initiatives aim for a transformative change of the respective policy field, sector or system.

Some of the initiatives analysed are very young. Thus, it is difficult to conclusively and consistently derive "lessons learnt" from these initiatives. The analysis of a rather short list of very different initiatives can thus only be exemplary. However, it revealed general gaps and opportunities not only for these initiatives but also beyond them. Table 3 presents the identified general gaps which leave room for enhanced multilateral cooperation on forest protection and restoration. The table also identifies a number of actions that are needed or opportunities that are offered to respond to these gaps.

Table 3: Overview of identified gaps and needed actions

Identified gaps	Needed actions
There is still scope for increasing participation of stakeholders, especially along the supply chains affecting forests negatively. This should include activities that can reduce information imbalances between stakeholder groups and help to **build ownership of processes and solutions by stakeholders**.	Increase stakeholder participation, resolve land tenure issues and reduce information imbalances to improve ownership. Support education of technical staff of stakeholder groups through international academic partnerships including the development of joint professional certificate programs.
Despite the fact that countries have improved the data basis for forests, there is a need for **more transparent global monitoring** to provide data that is: transparent in the data sources, definitions, methodologies and assumptions used, free and open access (i.e. truly "barrier free" to all stakeholders); and complementary and comparable to mandated reporting by countries. Simultaneously, there is the need to **improve transparent national monitoring systems** in countries with a lack of those. National monitoring systems can support ownership in processes and provide **co-benefits for related policy fields**.	Support data and tools for transparent monitoring of land use changes and related emissions to improve data quality, availability, sharing and learning. Establish a facility for providing a consistent global reference data set of land use emissions for reconciling national data. Support the development of transparent national monitoring systems.
To increase private sector engagement, there is a demand for more **results-based emission reductions programs** covering multiple land use activities and supply chains. However, there are remaining challenges regarding non-permanence and leakage. **Adequately addressing the complexity of supply chains** requires especially the piloting of more	Align jurisdictional approaches with certification and supply chain management standards to enhance private sector engagement and support longer-term commitments Support jurisdictional approaches as means to adequately address complexity, decrease risk of

jurisdictional approaches. These can help to address the complexity adequately, reduce the risk of leakage within regions and provide an important step towards consistent national accounting.	leakage and consistently moving towards national accounts. Embed such approaches adequately into national sustainability and climate targets to ensure environmental integrity.
Few countries provided specific quantitative information in their NDCs. There is a need to **support and encourage countries to improve their representation of the land use sector, and forests in particular, in their NDCs**, separate from and in addition to reducing emissions in the energy and industry sectors. This improvement needs to include also safeguards to ensure environmental integrity of forest related mitigation activities.	Support and encourage countries to improve representation of the land use sector, in particular forests, in their NDCs. Increase coherence between forest protection and landscape restoration pledges. Support countries in taking stock of international goals and targets, as well as national targets and commitments for consistent and ambitious NDC target setting.
The **COVID-19 pandemic** forms an unprecedented challenge to all countries. There is a **risk that economic response and recovery programmes lead to reduced ambitions regarding forest protection** and restoration and reduced capacities for effectively monitoring forests. This could eventually even result in overexploitation of forests, increased degradation and forest loss.	Combine COVID-19 recovery with policies for forest protection and restoration to promote no-regret options.

Source: own compilation.

Based on the assessment of the identified initiatives, the following Section 3 presents options for how the existing initiatives could be further developed and identifies options for new initiatives to complement the existing ones.

Each option is briefly introduced by referring to the gaps that it addresses, potential constraints that currently exist, expected opportunities, and finally the potential course of action and recommendations. The options are tailored for German government actors and include recommendations for national and international policy makers and negotiators in the policy field.

3 Options for increased multilateral cooperation

3.1 Options for increasing participation: Increasing stakeholder participation, resolving land tenure issues and reducing information imbalances to improve ownership

The analysis of existing initiatives has shown that inclusive participation, advanced technical skills of stakeholders' staff members and easy access to information are essential for building ownership of initiatives at local, provincial and national level. Such ownership is an important prerequisite for successful implementation and continued political engagement.

Building human capacity can help countries not only to fulfil their ambitions under the Paris Agreement, but also empower them to achieve higher levels of ambition in reducing emissions from the land use sector. Below we list a number of specific areas where stakeholder engagement and access to information could be improved through international cooperation.

- There are gaps regarding the **mobilization and engagement of specific groups of stakeholders** in a holistic and meaningful way. These include indigenous peoples, other forest dwellers and civil society organizations from the Global South. Substantial progress has been achieved in in engaging stakeholders in forest-related mitigation activities many countries, but there is the need to expand approaches to include other land use activities. This can also help to bring innovation and advancements into a broader community using new technologies, such as citizen science and serious games for more transparent and participative monitoring (see Options for transparent monitoring). An example is the GeoWiki platform[25] that provides citizens with the means to engage in environmental monitoring of the earth by providing feedback on data or providing data. Similarly, FAO and WRI collaborate on the organization of mapathons using FAO's CollectEarth[26] tool for enabling stakeholders to monitor tree cover and other indicators to target areas for intervention and assess progress against national and global restoration goals.

