



# Outlook for boosting ambition in 2020 Nationally Determined Contributions through forest landscape restoration targets

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POLICY BRIEF



## Key messages

- This analysis provides an outlook of the agriculture, forestry and land use (AFOLU) sector targets and actions in the first round of Nationally Determined Contributions (NDCs), offering a snapshot of current ambition and presenting entry points for updating and enhancing the next round of NDCs due in 2020, through existing forest landscape restoration (FLR) commitments under the Bonn Challenge.
- The year 2020 marks a significant milestone for the Paris Agreement, as countries have the opportunity to enhance their AFOLU action pathways to bend the curve of land-use based emissions -estimated at 23% of total net anthropogenic GHG emissions- and deliver a third of the mitigation needed through 2030 to stabilise global warming to below 2 °C, and increase the sector's resilience to climate change and its capacity to function as a carbon sink.
- In 2020, 33 countries have signalled their intention to update their NDCs, and 103 countries have stated their intention to enhance ambition or action in 2020 NDCs. These countries can capitalise on Bonn Challenge commitments that are not about only hectares to be restored but also the types of restoration interventions that will be employed to achieve the targets and estimates of GHG potential that reflect on the benefits of climate action.
- FLR, as a Nature-based Solution (NbS), aims to restore degraded and deforested landscapes, resulting in ecological, climate, social and economic benefits from thriving and multifunctional restored ecosystems. FLR can enhance sinks and reservoirs of GHGs through interacting responses at the landscape level which can include reforestation, agroforestry, sustainable forest and land management and forest conservation. FLR also improves the adaptive capacity of ecosystems, strengthening resilience and reducing the vulnerability of terrestrial ecosystems to climate change.
- 74 pledgers from 61 countries, 8 states and 5 associations have made voluntary pledges of more than 210 million hectares to the Bonn Challenge to restore degraded and deforested land, underpinned by the FLR approach. Yet, the potential of mitigation and adaptation benefits of FLR is not fully integrated across NDCs, which is a missed opportunity to have more ambitious targets in NDCs from the AFOLU sector.
- This paper highlights the opportunity for FLR to be scaled up as a climate mitigation and adaptation measure to enhance current NDCs and make the forest and land-based targets more robust, ambitious and measurable for clarity and transparency. The findings are based on an analysis of FLR-aligned targets across NDCs and comparing these with opportunities from the existing Bonn Challenge voluntary pledges, related to:
  - Robustness and measurable nature of FLR-aligned quantitative and qualitative targets and non-targets.
  - Scope of FLR-aligned targets for accounting purposes: whether they are conditional, unconditional, economy-wide or sectoral targets.
  - Mitigation or adaptation approaches and conditionality in FLR-aligned targets.
- A summary of the findings is as follows:
  - **Findings on quantitative vs qualitative targets:** 130 out of 168 NDCs (77%) have quantitative and/or qualitative FLR-aligned targets. However, only 50 NDCs (30%) have quantitative FLR-aligned targets for mitigation and/or adaptation, representing 57 million hectares.



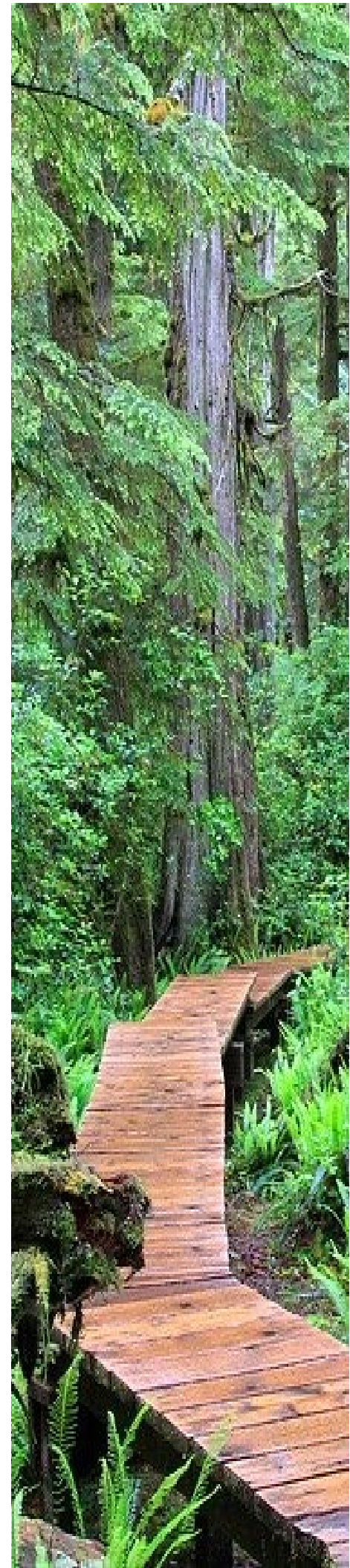
✓ **Opportunity: Integrate existing quantitative restoration commitments under the Bonn Challenge in the 2020 NDC update cycle.** For example, if all Bonn Challenge countries were to incorporate their voluntary Bonn Challenge commitments into their 2020 NDCs, 210 million hectares of increased climate ambition could be generated from the AFOLU sector. Out of 168 NDCs, 61 are from Bonn Challenge countries with voluntary pledges totalling 205.78 million hectares. However, only 27 Bonn Challenge countries' NDCs have quantitative FLR-aligned targets for mitigation and/or adaptation for a total of 25 million hectares. These countries' voluntary pledges under the Bonn Challenge are more than double of what they included in their NDCs (54 million).

○ **Findings on robustness and measurability of targets:** 96 NDCs express their FLR-aligned targets as part of an economy-wide or multi-sectoral approach. Although 60 NDCs include sectoral AFOLU targets (quantitative or qualitative), 40 NDCs exclude the land-sector from the GHG accounting perspective. The majority of FLR-aligned targets lack references to the level of ambition and accounting method. For example, only 46 NDCs express targets in hectares, and 16 countries define forest targets in tCO<sub>2</sub>eq.

