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REDD+ and the Article 6 Rulebook

Will there be crediting of forestry activities under Article 6?

Nicolas Kreibich and Christof Arens

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Contents

- Summary 2**
- 1 Introduction 4**
- 2 Is REDD+ possible under Article 6 in principle?..... 7**
- 3 What would Article 6 require from REDD+ activities? 11**
 - 3.1 *Environmental Integrity* 11
 - 3.2 *Ambition raising*..... 15
 - 3.3 *Sustainable Development*..... 16
- 4 Discussion and Conclusions 19**
- References 21**

Summary

The role of forests in market-based climate change mitigation has been a contentious issue for more than a decade. While considerable progress on the technical and methodological requirements for forest protection activities was made under the heading of REDD+, the financial incentives needed to avoid emissions and foster removals in the forestry sector were subject to intense debates. More specifically, the question of whether REDD+ activities should be allowed for use in international carbon market programmes remained unanswered. The question was neither answered by the adoption of the Warsaw Framework for REDD+ (WFR) nor by the integration of REDD+ into the Paris Agreement under its Article 5.

With the adoption of the Article 6 rulebook at COP26 in Glasgow in November 2021, the debate about the role of market-based forestry activities under Article 6 of the Paris Agreement gained new momentum. The Article 6 rulebook provides guidance for the implementation of bi- or multilateral cooperation under Article 6.2 while the Rules, Modalities and Procedures (RMPs) outline the functioning of the Article 6.4 mechanism. Against this background, this policy paper analyses the decisions on Article 6 taken by Parties at COP26 and what they might imply for implementing market-based forestry activities.

Further clarity on the eligibility of REDD+ activities under Article 6 needed

With regard to the question whether these provisions allow for REDD+ activities to be implemented under Article 6 in principle, we find that further clarity on the eligibility of REDD+ activities under Article 6 is needed. Neither the Article 6.2 Guidance nor the RMPs for the Article 6.4

mechanism contain an explicit reference to REDD+ or Article 5 of the Paris Agreement. While this does not directly exclude all forestry activities, some REDD+ activity categories could be considered to be beyond the scope of Article 6. As some activities mainly preserve existing carbon stocks and may not necessarily enhance them, they could be considered 'emission avoidance', which is currently not covered under Article 6. At the same time, however, this could also be true for mitigation activities in other sectors that avoid future emissions from occurring. This shows that there is a need for further clarity on the term 'emission avoidance' and how it relates to forestry activities.

The Article 6 requirements go well beyond the existing provisions for REDD+

The paper further assesses the new rules' relationship with existing REDD+ guidance. It finds that many of the aspects included in the Article 6.2 Guidance and the Article 6.4 mechanism's RMPs are also covered by existing REDD+ guidance. In several areas, however, the Article 6 requirements go well beyond the existing provisions for REDD+, for instance with regard to the development of baselines and the revision processes. The analysis also shows that the Warsaw Framework for REDD+ is rather generic and offers considerable room for interpretation.

At the same time, it must be noted that numerous activities are being implemented on the ground, with several REDD+ countries going beyond the bar set by the Warsaw Framework to meet the requirements of existing multilateral programmes and donors.

REDD+ on the agenda at COP27

To provide clarity about the eligibility of REDD+, Parties should first and foremost arrive at a clear definition of what ‘emission avoidance’ is. Building on this conceptual clarity, Parties will then be able to decide on the eligibility of ‘emission avoidance’ and of REDD+ activities under Article 6. In addressing these questions, Parties should keep in mind the very nature of Article 6 and its role under the Paris Agreement: Article 6 is to allow for the cooperation of Parties that aim at increasing their climate ambition. Parties should hence not be rewarded for not increasing their harmful impact on the climate, but for implementing activities that go beyond their highest ambition level and which they cannot implement without external support.

1 Introduction

Forests cover about 30 per cent of the land globally, of which 22 per cent are used and 9 per cent are intact or primary forest (IPCC, 2019). They perform a great variety of economic and social functions: apart from storing significant amounts of carbon dioxide, forests offer benefits such as supporting livelihoods, providing food, protecting biodiversity, supplying goods and services, and delivering other ecosystem services.