- **Skilled technical teams** play a key role in providing data, analyses, and other support for facilitating informed discussions in the stakeholder engagement process. **Capacity building** is therefore an important component of building ownership. This can be enhanced through multilateral cooperation by supporting the education of stakeholder groups' technical staff through international academic partnerships, including the development of joint professional certificate programs. Examples include the Terrestrial Carbon Accounting certificate programs jointly developed by the Carbon Institute[27] with academic institutions and stakeholders in Indonesia and China. Such partnerships will increase the knowledge basis in countries enabling more bottom-up review and assessment. Stakeholders need to understand that sometimes simplified approaches are applied, such as adjustment factors in REDD+ accounting against Forest Reference Levels. This requires a better exchange between stakeholders on the basic principles

[25] https://www.geo-wiki.org
[26] http://www.openforis.org/tools/collect-earth.html
[27] https://www.carboninstitute.org

and rules used to deal with policy assumptions and qualitative information, in contrast to information that can be measured. Therefore, standards and rules for dealing with qualitative approaches should be part of the curriculum of such academic programs.

- Access to finance is often bound to **land titles**. In addition, stakeholder groups with no title to land will often be unwilling to invest significantly into sustainable land use practices when their rights to continued access to the land are not secured. As such, integrated land use requires consideration of existing land tenure rights and reflection on necessary changes. These are highly sensitive issues and can be challenging to resolve. Land reforms are needed to lay legal grounds, necessary to clarify the operating environment for companies and investors and reduce land tenure-related risks. Bilateral cooperation could directly target land reform initiatives or provide funding to make land rights recognition and institutionalisation possible at scale. An example is the International Land and Forest Tenure Facility[28] that supports indigenous peoples and local communities to advance their community land rights and knowledge sharing.

- **Environmental crime** and unresolved land tenure are two interlinked challenges for more effectively supporting stakeholders in the implementation of forest protection and restoration activities. Fighting environmental crime directly supports legality of forestry and agriculture products and is an enabling condition for sustainable development. Multilateral cooperation can support initiatives through digitalization of data management to increase transparency of processes around land tenure, land reforms, land rights and concession management. This can be achieved through improved data governance within a secure and transparent institutional framework. Scientific standards should form the basis for monitoring and analysis to meet minimum quality requirements for the purpose of documentation, reporting and collection of forensic evidence in legal proceedings. There is also the need for funding to improve security of stakeholders involved in monitoring violations and abuses that should be part of multilateral cooperation.

- **Multi-agency coordination** is needed to successfully involve multiple public sector parties to ensure effective design and implementation. Depending on the national and jurisdictional context this can be problematic due to differing priorities, resources and foci. Moreover, enhanced coordination does not necessarily improve governance relationships between actors from sectors or yield better environmental and social outcomes (Ravikumar et al., 2018). The relationship between the environmental sector and other sectors is highly political and divergent interests cannot be reconciled by coordination only. Successful initiatives achieve effective coordinate between stakeholders, through fair and organized political discussions and recognition of political dimensions of land use governance (Ravikumar et al., 2018).

[28] https://thetenurefacility.org

- There is also an opportunity to leverage from the coordination of **multi-donor activities,** which can involve significant time and effort to build alliances, explain programs and generate support.

The set of options described above requires multiple interventions, some of which have already been initiated (e.g. Amsterdam Declarations partnership towards deforestation-free, sustainable commodities). Together, these options can be considered as an **enabling option** for the following recommended interventions or options on other areas (see Options for transparent monitoring, Options for increasing private sector engagement, and Options for increasing consistency of national targets), but also outside the policy field of forest protection and restoration, e.g. sustainable rural development. They should therefore get a high priority. The actions supporting this set of options are flexibly and readily applicable at different levels of multilateral collaboration and negotiation and can contribute to overall transparency in land use and climate policy, as well as increased sustainability and environmental integrity. It should be noted that such actions only address GHG emission reductions indirectly. Further, the interventions need to be long-term since those processes take time.

3.2 Options for transparent monitoring: Establishing a facility for providing a consistent global reference data set of land use emissions for reconciling national data and supporting the development of transparent national monitoring systems

An important basis for forest protection and sustainable land use initiatives in general is data for historic and current land use, land cover and associated CO_2 emissions and removals. Such estimates need to be: 1) transparent in their data sources, definitions, methodologies and assumptions; 2) based on data that is free and open access, i.e. truly "barrier free" to all stakeholders; and 3) complementary and comparable to mandated reporting by countries (Böttcher et al., 2018).

The EU identified in its Communication on stepping up action to protect and restore forests a priority to provide support for increasing the availability of, quality of, and access to information on forests and commodity supply chains (Priority 5, European Commission, 2019). Actions formulated in the communication to be implemented by the European Commission aim to improve monitoring and provision of reliable information on deforestation. This includes the establishment of an EU Observatory on deforestation, forest degradation and changes in the world's forest cover and associated drivers. The objective of such an observatory is to facilitate access to information on supply chains for public entities, consumers and businesses. Information feeding into the facility will be based on existing monitoring tools, but the feasibility of developing a Copernicus REDD+ service component will also be explored.

Remote sensing technologies have been rapidly evolving and can provide high resolution wall-to-wall assessments of land cover and land use. Such spatially explicit monitoring based on independent sources increases transparency and reconcilability. Options for multilateral cooperation should target both, i) improving global data availability and uptake, and ii) improving national data quality and transparency.

A global facility to resolve data conflicts and provide reference data

There is a need for a facility that does not aim to generate new data sets, but rather serves as a hub for data providers, reviewers and users, and as a clearing house for data conflicts. An important service would be to **define standards and requirements for transparent land information sources, provide common definitions and barrier-free access to information**.

Barrier-free means also that the information can readily be used by stakeholders without the need to get over high capacity and knowledge hurdles.

Such a framework would guarantee a diversity of approaches and data sources to capture the variability of natural processes, country-specific conditions and uncertainties in methods and measurements. The estimates provided would be consolidated and made comparable and consistent with the purpose of increasing transparency and broadening stakeholder participation and confidence.