✓ **Opportunity: Decrease the level of uncertainty and ambiguity in current NDCs and enhance the clarity, robustness and transparency of the mitigation targets from the AFOLU sector.** For example, if all hectare-based commitments under the Bonn Challenge were translated to tCO<sub>2</sub>eq, it would significantly increase the accountable AFOLU-based ambition in NDCs. Only 38 Bonn Challenge countries' NDCs express their target as part of an economy-wide or multi-sectoral approach. In the Bonn Challenge Countries' NDCs with quantified land-based targets, 20 countries define forest targets in hectares and 9 of them in tCO<sub>2</sub>eq. These targets represent a small portion of the total opportunity when compared to those voluntary commitments under the Bonn Challenge. Countries need to add quantitative elements to their targets in hectares or in tCO<sub>2</sub>eq where such enhancement can facilitate accounting of global emissions, comprehensive tracking of collective progress, access to result-based finance, and other opportunities.

○ **Findings on conditionality of targets:** The vast majority of quantitative FLR targets are also conditional. 64 of the 130 NDCs with FLR-aligned targets (quantitative and qualitative) have unconditional targets, and 88 have conditional targets, from which about 25 million hectares are unconditional targets, versus almost 32 million hectares that are conditional; 53.6 million tCO<sub>2</sub>eq are unconditional, and another 3.2 billion tCO<sub>2</sub>eq are conditional. This makes NDC implementation uncertain and ambiguous.

✓ **Opportunity: Reduce the conditionality of Bonn Challenge countries' NDCs by fully integrating and quantifying countries' planned FLR activities.** Bonn Challenge countries' NDCs have about 1.07 million hectares in unconditional targets and 24 million hectares in conditional targets. Yet, under the Bonn Challenge, the same number of countries (n=20) has committed to 54 million hectares.



## Introduction

The Intergovernmental Panel on Climate Change (IPCC) special report on the impacts of global warming at 1.5°C found that the successful implementation of existing NDCs would see emissions of 400-560 GtCO<sub>2eq</sub> between 2018-2030, which corresponds to roughly 95-130% of the remaining carbon budget to reach the 1.5°C pathway (Rogelj, et al., 2018). Similarly, UNEP's Emissions Gap report found that there is a gap of 15 GtCO<sub>2eq</sub> in current unconditional NDCs to reach the 2°C goal, and a gap of 32 GtCO<sub>2eq</sub> to achieve the 1.5°C goal (UNEP, 2019). This gap will only close by around 2–3 GtCO<sub>2eq</sub> if conditional NDCs are implemented. Instead, the NDCs as they currently are would produce temperature changes of roughly 3°C by 2100, which would likely continue to increase after 2100 (UNEP, 2019). COP25 discussions highlighted the urgent need to address the significant gap between the aggregate effect of Parties' emissions pathways and the need to hold the increase in global average temperature as established in the Paris Agreement (UNFCCC, 2019).

In 2020, 33 countries have signalled their intention to update their NDCs, and 103 countries have stated their intention to enhance ambition or action in 2020 NDCs (Climate Watch, 2020). This includes members of the High Ambition Coalition, which called for an emphasis on mobilising additional support and investment for developing countries for adaptation and mitigation as well as for concerted efforts for increasing ambition to achieve the Paris Agreement (UNFCCC, 2019c), (High Ambition Coalition, 2018).

2019 was the year in which the concept of Nature-based Solutions<sup>1</sup> (NbS) became much more prominent in climate change mitigation and adaptation debates. At the UN Climate Action Summit in September and 25th Conference of the Parties to the UNFCCC in December, country leaders from around the world acknowledged the potential of NbS to accelerate and maximise decarbonisation efforts to achieve the Paris Agreement goals through 2030 (UNFCCC, 2019a).

Numerous analyses today indicate that current NDCs will need to be tripled for meeting the 2°C degree target and increased fivefold for holding global warming below 1.5°C (UNEP, 2019). There is an urgency to ramp up ambition and action in 2020 NDCs and include more concrete, robust and quantifiable targets. A significant contribution can come from NbS from the AFOLU sector in the form of land management responses in agricultural, forest and other terrestrial ecosystems. The forest landscape restoration (FLR) approach encompasses many land management activities as a cost-effective solution to address drivers of deforestation and degradation while tackling the climate change crisis.

The 2030 goal of the Bonn Challenge is to bring 350 million hectares of degraded and deforested lands into restoration. The FLR landscapes covered under the Bonn Challenge are those where trees and other woody plants could naturally occur, i.e. spanning several terrestrial ecosystem types including but not limited to forests, mangroves, peatlands as well as mosaic and agricultural landscapes. FLR interventions are guided by the principles presented in Box 1.