At the same time, forests are a huge source of greenhouse gas (GHG) emissions. According to the Intergovernmental Panel on Climate Change (IPCC), Agriculture, Forestry and other land use (AFOLU) activities accounted for 23 per cent of the total net anthropogenic emissions in the period between 2007-2016. The forest and land-use sector (excluding agriculture) is responsible for around ten per cent of global net GHG emissions (IPCC, 2019; see also: Sato et al., 2019).

Within the UNFCCC negotiations, the debate on how to reduce emissions from the forestry sector has a considerable track record. It mainly dates back to 2005, when Papua New Guinea (PNG) and Costa Rica introduced their proposal on “Reducing Emissions from Deforestation in Developing Countries: approaches to stimulate action” (RED). Over the years, the RED scope was broadened (see: Arens et al., 2010) to also include forest degradation as well as the role of conservation, sustainable management of forests and the enhancement of carbon stocks with the Bali Action Plan (UNFCCC, 2008 Decision 1/CP.13, para 1b (iii)).

While decisions on financial incentives to avoid deforestation were subject to intense debates, Parties made considerable progress on tech-

nical and methodological requirements for forest protection over the years. A decisive turning point was the UNFCCC climate change conference in 2013, which saw the adoption of the Warsaw Framework for REDD+ (WFR), a set of decisions that with the previous decisions completed the rules and modalities for the implementation of REDD+ activities (for an overview see: Sanz & Penman, 2016), including requirements that forest countries are to meet before accessing finance and encouraging among others the Green Climate Fund (GCF) to provide it. The WFR addresses, among others, how to estimate emission reductions, establishing safeguards and defining rules of engagement (Streck et al., 2017). It became part of the Paris Agreement in 2015, with the Agreement’s Article 5 referring to these framework decisions governing REDD+ activities.

In parallel to these developments at the negotiations level, numerous activities and programmes funded by international donors, UN agencies and developed country governments have taken place both in terms of enhancing readiness but also as results-based finance (RBF) schemes. This ranges from the UN REDD Program to the Forest Carbon Partnership Facility (FCPF) Carbon Fund and Readiness Fund, and the BioCarbon Fund Initiative for Sustainable Forest Landscapes managed by the World Bank. The Green Climate Fund (GCF) has also approved a pilot program for results-based finance for REDD+. Other multilateral initiatives include the REDD Early Movers program established by Germany, Norway and the United Kingdom (GNU partnership). Some donor countries, in particular Norway, also closed bilateral agreements with forest countries, including Indonesia, Tanzania and Mexico. In April 2021,

Norway, the United Kingdom, and the US together with nine initial companies launched the Lowering Emissions by Accelerating Forest finance programme (LEAF), a public-private partnership to provide large-scale finance for high-integrity REDD+ results which may also be used by private sector buyers in the context of their voluntary mitigation targets.

Moreover, REDD+ projects recently became one of the most successful project types in the so-called voluntary carbon market (VCM), both in terms of volumes transacted (47 MtCO₂e in 2020) and with regard to the prices paid per ton (45.59 USD/ton) (Donofrio et al., 2021; World Bank, 2021). Buyers on this market can use these credits to achieve voluntary mitigation targets, such as carbon neutrality and to compensate their carbon footprint, including for reasons of corporate social responsibility (CSR). With more and more corporates announcing net-zero or carbon neutrality targets, this demand has recently grown to a large extent. The emergence of such a market has also been fuelled by the fact that the compliance markets did not accept forestry-related credits in offsetting international transactions. However, the lines between the voluntary carbon market and the compliance market become increasingly blurred with compliance schemes in South Africa or Colombia accepting credits from private certification standards such as VERRA's Verified Carbon Standard (VCS) and private buyers using allowances from compliance schemes to voluntarily offset their emissions.

The objective of reducing emissions in the forestry sector has hence been pursued at multiple levels with different approaches. In the UNFCCC context, however, one element of financing REDD+ remained constantly unsolved: should crediting of REDD+ activities be allowed for use in international carbon market programmes? The Warsaw REDD+ framework does not answer the question of a potential future inclusion of REDD+ in international carbon

markets. In earlier experience with forestry crediting under the Kyoto Protocol's Clean Development Mechanism, afforestation and reforestation projects (A/R projects) were allowed as early as 2001, while avoided deforestation was excluded from the mechanism. In fact, even the use of certificates from A/R projects was restricted to a maximum of 1 per cent of the Party's base year emissions for each year of the first commitment period. Apart from the limited scope, overall demand for CERs from deforestation and afforestation projects remained remarkably low, not least because they were banned from import into the EU Emissions Trading System (EU ETS). Some national and subnational compliance schemes such as the Californian cap-and-trade program or the Australian Emissions Reduction Fund foresee the use of forestry credits in various variants, but are so far restricted to credits created domestically.