Large scale global monitoring efforts and consistent mapping can help to assess the risk of leakage, i.e. the shifting of land uses to other places following restoration measures. International initiatives for transparent and independent monitoring of land use exist and can build on established scientific methods (e.g. Global Forest Watch[29]).

Comprehensive GHG accounting at the level of landscapes requires data not just on forests but also on other land use categories that are often much less developed in terms of historic data and recent trends. In particular, detailed data on land degradation, livestock and savannahs are currently lacking. The facility could provide tools for comprehensive **Integrated Land Use Planning**. This would require a significant amount of upfront investment not only in data, but also into multi-sectoral capacity building so that tools could be used effectively by many different types of user. It is essential that support for such activities results in mutual learning and knowledge advancement. The facility could therefore support and build on **capacity building platforms and innovation marketplaces for land monitoring**.

An example for such a platform is currently being developed under the LandSense project[30]. The LandSense Citizen Observatory aims to aggregate innovative earth observation technologies, mobile devices, community-based environmental monitoring, data collection, interpretation and information delivery systems to empower communities to monitor and report on their environment. The facility would focus on bringing such tools into a consistent framework and allow for compatibility of tools and platforms through setting standards.

The following tools and processes should be taken into account (existing examples of applications that a global facility could build on are given in parentheses):

- Providing accurate, complete and consistent data to facilitate reporting under UN processes, such as UNFCCC, UNCBD (e.g. moja global[31]);
- Mapping drivers of land use change in a transparent manner (e.g. CIFOR Atlas of Deforestation and Industrial Plantations[32]);
- Detecting changes of land cover (e.g. Global Forest Watch[33]);
- Supporting the development of credible land use baselines (e.g. OSIRIS[34]);
- Providing good practice guidance for transparent and robust results-based financing.

By providing a comprehensive set of tools for land monitoring, the facility would assist countries in undertaking more complete and integrated land use planning, promote existing open access

[29] https://www.globalforestwatch.org/
[30] https://landsense.eu
[31] https://moja.global/
[32] https://atlas.cifor.org/
[33] https://www.globalforestwatch.org/
[34] https://openei.org/wiki/Open_Source_Impacts_of_REDD_Incentives_Spreadsheet_(OSIRIS)

tools and data platforms, and support the development of more integrated projects. At the same time, the facility could also expose gaps that need to be addressed through further research and development.

Gaps in global data bases include, for example, specific data on forest and landscape restoration. At present there are no globally consistent, transparent datasets available to measure progress on forest landscape restoration on a systematic basis. Such restoration information is lacking also because there is no common definition of restoration. Indicators for assessing progress need to be based on a set of well-defined parameters. Moreover, restoration needs to be tracked over longer periods of time to detect changes and to measure impacts and including trees outside of forests in its scope would require higher resolution remote sensing technologies compared to forest monitoring. Recently an initiative coordinated by Climate Focus has been launched to establish a Global Restoration Observatory (GRO).

Another gap is the lack of socio-economic data. This data is needed for assessing drivers of deforestation and degradation. Socio-economic data are harder to map in a geographically explicit manner but should be included in global data bases.

The facility could be installed as a UN body that forms an independent, intergovernmental authority for land information. It could draw inspiration from the organisation of the IPCC in its function of providing guidance for GHG reporting. Such a body is needed to establish a trustworthy and powerful intergovernmental authority, driven by scientific principles. However, it can be expected that the fear of losing sovereignty on data related to national land use developments could provoke resistance by countries. Therefore, it would be necessary for the G20 to create momentum around the need for such an institution. Specific tasks could be to identify common definitions and provide guidance for results-based activities.

Support transparent national monitoring systems

Global data can conflict with national information, and national governments and authorities may not accept global data for national policy planning and implementation. This can be due to global data sets lacking the details and definitions required for operations at national and sub-national level. But it is also about "politics of numbers" and national sovereignty. Increasing political legitimacy of global data should therefore be the target of multilateral cooperation. The EU actions foreseen in the Commission's Communication aim to step up efforts to **improve the availability, quality and harmonization of reliable national information on forest resources and land use change** to inform national policy makers by a wide range of stakeholders, including partner countries. Such data sources can be established through national forest inventories and in combination with global remote sensing information, e.g. for forest stratification, that can be used to reduce efforts and costs of ground-based measurements. Existing tools for the combination of global and national data should be promoted more through multilateral cooperation (e.g. OpenForis[35], moja global[36]). Such tools can also assist producer countries in tracking progress in the implementation of policy objectives, including land use related components of their NDCs, commitments related to deforestation and legal and sustainable commodity production, and trade of products (European Commission, 2019).

Natural and indirect human-induced disturbances such as wildfires can facilitate and accelerate deforestation and degradation processes but are also a risk for restoration. Multilateral cooperation should therefore continue to support the development of global and regional information systems to monitor the effects of natural disturbances. However, an initiative

[35] http://www.openforis.org/
[36] https://moja.global/

proposed by France at the G7 summit in Biarritz aimed to support firefighting in the Amazon region was rejected by Brazil who considered the initiative to be interfering with national affairs, despite the evidence by global data of accelerating fire intensity[37]. This shows that efforts spent for "nationalising" global data are important to increase ownership and acceptance of such data sources.

Many countries have increased their monitoring capacities, with substantial support from the global donor community. The improved national data coverage for land-use and carbon is essential for promoting accuracy, consistency, completeness and comparability of land use related GHG emission estimates, e.g. through provision of credible baselines and assessment of ongoing activities. Stakeholders involved in land use sector mitigation activities rely on such information for their own goals, that ideally should also be perceived as transparent and legitimate by others and thus support accountability of all stakeholders.