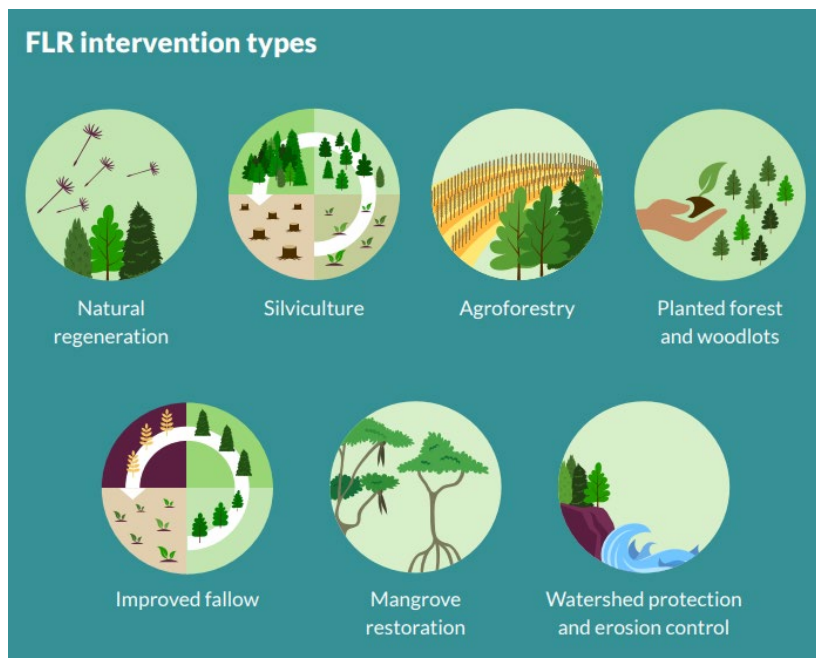


Figure 1. Types of interventions under the FLR approach (IUCN, 2011)

<sup>1</sup> Nature-based Solutions are defined as “actions to protect, sustainably manage, and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits” (IUCN, nd).

### Box 1: Forest Landscape Restoration Principles (IUCN, 2015).

- **Focus on landscapes:** FLR takes place within and across entire landscapes, not individual sites. It is at this scale that ecological, social and economic priorities can be balanced.
- **Maintain and enhance natural ecosystems within landscapes:** FLR does not lead to the conversion or destruction of natural ecosystems. It enhances forests and other ecosystems.
- **Engage stakeholders and support participatory governance:** FLR actively engages stakeholders at different scales, including vulnerable groups.
- **Tailor to the local context using a variety of approaches:** FLR uses a variety of approaches adapted to the local context, drawing on science, best practice, and traditional and indigenous knowledge.
- **Restore multiple functions for multiple benefits:** FLR interventions aim to restore multiple ecological, social and economic functions and generate a range of ecosystem goods and services that benefit multiple stakeholder groups.
- **Manage adaptively for long-term resilience:** FLR seeks to enhance the resilience of the landscape and its stakeholders over the medium and long-term.

This paper<sup>2</sup> delves into FLR as an NbS that is currently being implemented across regions but has not been fully integrated into countries' climate change adaptation and mitigation targets under the Paris Agreement. The findings reveal the status of FLR-aligned targets and/or actions in the first round of NDCs; where current ambition, in terms of FLR, stands by reflecting on the types of FLR activities included. Findings also show the nature of the AFOLU contributions and the outlook for how targets could be increased and enhanced in the second round of NDCs, considering existing forest and land-based commitments under the Bonn Challenge<sup>3</sup>. Although not part of this analysis, it is to be noted other commitments that include FLR-related activities, such as REDD+ national strategies or action plans and Land Degradation Neutrality targets, also present opportunities to substantially raise ambition in countries' NDCs (Maniatis, et al., 2019) (UNCCD, 2016).

The information and analysis presented here, therefore, lay out a foundation for NDC enhancement, to allow robust estimation of FLR-aligned targets by capitalising on existing voluntary commitments and domestic measures that facilitate clarity and transparency for NDC implementation and progress tracking.

## Findings

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This analysis considered a broad range of forest and land use targets and/or actions in 168 first round of NDCs. It focused on FLR-aligned interventions (see Figure 1 for the list of interventions analysed), whether they were added as quantitative, qualitative, conditional, unconditional, targets or actions (non-targets) for both mitigation and adaptation across all NDCs. Also, a comparison was made to the current voluntary FLR commitments under the Bonn Challenge to highlight opportunities for increased ambition and actions in NDCs (see methods in [Appendix 1](#) and country data in [Appendix 2](#)). As of November 2020, 61 countries, 8 states/sub-national governments and 5 associations have committed more than 210 million hectares to the world's largest FLR initiative - the Bonn Challenge (see Figure 2). Significantly increased climate ambition from the AFOLU sector can be materialised if all countries incorporate their voluntary Bonn Challenge targets into their NDCs.

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<sup>2</sup> This analysis was informed in part by the work produced by IUCN and Climate Focus on FLR and NDCs published in 2017-2018. IUCN expanded the analysis in 2020.

<sup>3</sup> The Bonn Challenge is a voluntary global goal to bring 350 million hectares of degraded and deforested landscapes into restoration by 2030, building on the 2020 goal to bring 150 million hectares into restoration. (IUCN, 2011).