Against the background of the decisions on the Article 6 rulebook taken at the Glasgow summit, the objective of this paper is twofold: First, we aim at answering whether the provisions allow for REDD+ activities to be implemented under Article 6, in principle. Second, the paper sheds some light on the impact of the Article 6 rulebook on REDD+ activities and the new rules' relationship with existing guidance. In doing so, the paper builds on and expands work that has been undertaken before COP26 (Graham, 2017; Graham & Movius, 2019; O'Sullivan, 2020; Streck et al., 2017).

This paper is not a legal analysis and can therefore not provide the final answer on crediting of forestry activities under the UNFCCC. Instead, the paper aims to advance the discussion about the potential role of REDD+ under Article 6. For this purpose, we compare the Article 6 rulebook with the existing REDD+ guidance and identify areas where additional guidance is needed. The paper does not discuss challenges and risks associated to financing of REDD+

crediting and whether forestry activities should be financed through markets. These aspects have been explored elsewhere (see e.g.: Chagas et al., 2019; Gehrig-Fasel et al., 2021; Schneider et al., 2018).

The paper is structured as follows: the next section takes a closer look at the Article 6 rulebook in order to assess whether REDD+ activities are covered by the decisions Parties have taken in Glasgow (Chapter 2). This is followed by an analysis of key issues that are relevant for the implementation of mitigation activities under Article 6 structured along the three areas of environmental integrity, ambition raising and sustainable development (Chapter 3). Chapter 4 summarizes key findings and concludes.

2 Is REDD+ possible under Article 6 in principle?

The protection and enhancement of forests has been discussed under the UNFCCC for several years and numerous decisions were taken in the past to guide the implementation of REDD+ activities. At the same time, Parties to the UNFCCC have adopted rules on the functioning of market-based cooperation, most recently with the adoption of the Article 6 rulebook in Glasgow. This section explores both, the REDD+ guidance and the Article 6 rulebook to assess whether REDD+ could be implemented as market-based activities under the Paris Agreement. In order to make the analysis easily accessible, this chapter applies a “short questions, quick answers” scheme.

Does the Warsaw Framework for REDD+ allow for activities to be supported via carbon markets?

When adopting the Warsaw Framework for REDD+ (WFR)¹, Parties agreed that “that results-based actions that may be eligible to appropriate market based approaches that could be developed by the Conference of the Parties [...] may be subject to any further specific modalities for verification.” (UNFCCC, 2014 Decision 14/CP.19, para 15). The Warsaw Framework does hence not exclude the possibility of REDD+ activities being financed via carbon markets. At the same time, however, the WFR makes clear that additional provisions could be developed to ensure stronger verification of the REDD+ credits to be used in market mechanism under the UNFCCC. More generally it can be

concluded that the WFR was not established with the intention to credit REDD+ activities (see also: Schneider et al., 2018).

Does the Article 6 rulebook allow for REDD+ activities?

Neither the Article 6.2 Guidance nor the Rules, Modalities and Procedures for the Article 6.4 mechanism contain an explicit reference to REDD+ or Article 5 of the Paris Agreement. They do hence neither explicitly include or exclude these activities.

An attempt by Papua New Guinea (PNG) to include a generic reference to REDD+ into the Article 6.2 text almost led to the breakdown of the Glasgow negotiations on the last day of COP26 (ClimateHomeNews, 2021). The text pushed by PNG would have defined internationally transferred mitigation outcomes (ITMOs) to also include “emission reductions and removals resulting from the [REDD+ Warsaw Framework] from 2015 onwards” (UNFCCC, 2021c, para h) with no explicit reference to the need to develop any further provision to strengthen verification.