3.3 Options for increasing private sector engagement: Aligning jurisdictional approaches with certification and supply chain management standards to enhance private sector engagement and support longer-term commitments

The private sector plays an important role in successful initiatives for forest protection. Regulations can be effective, but regulation alone will not achieve sustainable land use at a sufficient pace. Convening and convincing private sector actors to work toward complimentary goals seems promising, but centralized institutions for bringing all parties in a given supply chain together are lacking. Moreover, implementing changes in the private sector effectively means that sufficient information on the potential impacts of supply chains will be needed.

All reviewed forest protection initiatives have the potential for **more private sector mobilization and integration**. The private sector globally has moved at a rapid pace to develop a better understanding of how their activities are affecting forests and how businesses can continue under stricter regulations of forest protection. There are already a number of commitments in many supply countries. However, progress in implementing and reporting on commitments has been more limited, and commitments for forest protection alone are insufficient. Corporations would benefit from support at the national, regional and global levels to understand what can be done to adopt improved sustainability across all their activities.

A significant number of companies already recognize the importance of reducing deforestation in their supply chains of agricultural and wood commodities. A report by Supply Change (Rothrock et al., 2019)shows that most companies tracked by the initiative (753 out of 866) faced some form of forest-related risk, demonstrated ambition to address commodity-driven deforestation, and/or engaged in key actions to address commodity-driven deforestation. Private voluntary commitments to address deforestation were reported for 484 of the 866 companies (56 %) across palm oil, timber, soy, beef and other supply chains.

A key challenge for cleaning the supply chain from deforestation is the complexity of production chains and trade. There is the opportunity, through **increasing the scope from forests to landscapes and projects to jurisdictional levels**, to address the challenges of complexity that are too often ignored at project level. In that sense, jurisdictional approaches (i.e. multi-stakeholder initiatives with jurisdiction-wide targets) can be the opposite of a silver bullet –they

[37] It has to be noted that also data of the National Institute for Space Research (INPE) reported an increase in fire and deforestation intensity in Brazil.

enable stakeholders to achieve diverse goals through a range of initiatives and approaches (Hovani et al., 2018).

However, jurisdictional approaches do not fully eliminate the risk of leakage. Buffer pools of credits are instruments to adequately address risks of non-permanence and leakage but effectively reduce total revenues from such credits, making them less attractive. Moreover, jurisdictional approaches involve multi-sector, multi-agency, and multi-stakeholder engagement, requiring improved horizontal alignment among jurisdictional government agencies and vertical alignment with national and lower level governments (Hovani et al., 2018). They take more time for achieving results but have more potential for transformational change compared to smaller scale interventions. It is important to note that jurisdictional approaches should not be designed and managed primarily to drive a global agenda.

Jurisdictional approaches are already addressed by existing initiatives, such as the Amsterdam Declarations Partnership. Established in 2015, the partnership aims to promote sustainable supply chains of agricultural commodities and sustainability in palm oil. Germany, the Netherlands, the United Kingdom, Denmark, Norway, France and Italy collaborate to achieve "deforestation-free supply chains" and promote cross-border initiatives on palm oil, cocoa, soy and knowledge exchange. In 2020, Belgium and Spain joined the partnership. Its workplan foresees collaboration with producer countries on integrated landscape approaches, e.g. through enhancing synergy between supply chain approaches and landscape/jurisdictional approaches (Mekon Ecology, 2019). For individual companies, jurisdictional approaches can be a simpler and less costly way to reduce deforestation emissions in their supply chains than individual project-based approaches. This is because they can benefit from processes and information gathered at jurisdictional level with multiple donors contributing to their establishment. **Certified green jurisdictions** can also be more attractive for the private sector as they lower the cost of monitoring their supply chain (DAI, 2019).

At the same time, they can potentially be better suited than smaller scale projects for ensuring smallholders and local actors benefit from sustainable supply chains, as they can improve mutual understanding of what stakeholders value as well as dependencies and relations between options, and can help stakeholders to recognize and address disagreements over targets. Jurisdictional approaches can engage governments to align policy and enforcement strategies and offer economies of scale. The appropriate scale for jurisdictional approaches depends largely on the country context and more experience is needed for different contexts (Fishbein and Lee, 2015).

Results-based payments are potentially a source of finance that can support jurisdictional approaches. However, forest-related emissions reductions and removals are not appropriate for transfer and use for offsetting by companies due to non-permanence risks, monitoring challenges, the risk of leakage and issues of ownership. Therefore, rather than selling emissions reductions on a carbon market, mitigation activities should be financed as a **contribution to the host country's NDC**, or through **practice-based finance**. These options would avoid many capacity building and measurement challenges related to carbon accounting and are associated with fewer risks for environmental integrity.

The approach should combine technical and administrative elements to improve landscape management and reduce emissions from the forest and land use sector, while promoting alternative livelihoods. By working at larger governance scales, and linking government, civil society and private sector actors, jurisdictional approaches can better link land use planning with activities that reduce emissions and promote environmental conservation (Boyd et al., 2018).

The EU identified in its Communication on stepping up action to protect and restore forests five priorities, of which many relate to sustainable supply chains for EU markets (e.g. Priority 1 that aims to reduce the footprint of EU consumption on land, and Priority 5 that aims to support the availability and quality of information on forests and commodity supply chains (European Commission, 2019). The implementation of such an EU strategy will put pressure on the private sector, e.g. by constraining access to an EU premium market for certified products. However, since the EU market is not expected to grow quickly compared to other regions, there is the **risk of market shifts to other consumer regions with lower standards**. Therefore, there is the need to actively involve these regions (especially China) in multilateral cooperation on sustainable supply chains.