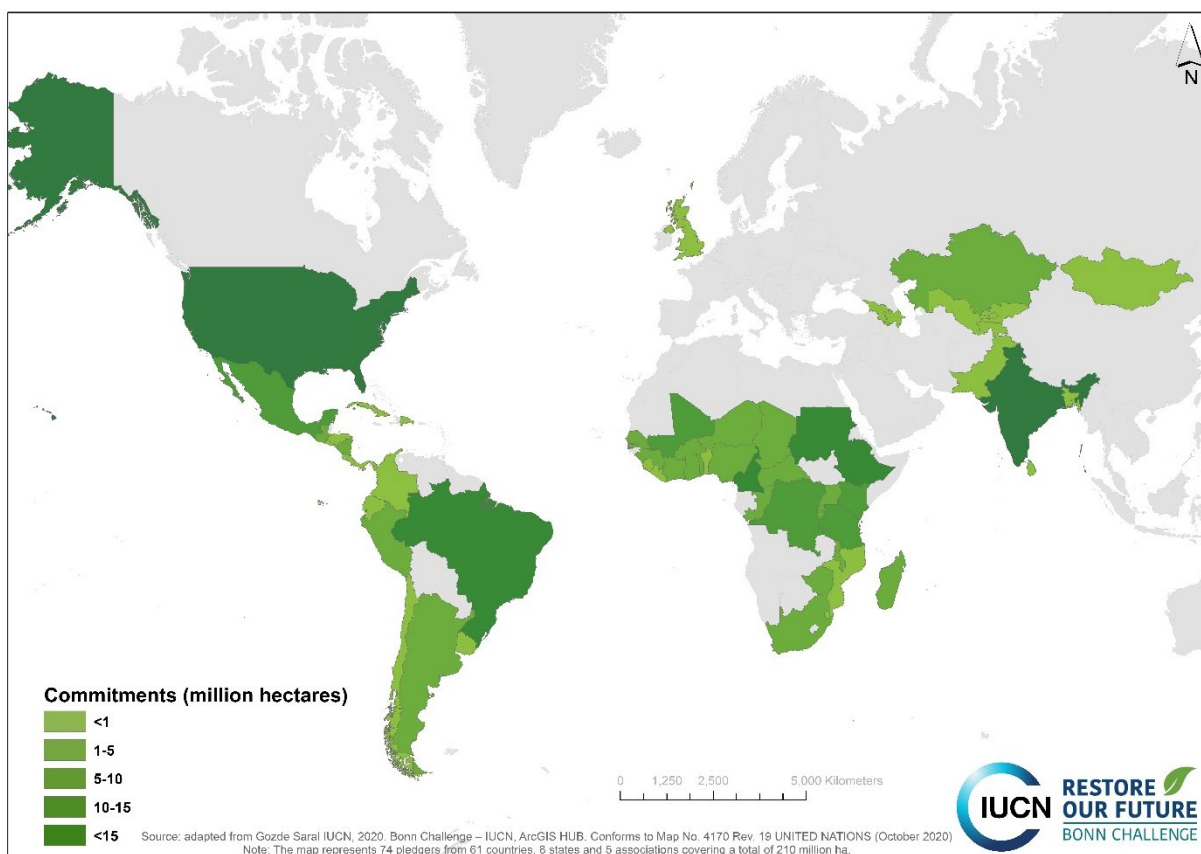


Figure 2. Countries with Bonn Challenge pledges as of October 2020

### Robustness and measurable nature of FLR-aligned targets or non-targets:

In general, FLR activities are commonly cited interventions for climate mitigation and adaptation across NDCs. 130 of 168 NDCs (77%) have quantitative and/or qualitative FLR-aligned targets. However, if qualitative targets are removed, **only 50 NDCs (30%) have quantitative FLR-aligned targets for mitigation and/or adaptation.** The majority of quantitative targets in NDCs are expressed in hectares, and some provide targets in tCO<sub>2</sub>eq. Taking a look at the Bonn Challenge countries' NDCs for comparison, **out of 168 NDCs, 61 countries have Bonn Challenge pledges with a total of 205.78 million hectares.** From these 61 Bonn Challenge countries, 53 have quantitative and/or qualitative FLR-aligned targets. Similarly, if qualitative targets are removed, **only 27 Bonn Challenge countries' NDCs have quantitative FLR-aligned targets for mitigation and/or adaptation.**

### Scope of FLR-aligned targets for accounting purposes:

**There are currently approximately 57 million hectares and roughly 3.27 GtCO<sub>2</sub> of unconditional and conditional targets under FLR-aligned activities in NDCs.** These targets represent only a portion of the FLR opportunity when compared to pledges under the Bonn Challenge. In the Bonn Challenge countries' NDCs, there are about 25 million hectares (n=20), and 3.22 GtCO<sub>2</sub> unconditional and conditional targets under FLR aligned activities. Yet, under the Bonn Challenge, the same number of countries (n=20) has committed 54 million hectares. The potential, therefore, is double in terms of hectares but not fully integrated into their NDCs. This analysis thus argues that if countries were able to define better, incorporate and quantify their FLR activities, then NDC ambition could be significantly increased.

Examining the scope of the FLR-aligned targets present in 130 NDCs, it was found that 96 NDCs express their target as part of an economy-wide or multi-sectoral approach (i.e., a % reduction in the entire economy or specific sectors that include LULUCF, agriculture, or forests). **Sectoral targets were established in 60 NDCs** (although some countries had both an economy-wide and sectoral target), and 40 NDCs exclude the land-sector altogether from the GHG accounting perspective. On the other hand, from the 53 Bonn Challenge countries' NDCs that contain quantitative

and/or qualitative FLR-aligned targets, 38 NDCs express their target as part of an economy-wide or multi-sectoral approach, sectoral targets were made in 27 the Bonn Challenge countries' NDCs, and **8 Bonn Challenge Countries' NDCs exclude the land-sector.**

### Mitigation or adaptation approaches and conditionality in FLR-aligned targets:

FLR activities are acknowledged as a contribution to climate mitigation. They also have a prominent role in adaptation efforts by enhancing the resilience and adaptive capacity of degraded ecosystems and rural economies. Adaptation is however is primarily left out from FLR targets in NDCs, and **the vast majority of quantitative FLR targets are conditional, with adaptation only reflected in a limited number of conditional targets** (see Table 1 and Table 1a for comparison between all NDCs and the Bonn Challenge countries' NDCs). The vast majority of FLR targets mentioned in NDCs are presented as mitigation measures, but this is not an accurate reflection of the comprehensive nature of the FLR approach. **The mitigation and adaptation benefits of FLR go largely unrecognised in NDCs.**

Table 1: Conditionality of Quantitative Mitigation and Adaptation Targets across NDCs

		Unconditional		Conditional	
		# of NDC Targets	Target #	# of NDC Targets	Target #
Mitigation	ha	11	24,792,799	28	27,129,154
	tons (CO <sub>2</sub> eq)	7	53,563,714	10	3,209,064,787
Adaptation	ha	0	0	8	4,797,205
	tons (CO <sub>2</sub> eq)	0	0	1	14,350,000