Multilateral cooperation should support and build on existing initiatives, such as:

- The Supply Change Initiative[38] (initiated by Forest Trends), a transformational resource for businesses, investors, and governments, as well as the civil society organizations that support and hold them accountable;
- LandScale[39], a shared initiative of the Climate, Community and Biodiversity Alliance (CCBA), the Rainforest Alliance and Verra, which aims to provide measurable indicators of the state and trajectory of sustainability at the landscape level across environmental, social, and economic dimensions;
- The Terpercaya Initiative[40], which demonstrates sustainability of agricultural commodities such as palm oil at jurisdictional level using FLEGT as a role model. Although not developed as a jurisdictional initiative per se, FLEGT works with countries to introduce legality assurance systems and licensing that has similar characteristics to a jurisdictional approach;
- The Science Based Targets initiative[41] (SBTi) encourages companies to adopt targets that are in line with what the climate science considers necessary to meet the goals of the Paris Agreement. It aims to develop methods and guidance to enable businesses in food, agriculture and forest sectors to set science-based targets that fully incorporate deforestation and land-related emissions.

3.4 Options for increasing consistency of national targets: Encouraging countries for coherent forest protection and landscape restoration pledges and improving representation of land use in NDCs

Forests were recognised as a key sector during the first NDC submissions, with many countries including forest sector targets. However, few countries provided specific quantitative information. Countries were requested to submit a second round of NDCs by the end of 2020 including new or updated targets. Due to the COVID-19 pandemic, this process has been delayed in many countries, and new and updated NDCs are expected in 2021 before the next UNFCCC conference, following the ambition summit in December 2020.

[38] https://www.supplychaininitiative.eu/de
[39] https://verra.org/project/landscale/
[40] https://www.euredd.efi.int/publications/demonstrating-and-promoting-district-level-sustainable-commodity-production
[41] https://sciencebasedtargets.org/sectors/forest-land-and-agriculture

There is a need to support and encourage countries to improve representation of the land use sector, in particular forests, in their NDCs. For many countries, enhancing the contribution of forests to national mitigation targets could be done through establishing appropriate institutional arrangements and partnerships among stakeholders. Forest sector mitigation measures will vary depending on a country's governance structure, but a strong stakeholder engagement process can help facilitate successful partnerships (Sato et al., 2019).

Apart from the UNFCCC process, there are other international processes related to the forest sector (Table 2), such as the Bonn Challenge, AFR100, Initiative 20x20, and Land Degradation Neutrality (LDN) targets. These international processes set collective goals and targets, and some participating countries make national commitments for achieving them. In addition to commitments made under international processes, countries may have set forest related targets in their national development or sectoral plans, or their climate mitigation or adaptation plans. It is useful for countries to take stock of such international goals and targets, as well as their own national targets and commitments as benchmarks for NDC target setting (Sato et al., 2019).

There are already a number of international projects funded by IKI to support this task, such as:

- The Forest and Landscape Restoration Mechanism;
- Transparent monitoring in practice: supporting post-Paris land use sector mitigation;
- The Paris Agreement in action: upscaling forest and landscape restoration to achieve nationally determined contributions.

An important vehicle for this option is the NDC Partnership, hosted by the World Resources Institute (WRI)[42]. Since its launch in 2016, the initiative has grown to more than 180 members, including developed and developing countries as well as major international institutions and non-state actors. It aims to increase alignment, coordination, and access to resources to link needs to solutions through country engagement, knowledge and information sharing and access to finance. The NDC Partnership database[43] provides a searchable repository of good practices and lessons learned from countries that have overcome obstacles and where climate action is being effectively designed and implemented. Another example is the Good Practice Database of the Transparency Partnership[44] that presents various examples of good practices worldwide, which demonstrate how climate policies and actions are being effectively designed and implemented across a range of national contexts. Guidance for integration of the land use sector into NDCs is also provided by Herold and Böttcher (2018).

Options for improving NDCs that multilateral cooperation should address include:

- Provide quantitative non-GHG targets that can be presented in the context of both climate change mitigation and possibly adaptation with or without linkages to sustainable development objectives (example: total forest area under legal protection);
- Define net-zero targets consistently by clarifying the scope of the target and the role of offsetting, e.g. by determining which emissions can be offset, referring to standards and processes for robust accounting and strategies for making land-based offsets permanent;

[42] https://ndcpartnership.org/
[43] https://ndcpartnership.org/good-practice-database
[44] https://www.transparency-partnership.net/good-practice-database

- Constrain flexibility of national carbon market transfers for land-based credits to other sectors to adequately reflect issues of non-permanence. Land-based mitigation activities should rather be financed as a **contribution to the host country's NDC**, or through **practice-based finance** instead of international carbon markets;
- Provide a distinct emissions reduction target for the land-use sector (if quantifying expected emissions reductions or removals enhancements is possible) and clarify the accounting approaches used. The specific challenges of measuring and projecting mitigation from land-use activities mean that their effects should be kept distinct from emissions reductions in other sectors, to avoid a loss of environmental integrity;
- Deploy forest sector options in combination with other sectors in a coherent manner, e.g. through a scenario analysis, to effectively demonstrate a country's contributions and efforts toward enhancing its NDC;
- Make reference to existing jurisdictional approaches for forest products and sustainable commodities;
- Ensure that forest sector targets and policies included in NDCs are coherent with those of other related sectors (e.g. agriculture, energy, and transportation).