*\*Note: Some countries have both conditional and non-conditional targets*

Table 1a: Conditionality of Quantitative Mitigation and Adaptation Targets in Bonn Challenge countries' NDCs

		Unconditional		Conditional	
		# of NDC Targets	Target #	# of NDC Targets	Target #
Mitigation	ha	6	1,071,928	14	20,668,030
	tons (CO <sub>2</sub> eq)	4	19,410,200	6	3,189,513,636
Adaptation	ha	0	0	5	3,234,477
	tons (CO <sub>2</sub> eq)	0	0	1	14,350,000

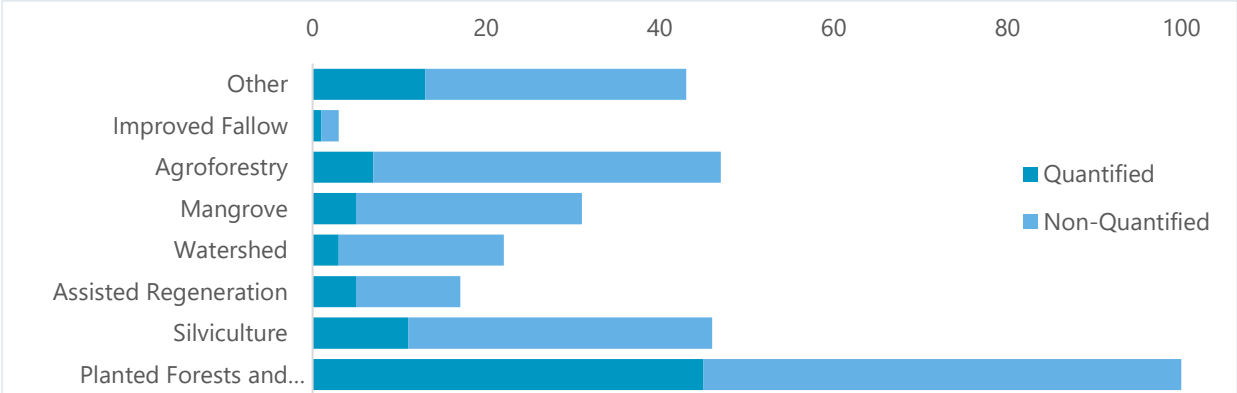
Moreover, there is an imbalance in the conditionality of FLR targets. Many targets (and non-targets) in the NDCs are presented as conditional, meaning they will only be implemented if countries receive adequate international support including finance, technology, or capacity building. **Out of 130 NDCs with FLR-aligned targets (quantitative and qualitative), around half (64) have unconditional targets and 115 have both unconditional and conditional targets.** There are about 25 million hectares in unconditional targets, versus an additional almost 32 million hectares that are conditional. Regarding targets expressed in tCO<sub>2</sub>eq, only 53.6 million tCO<sub>2</sub>eq are unconditional, and another 3.2 billion tCO<sub>2</sub>eq are conditional, with 3 billion of those conditional tons coming from India's NDC.

If comparing to the Bonn Challenge countries' NDCs, 29 have unconditional targets and 55 have conditional targets. Regarding the targets expressed in hectares, **in the Bonn Challenge countries' NDCs there are about 1.07 million hectares in unconditional targets and 24 million hectares in conditional targets.** Regarding the targets expressed in tCO<sub>2</sub>eq, 19.4 million tCO<sub>2</sub>eq are unconditional and 3.2 billion tCO<sub>2</sub>eq are conditional (as mentioned 3 billion tons are from India; India is a Bonn Challenge country with a pledge of 21 million hectares but has only expressed targets in tCO<sub>2</sub>eq, not in hectares, under conditional and unconditional FLR-aligned targets).

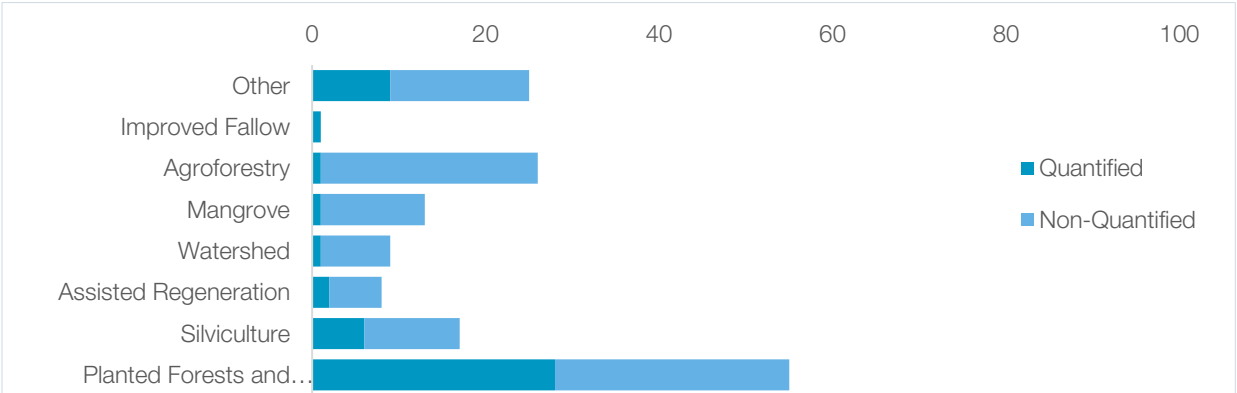
**References to specific FLR activities:**

Planted forests and woodlots, silviculture and agroforestry activities are the most prominent FLR activities in NDCs. However, as Graph 1a illustrates below, while these activities are present in many NDCs, the majority are included without quantitative targets (see Graph 1b for comparison with the Bonn Challenge countries' NDCs). For example, only 15% of agroforestry targets were quantifiable. Yet, given that FLR activities are present across NDCs, there remains the ability for countries to add quantitative elements to their targets in hectares or tons of carbon removal which could potentially contribute to securing additional support in terms of both finance and implementation capacities.