The rules for the Article 6 market mechanisms under the Paris Agreement have not yet been finalised. To protect environmental integrity, market-based transfers should be reserved for emissions reductions that are readily verifiable, permanent and additional, with robust accounting rules in place. This is because transfers need to be accompanied by corresponding adjustments, whereby host countries will be required to add any transferred reductions back to their NDC-related emission inventories to avoid double counting. Emissions reductions and removals from land management activities are less suited for transfer between countries due to uncertainties in land sector emission estimates. In addition, land-based activities often offer low cost mitigation opportunities, hence the transfer of these emissions reductions and associated relinquishing of rights by the host country to use them towards its NDC, may not be equitable. Instead, options for governments and corporations to contribute to the conditional components of a country's land-based mitigation targets need to be developed.

3.5 Options for green COVID-19 recovery: Combining COVID-19 recovery with policies for forest protection and restoration to promote no-regret options

Countries have made significant progress in improving forest governance, increasing transparency, strengthening forest monitoring and establishing multi-stakeholder platforms to more effectively address deforestation and forest degradation as well as illegal logging. The COVID-19 pandemic forms an unprecedented challenge to all countries, not only affecting human health and health systems, but also other aspects, including the economy. Economic stress on landowners and other stakeholders in the land sector is very likely to add more pressure on ecosystems. At the same time, capacities for effectively monitoring forests and enforcing forest protection are likely to be diminished. As a result, the risk of overexploitation, increased degradation and forest loss is set to increase, potentially reversing achievements at local, provincial and national levels. There is also the risk for increase of environmental crime and issues of land tenure remaining unsolved.

It is crucial that the aid and stimulus packages prepared in response to the COVID-19 pandemic include appropriate safeguards for forests and other ecosystems. Moreover, recovery policies should build on already achieved agreements and contracts and thus create investment conditions for long-term forest protection, sustainable forest management and forest restoration. "Building back better" should thus also be a principle for the land use sector.

Overall, there is a lack of funding for the restoration of forest landscapes. Improving private sector engagement will require enabling structures and institutions to reduce costs for individual actors and enable the use of consistent approaches when making commitments. There is the risk that a lack of policy coherence and incentives for forest restoration targeting carbon storage and biodiversity could lead to the promotion of systems that merely guarantee high economic returns, e.g. monoculture plantations that do not contribute to building resilient and sustainable economic systems and protecting and restoring biodiversity. Innovative financing instruments will need to be developed with safeguards against these risks and cover also the establishment of local structures.

Recovery from the economic impacts of the pandemic will likely be slow. Putting in place effective forest landscape restoration processes will also be slow. This might appear to conflict with the need for a rapid response and outcome from programmes addressing COVID-19 recovery. Even though such options might produce upfront costs and returns might be delayed, they help reduce future costs that can be considerably larger. Support from investors is especially needed for preparatory and initial phases as well as capacity building (Hillbrand et al., 2019). Private investors have very different return expectations, so it is important that involving the private sector does not lead to unrealistic expectations of ecological and economic paybacks (Hillbrand et al., 2019).

To avoid trade-offs between recovery policies, restoration pledges and other policy targets, it will be important to develop internationally recognised minimum requirements or exclusion criteria for the financing of restoration activities. This can also be achieved through a closer alignment to existing standards (Hillbrand et al., 2019).

There is growing interest globally, from both the public and private sectors, in Nature-based Solutions (NbS) for reducing emissions and enhancing removals from activities in nature conservation, restoration and sustainable land use[45]. The widespread deployment of NbS will likely play an important role in both mitigating and adapting to climate change and can also guide countries' strategies for recovering from COVID-19 impacts. Before NbS can be supported at scale, environmental and social safeguards will need to be put in place, along with common definitions of NbS to ensure they effectively contribute to addressing climate change mitigation and adaptation and are not used as a substitute for the rapid phase out of fossil fuels, are implemented with participation of local communities, and also provide measurable benefits for biodiversity (Seddon et al. 2020). This is especially true for those countries that are not traditional REDD+ countries (e.g. dry climate countries) that can build on safeguards developed under the Warsaw Framework.

There is an opportunity for COVID-19 recovery programmes to promote specific activities that can be considered as "no-regret" options, i.e. activities that deliver on multiple objectives with high probability and show very limited trade-offs. According to the IPCC Special Report on Land (IPCC, 2019), these include:

[45] e.g. Natural-climate solutions Alliance (https://www.weforum.org/natural-climate-solutions-alliance)

- Reducing deforestation and degradation offers large mitigation potential without risking negative side-effects for other challenges;
- Improved forest management provides large benefits for different land-related challenges, including mitigation, adaptation, desertification, land degradation, and food security;
- Preserving and restoring forests and peatlands, and other land-based options that do not require land use change, can generate almost exclusively positive impacts on sustainable development;
- Efficiency measures can reduce the overall consumption of wood and land-based products to increase the value of commodities and decrease competition for land;
- Increasing tree cover results in more carbon storage; however, reforestation and afforestation initiatives could increase competition for land and have adverse consequences for Sustainable Development Goals (e. g. land tenure rights, ecosystem services, biodiversity conservation), especially when implemented at large scales. The nature of such initiatives also has an effect on their outcome for carbon storage and sustainable development, with ecosystem restoration offering far greater results than monoculture plantations.

It is important to note that the ability of NbS to contribute to climate change mitigation and adaptation will hinge upon the achievement of rapid emissions reductions in line with limiting warming to 1.5°C. Hence, any COVID-19 recovery strategy that uses NbS should be accompanied by urgent and ambitious mitigation measures in all other sectors, rather than relying on NbS to compensate fossil fuel emissions.