Graph 1a: Number of NDCs with Quantified vs Non-quantified FLR-Aligned Activities (targets and non-targets)



Graph 1b: Number of Bonn Challenge countries' NDCs with Quantified vs Non-quantified FLR-Aligned Activities (targets and non-targets)

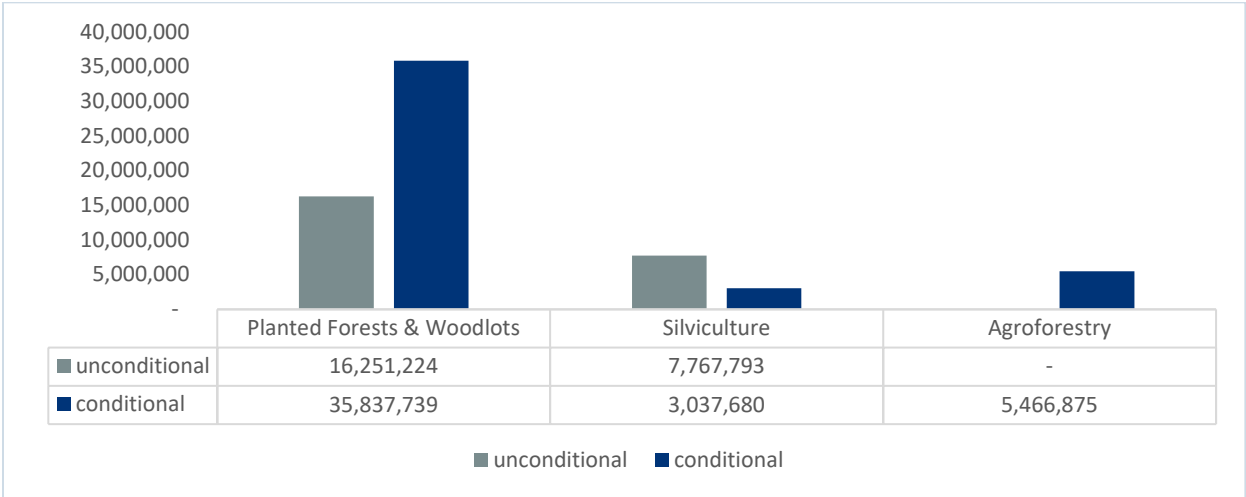


**Ambition varies across activities and countries:**

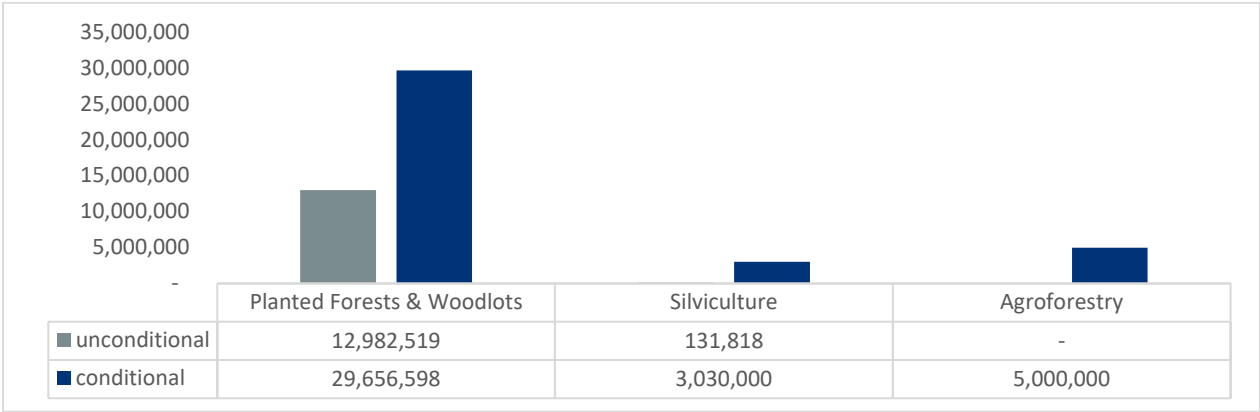
As Graph 2a illustrates, the targets for the three most prevalent FLR activities in NDCs vary widely in countries' ambition (target size) and conditionality. For the number of hectares in which planted forests and woodlots, agroforestry, or silviculture will be implemented, the first had the highest number of hectares for both conditional and unconditional targets, and the conditional target was more than double that of the unconditional target. In agroforestry, no country had an unconditional target for hectares. And silviculture is unusual in that it is the one activity with a higher unconditional target, at over 7.7 million hectares, while the conditional target is around 3 million hectares. For comparison with the Bonn Challenge countries' NDCs, see Graph 2b.



Graph 2a: Mitigation Contribution of Selected FLR Activities (Ha) across NDCs



Graph 2b: Mitigation Contribution of Selected FLR Activities (Ha) in Bonn Challenge countries' NDCs



## Analysis and discussion

The forest and land sector has an essential role in reaching the 1.5°C and 2°C goals of the Paris Agreement. The forest and land sector currently contributes 25% of global GHG emissions (Roe, et al., 2017) and could represent up to a third of the total mitigation needed to reach the 1.5°C goal (Roe, et al., 2019). Reaching the 1.5°C and 2°C scenarios modelled in the IPCC report on climate change and land use necessitates that the AFOLU sector realises its full mitigation potential by either serving as the primary approach for carbon sequestration through afforestation and reforestation or through bioenergy with carbon capture and storage (BECCs) (Rogelj, et al., 2018), in addition to stopping deforestation (UNEP, 2019). While many integrated assessment models do not yet include conservation, restoration, or management as means for further carbon sequestration, the IPCC acknowledges the high potential of these options given the low technological requirements and positive co-benefits for the environment and local communities.