4 Conclusions and recommendations

4.1 Conclusions from the analysis of existing initiatives

There are a multitude of initiatives, alliances, partnerships and networks that are devoted to promoting different aspects of forest protection and forest restoration. The analysis of five exemplary initiatives for forest protection and forest restoration undertaken in this report has highlighted the different aspects that initiatives currently address. These aspects are crucial for achieving progress towards improved international forest protection and restoration and include:

- ambitious voluntary national level targets (e.g. for forest restoration under the Bonn Challenge);
- approaches to address illegality of land use activities through market regulations (e.g. as aimed by the EU Forest law enforcement, governance and trade initiative FLEGT);
- focus on regional engagement for forest protection in high forest area countries (e.g. as done by the Central African Forest Initiative CAFI);
- establishment of funding sources not only for projects but also for more jurisdictional approaches to reducing emissions from deforestation and forest degradation (e.g. as done by the World Bank BioCarbon Fund Initiative for Sustainable Forest Landscapes);
- and cleaning the supply chains of globally traded commodities from deforestation (e.g. through improved supply chain management as promoted by the Accountability Framework initiative).

Despite the large number of existing initiatives and the wide scope of coverage regarding different aspects of forest protection and forest restoration, this analysis has identified scope for increasing collaboration to improve participation of stakeholders, especially along the supply chains affecting forests negatively.

In addition, this analysis has also revealed that there are general limits to specific initiatives, especially regarding their scope and level of participation. A wide scope enables initiatives to address multiple aspects coherently and consistently. This is necessary as forest degradation and loss are typically subject to multiple drivers and dynamics, and therefore require participation and engagement at different institutional levels. A wide scope, however, makes engagement and its coordination more challenging since the number of stakeholders also increases. A high level of engagement is crucial for initiatives to become effective and provide sufficient leverage for transitional changes.

This study has shown that initiatives share common challenges but also offer opportunities for cross-initiative learning, as each initiative has had its own experience with concepts and approaches for effective participation and ownership engagement, data and monitoring requirements, and strategies for mainstreaming and aligning of targets with other policy fields (see also Fuentes Hutfilter et al., 2020).

4.2 Options for cooperation and priorities

There are options for further promoting the global uptake of forest protection and restoration that are best addressed by multilateral cooperation (see Table 3). The **list of options presented here is not exhaustive** and therefore a priority statement is challenging. However, the list formulates opportunities for generally improving the basis for existing and future initiatives through a number of potential actions at different levels.

Options were grouped into five sections, but they **do not constitute isolated blocks of activities**. Instead, they should be regarded as teeth of a chain wheel that need to work together to make transformational change happen. There can also be **interdependencies between options**. Options to increase participation form the ground for more ownership regarding emission reduction targets and policies. This again facilitates options for increasing consistency of national targets and more ambitious NDCs. Similarly, implemented options for transparent monitoring that increase data quality and access are necessary for increasing accountability of stakeholders that are involved in options for increasing private sector engagement. Further, there is a close coordination needed between options for increasing private sector engagement and options for increasing consistency of national targets to avoid double counting and ensure environmental integrity. When prioritising options, such linkages should be considered.

The analysis of existing initiatives has shown that there is not necessarily a need for entirely new approaches. Innovative initiatives have emerged that **need to be scaled up**. Their scope of application and integration into national policy needs to be supported and the **list of users extended**.

As with the existing initiatives assessed in this study, the identified options can be evaluated by looking at specific aspects such as their chances of success and effectiveness, efficiency and costs, transparency issues and challenges regarding institutional settings and structures, as well as issues related to sustainability and environmental integrity (Table 4). Considering these aspects, options for transparent monitoring can be considered most challenging, especially regarding efficiency and costs and the need for developing institutions at a sufficiently high level to be effective. Chances for success and effectiveness of the options are linked to potential engagement at a larger scale. All options present relatively low hurdles for engagement but also require relatively high and constant motivation to be effective. Overall, existing institutional structures and existing initiatives form a good basis for any of the options. Sustainability and environmental integrity issues are associated with options for increasing private sector engagement that involve the promotion of carbon markets, and options for green recovery where environmental safeguards are needed to ensure that overall emission reduction requirements are met, and sectoral transformational changes supported.

Table 4: Overview of options for further promoting the global uptake of forest protection and restoration

Criteria/ options	Options for increasing participation	Options for transparent monitoring	Options for increasing private sector engagement	Options for increasing consistency of national targets	Options for green COVID-19 recovery
Activity	Increase stakeholder participation, resolve land tenure issues and reduce information imbalances to improve ownership	Establish a facility for providing a consistent global reference data set of land use emissions for reconciling national data and supporting the development of transparent national monitoring systems	Align jurisdictional approaches with certification and supply chain management standards to enhance private sector engagement and support longer-term commitments	Encourage countries for coherent forest protection and landscape restoration pledges and improve representation of land use in NDCs	Combine COVID-19 recovery with policies for forest protection and restoration to promote no-regret options
Chances of success and effectiveness	High to medium	High to medium	High	High	High
	Flexibly and readily applicable at different levels of multilateral collaboration and negotiation. Resolving land tenure issues more challenging. GHG emissions reduction rather indirectly addressed	Consistent global reference system needs international agreement to be authoritative and effective. Transparent national monitoring systems can benefit from many existing initiatives.	High motivation by private sector. Jurisdictional approaches help address complexity of the policy field. Effectiveness of options depends on governance performance. Market instruments need to be constrained and designed carefully to ensure environmental integrity.	Options for improving NDCs exist in many countries. UNFCCC process demands continued improvements of NDCs. While targets can be strong, implementation might be poor.	Economic recovery programmes in general high on policy agendas. Effectiveness depends on implementation of options.
Efficiency and Costs	High efficiency Low costs	High efficiency Medium to high costs	High efficiency Low costs	High efficiency Low costs	High efficiency Medium costs
	Financial costs rather low. Increased participation and ownership have co-benefits. Interventions need to be long-term.	Options can be technically challenging. Costs comparatively high for technical capacity building and data intensive applications. National monitoring systems have co-benefits for other policy fields.	Costs for single stakeholders are reduced by jurisdictional approaches ("green jurisdictions"). However, complexity is increasing and requires more participation and integration. Interventions need to be long-term.	Options require close collaboration of different agencies at national level. Global data and tools can support these options. Links to options for transparent monitoring.	Options might produce upfront costs and returns might be delayed. However, avoids future costs that can be considerably larger.
Transparency, institutional structures	High	High	High to medium	High	High
	Options are important for achieving overall transparency. Can be built on national and sub-national Institutional structures. Can strengthen institutional structures	Potential for increasing transparency of national data. Global data can serve as reference system for higher comparability. Institutional structures need to be built.	Need for establishing institutional structures at national and sub-national level for ensuring legality and sustainability. Potential for increasing transparency and comparability of commitments.	Can build on existing institutional structures. Already established UNFCCC processes. Transparency and completeness of NDCs important for global stock take.	Can be implemented within existing international and national structures. Level of transparency varies with actions taken.
Sustainability, environmental integrity	High	High	High to medium	High to medium	High to medium
	Options lead to increased sustainability and environmental integrity.	Options support sustainability and environmental integrity assessments. National data support overall sustainable resource management.	Carbon markets and GHG standards need to be embedded into wider sustainability framework. Need for close link to options for increasing consistency of national targets.	Depends on formulation of NDCs and their scope and integration of land use into overall target.	Depends on concrete actions. Can potentially increase coherence between economic and environmental targets. Social aspects to be addressed.
Priority	High	Medium	High to medium	High	High

Source: own compilation.

4.3 Recommendations and concrete steps

The chances of success of the options discussed above also depend on the processes in which they will be brought forward and the mechanisms that are available within political processes. In this regard, 2021 provides multiple windows of opportunity for international action and multilateral cooperation.

- The UK G7 presidency in 2021 together with the Italian G20 presidency can provide leverage for many of the identified options. For the G7 summit in June 2021, the UK has put tackling climate change and preserving the planet's biodiversity high on the agenda. The UNFCCC COP 26 in November 2021 will be co-chaired by UK and Italy. COP26 is considered to be decisive for governments to strengthen their contributions to the Paris Agreement. The event will already be used by several initiatives for gaining attention. Further, the UNFCCC campaign Race To Zero[46] is an attempt to gather leadership and support from businesses, cities, and regions to build momentum for the decarbonization of economies. Efforts should be spent to enhance multilateral cooperation, especially on options for increasing consistency and ambition of national targets, being mindful of the need to protect forest ecosystems from unsafe levels of warming.

- In 2022, the G7 presidency will be with Germany while the presidency of G20 will pass to India. There is an opportunity to launch initiatives and support existing ones that address options for increasing participation, options for transparent monitoring, and options for green COVID-19 recovery and put forest protection and forest restoration prominently on the agenda of G7/G20. In addition, Germany has currently (2020-2022) the presidency of the Financial Action Taskforce (FATF), an inter-governmental body to fight global money laundering and terrorist financing. The institution sets international standards that aim to prevent illegal activities causing harm to society. It targets national legislative and regulatory reforms and has developed the recommendations and standards to ensure a coordinated global response to prevent organised crime, corruption and terrorism. Forest or land sector related environmental crimes have so far not been addressed by FATF but could have an important leveraging effect for forest protection and restoration.

- The UK plans to introduce a law to ensure that the supply chains of larger companies and their products are free from illegal deforestation. There could be a fueling effect for ambitious targets on reducing deforestation in supply chains by the rivalry of UK and EU after Brexit. As the UK currently re-negotiates its relationship with the EU and the rest of the world, there is the opportunity to place forest protection and forest restoration at the forefront of bilateral relationships and trade agreements. This could also form a window of opportunity for options to increase private sector engagement and options for transparent monitoring. The availability of transparent data is crucial for monitoring impacts and assess progress. There should be close coordination regarding the planned EU forest observatory and similar UK efforts for a consistent and comparative data basis

[46] https://racetozero.unfccc.int/system/land/

(see for example recommendation of UK's Global Resource Initiative Taskforce[47] to develop a monitoring, measurement and reporting framework).

- An entry point to G20 and G7 processes can be the Engagement Groups that were established for broader inclusion and participation of social actors and exist, among others, for businesses (Business 20/Business 7) and think tanks (Think 20/Think 7) where specific land-related actions can be promoted. This could be used for pushing actions related to options for increasing participation, options for transparent monitoring or options for green COVID-19 recovery.
- Climate neutrality targets have been formulated recently by a number of countries. While globally climate neutrality or net zero emissions can be defined as a permanent balance between sources and sinks of greenhouse gases, at national level further differentiation is needed around its definition, e.g. what does it include, which sinks are considered, role of offsets purchased outside the country etc. The definition and minimum requirements for formulating climate neutrality targets and other options for increasing consistency and comparability of national targets could be a concrete topic of bilateral exchange and cooperation during 2021 and around COP26.
- The COP 15 meeting of the UN Convention on Biodiversity and the Shanghai Expo should be used as an opportunity to engage with China for a move towards sustainable supply chains for key commodities. This could be through a South–South cooperation strategy with developing countries that are key exporters to China. In particular, options for increasing private sector engagement could be brought forward in this context.

47 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/881395/global-resource-initiative.pdf

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