The aggregate effect of NDCs from forest and land sector targets could be significantly closer to achieving 1.5° - 2°C pathways than it is currently set out to be if more NDCs went through a comprehensive target-setting and/or enhancement process founded on science-based and quantifiable forest and land-based targets. For this, countries have the opportunity to tap into the existing forest and land-based voluntary commitments as such under the Bonn Challenge, as demonstrated in this analysis. A few Bonn Challenge countries have already integrated their voluntary

pledges into their NDCs, but much more can be done. Updating and enhancing NDCs in this second cycle in 2020, and subsequently every 5 years, offers an opportunity to revisit current NDCs and leverage existing ambitious targets, policy measures and domestic priorities that will attract technical and financial support if those targets are measurable, robust and can materialise.

The analysis shows that **there are uncertainties concerning the clarity and transparency of the mitigation targets in current NDCs, which could be enhanced in the 2020 update cycle.** Such enhancements would facilitate accounting of global emissions, comprehensive tracking of collective progress, NDC implementation and exploring future opportunities for the next round of NDCs. According to the Katowice Climate Package that establishes the set of rules, modalities and procedures for reporting and tracking progress under NDCs, countries must report their GHG emissions and reductions in the context of the transparency reports, where the reporting emissions and reductions should be in tCO<sub>2</sub>eq.

Currently, almost a quarter (24%, n=40) of NDCs completely exclude the land sector from their GHG accounting under the Paris Agreement. The majority of NDCs with quantified land-based targets (n=46) express them in hectares, not tCO<sub>2</sub>eq. Only 16 countries express forest targets in tCO<sub>2</sub>eq, while 37 (non-exclusive) expressed them in hectares (7 present goals in both hectares and tCO<sub>2</sub>eq). From a GHG accounting perspective, 57% of NDCs (n=96) include land-based targets under economy-wide GHG accounting. This is the most inclusive accounting method, allowing for more straightforward overall assessments of national and international progress.

In the Bonn Challenge countries' NDCs with quantified land-based targets, 20 countries express forest targets in hectares and 9 of them in tCO<sub>2</sub>eq. With regards to GHG accounting, 38 Bonn Challenge countries' NDCs include land-based targets, while 8 of the Bonn Challenge countries' NDCs exclude the land sector from their GHG accounting. These targets represent a small portion of the total opportunity when compared to those voluntary commitments under the Bonn Challenge. There is an obvious missed opportunity here, in that if all of those hectare commitments under the Bonn Challenge were translated to tCO<sub>2</sub>eq -210 million hectares pledged to date- it would significantly increase the accountable land-based ambition in NDCs.

Based on land-use responses, the analysis indicates that the most significant portion of targets for afforestation/reforestation **is for planted forests, totalling 52 million hectares included across 77 NDCs.** Out of 77 NDCs, 40 Bonn Challenge countries integrated planted forests in their NDCs representing 42 million hectares. However this is underrepresenting the total mitigation potential from the wide range of interventions possible under the FLR approach in the AFOLU sector. For instance, the restoration and sustainable use of forests, grasslands, mangroves, wetlands and other ecosystems is underrepresented in the NDCs. FLR responses such as agroforestry, natural regeneration, improved fallow, as well as adaptation responses such as watershed protection and erosion control are scarcely included in NDCs.

There are numerous analyses of national and subnational opportunities for FLR mitigation potential, which can provide a basis to ramp up NDCs in the 2020 cycle (see Box 2. Recognising the potential of existing Bonn Challenge commitments). To start with, countries can capitalise on Bonn Challenge commitments that encompass hectares to be restored as well as types of restoration interventions (reforestation, agroforestry, natural regeneration, sustainable land management, sustainable forest management, etc) that will be deployed to achieve the targets and estimates of GHG potential that reflect the benefits of climate action. For example, the second assessment of Bonn Challenge progress, carried out in 2018, indicates that around 43.7 Million hectares in 13 jurisdictions are already documented as under restoration and that an estimated 1.38 billion tonnes of CO<sub>2</sub>eq have been sequestered (Dave, et al., 2019). Restoration Opportunities Assessments, carried out by IUCN and partners over half a billion hectares to date, have generated the types of information needed to assist countries in incorporating new or enhanced quantifiable and measurable restoration activities in their NDCs and implementation actions (IUCN, 2020).

Although this paper focuses on target setting, the need of increasing ambition in the 2020 cycle of NDCs will also crucially require significant policy alignment across forest and land sectors for integrated ambitions and actions.

## Box 2. Recognising the potential of existing Bonn Challenge commitments

To date, 74 pledges from countries, conservation alliances and private entities have been made to bring over 210 million hectares into restoration under the Bonn Challenge. These commitments are driving global momentum to implement FLR across degraded and deforested lands. Given that forest landscape restoration offers untapped mitigation potential, these Bonn Challenge commitments need to be well integrated into NDCs.

Two Bonn Challenge countries provide examples: Rwanda with a voluntary commitment of 2 million hectares and El-Salvador with 1 million hectares. Both countries' first round NDCs made references to FLR-aligned activities (agroforestry, reforestation, planted forests and woodlots). The targets are conditional, expressed in hectares and not in tonnes of CO<sub>2</sub>eq. El-Salvador's FLR-aligned targets equate to 518,000 hectares (mitigation contribution), while Rwanda's FLR-aligned target equates to 21,440 hectares (adaptation contribution).

When compared to their respective pledges under the Bonn Challenge, these targets represent a small portion of the total opportunity for restoration (3 million hectares). In addition, if the hectares figure and associated FLR activities are translated to tCO<sub>2</sub>eq, their land-based ambition in NDCs would significantly increase. For example, according to the progress tracked under the Restoration Barometer as of 2018, the area brought under restoration in El-Salvador is equivalent to 122,097 hectares with an estimated 351,321 tonnes of CO<sub>2</sub> sequestered; while in Rwanda those figures are equivalent to 708,629 hectares with estimated 102,154,014 tonnes of CO<sub>2</sub> sequestered. Prominent FLR activities reported in El-Salvador are agroforestry and silviculture while in Rwanda they are agroforestry, planted forests and woodlots, watershed protection and erosion control.

In addition, since the Paris Agreement, these countries have adopted FLR supportive policies, plans, strategies, and established the cross-sectoral institutional arrangements that facilitate implementation on the ground. For instance, in El Salvador, the National Policy on Climate Change (2016), National Forest Strategy (2017), National Forestry Policy (2017), and the National Restoration Action Plan (2018) are a few examples that enable the implementation and success of FLR activities since the Bonn Challenge pledge was made. Similarly, in Rwanda the National Environment and Climate Change Policy (2018), Rwanda National Forestry Policy (2018), National Agriculture Policy (2018), Forest Sector Strategic Plan (2018), and Agroforestry strategy and action plan (2018) are a few examples that support FLR activities for climate change mitigation and adaptation.

These Bonn Challenge commitments are underpinned by technical planning to scale up FLR efforts. Both countries have utilized the Restoration Opportunities Assessment Methodology (ROAM), carried out by country partners and IUCN, to generate information regarding the type of FLR activities and total opportunities for restoration expressed in hectares with estimated carbon sequestration potential. This same information can be used by these countries to incorporate new or enhanced quantifiable and measurable FLR-aligned activities and targets in their NDCs.

For example, the El Salvador ROAM analysis highlighted the potential and feasibility to implement nine FLR-aligned activities covering an area of almost 1 million hectares, equating El Salvador's Bonn Challenge pledge. In Rwanda the national ROAM process mapped areas with the most urgent restoration needs, with approximately 2.25 million hectares of land and freshwater resources that could directly benefit from FLR. The FLR-aligned activities in both countries offer an opportunity to restore degraded and deforested landscapes with the substantial benefit of reducing emissions. In addition, for each of the identified FLR-activities, existing and potential financing instruments were analysed, and a proposed financial mechanism was designed with specific types of investments and investors. These financial and cost-benefit analyses can inform the finance needs for conditional FLR-aligned targets, for example. Other relevant information can also be derived from countries' existing policies, strategies, targets and commitments with FLR actions such as LDN targets, National REDD+ Strategies among others. Some countries such as Ghana, have already reflected REDD+ strategy in NDCs, while other countries REDD+ strategies were developed post first NDCs submission. Therefore, to strengthen the existing policies and measures, REDD+ and FLR strategies could be better reflected in 2020 NDCs.

## Conclusion

This analysis provided an overview of the first round of NDCs in terms of the scope, robustness and clarity of FLR-aligned targets, specifically to demonstrate the outlook for the Bonn Challenge to increase countries' ambition and action on FLR as a nature-based solution to climate change mitigation and adaptation. **As the process of updating and/or enhancing NDCs moves forward in 2020 and beyond, countries have an opportunity to capitalise on existing and new restoration commitments** and quantifiable actions and to integrate existing policy and legal frameworks, including the Bonn Challenge pledges, into the NDC update cycle. **For example, if all Bonn Challenge countries were to incorporate their voluntary commitments into their 2020 NDCs, 210 million hectares of increased climate ambition could be generated from the AFOLU/LULUCF sector.**

There is a notable absence of science-based numerical targets for FLR activities in NDCs even though there is evidence available as well as the political will to advance restoration efforts around the globe (as demonstrated by the widespread uptake of Restoration Opportunities Assessments, the Restoration Barometer, Bonn Challenge country leadership, etc.). The current mitigation targets presented as qualitative information in NDCs, or a small portion of mitigation commitments expressed in hectares rather than in tCO<sub>2</sub>eq, or even excluding the sector for GHG reporting purposes, suggests the urgent need for **enhancement of clarity, robustness and transparency of the mitigation targets from the forest and land sector.** For example, if all hectare commitments and associated FLR-aligned actions were translated to tCO<sub>2</sub>eq, it would significantly increase the accountable forest and land-based ambitions in NDCs. This will require improved and sustained national capacities for both monitoring and measuring changes in forest and land uses, as well as for estimating and reporting associated CO<sub>2</sub>eq emissions and sequestration.

Over half of quantified mitigation targets are conditional upon international support, including finance, technology transfer and capacity building. **The large degree of conditionality in current NDCs indicates an urgent need to identify the scope of the needed financial resources, technical capacity and other necessary means of implementation.** The opportunity to improve the process of enhancement and implementation in the NDC 2020 cycle (and beyond) is to maximise synergies with existing national priorities across the AFOLU/LULUCF sector, that enable comprehensive and robust estimates and reporting. This includes, inter alia, promoting multi-level governance approaches for NDC revision that integrate FLR relevant sectoral ministries/agencies, REDD+ programmes, institutions working on forest and land-use policies, and entities working on the achievement of the biodiversity, Land Degradation Neutrality and Sustainable Development Goals. Although not the focus of this paper, it is important to mention that a wide array of tropical forest countries have been undertaking REDD+ implementation in the past 12 years, and several have already achieved emissions reductions in the forest and land-use sector. Some have secured results-based payments for such mitigation outcomes. Yet, only a marginal number of countries have included REDD+ national strategies and action plans as part of their NDCs targets (Maniatis, et al., 2019). Additional opportunities may be found in the targets countries have set in their Land Degradation Neutrality programmes National Biodiversity Strategies and Action Plans (NBSAP) and national targets for the Sustainable Development Goals (SDGs).

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