A slightly modified version of this para was still contained in the draft text from 12 November (UNFCCC, 2021d) the last official day of the conference. Due to opposition from the US and others, the paragraph was deleted at last minute from the final text. The reference to REDD+ would not only have allowed for the generation of ITMOs under the REDD+ Warsaw Framework without having to comply with the

¹ The WFR is a set of decisions adopted through several COPs that provide the rules and modalities for the implementation of REDD+ under the UNFCCC.

standards set by the Article 6.2 Guidance. Furthermore, the reference to “2015 onwards” would have allowed for an inflow of a considerable amount of REDD+ credits generated prior to 2020. With the paragraph being removed from the final text, both the broad acceptance of newly generated and pre-2020 REDD+ credits as ITMOs were rejected.

What does this mean for REDD+ activities? Does the deletion of the direct REDD+ reference from the Article 6 rulebook entirely exclude such activities from Article 6? While a clear answer to this cannot be provided, the text points in the direction of no exclusion of REDD+ under Article 6 but that for its inclusion further provisions could be needed.

One indicator for the possibility of forestry activities under Article 6 is the fact that the Article 6.2 Guidance doesn't require ITMOs to be permanent, but requires Parties to report on how they address the risk of non-permanence (UNFCCC, 2021a, Annex, para 18h (iii)). This allows for mitigation activities that have a temporally limited climate impact, such as carbon removals in the context of afforestation and reforestation activities, to be implemented under Article 6.2. Similarly, the Article 6.4 mechanism requires activities to minimize the risk on non-permanence and to fully address potential reversals occurred (UNFCCC, 2021b Annex, para 31d (ii)).

At the same time, however, there is some uncertainty regarding the REDD+ activities that might qualify for the generation of ITMOs under Article 6.2. The Art. 6.2 Guidance defines ITMOs as “emission reductions and removals” (UNFCCC, 2021a, Annex, para 1b), while the role of ‘emission avoidance’ is still to be explored: In its decision taken in Glasgow, the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA) requested the Subsidiary Body for Scientific and Technical Advice (SBSTA) to consider whether ITMOs could

include ‘emission avoidance’ and to develop respective considerations and recommendations to be adopted by the CMA at its next session in November 2022 (UNFCCC, 2021a, para 3c).

This allows to draw the conclusion that under the current Article 6.2 rulebook, ITMOs do not include ‘emission avoidance’ although there is no definition of ‘emission avoidance’ and the REDD+ activities as defined in Decision 1/CP.16 refer to emission reduction and removals and not to ‘emissions avoidance’. Therefore, the decision taken in Glasgow raises the question about the nature and scope of ‘emission avoidance’ and how it relates to the coverage of the different REDD+ activities. Under REDD+, activities are defined as:

1. Reducing emissions from deforestation
2. Reducing emissions from forest degradation
3. Conservation of forest carbon stocks
4. Sustainable management of forests
5. Enhancement of forest carbon stocks

Activities under category 5 - enhancement of forest carbon stocks – lead to carbon being captured from the atmosphere and stored in biomass, which could be seen to be included under ‘removals’. This category includes afforestation and reforestation activities where forest area is increased as well as activities that result in an increase of carbon stock in existing forests (see: Lee et al., 2018).

Conservation of forest carbon stocks (category 3) and sustainable management of forests (category 4), by contrast, do not necessarily lead to emission reductions or removals as they could leave the overall carbon stock unchanged. They could therefore be considered ‘emission avoidance’ activities that are beyond the scope of Article 6.2.

For activities under the categories 1 and 2 (reducing emissions from deforestation and forest degradation) the situation is even less clear: On

the one hand, as referred to in Decision 1/CP.16 (UNFCCC, 2011a) they are emission reduction activities, as they reduce emissions against a defined baseline, making them broadly comparable to emission reduction activities in other sectors, such as energy efficiency in the industry. According to this reading, they could be seen to be covered as 'emission reductions' under Article 6.2.

On the other hand, these activities will also avoid future emissions from occurring, falling into the category 'emission avoidance'. While the same observation could also be made for mitigation activities in any other sector where future emissions will be below the baseline, this categorization is also the reading that is most in line with how the term 'avoidance' has originally been used in the context of REDD+ in academia (see for example: Pirard & Karsenty, 2009). It should be noted, though, that in the UNFCCC negotiations the concept of 'emission avoidance' was replaced by the concept of 'emissions reductions from deforestation' with the request of PNG and Costa Rica to introduce an agenda item² at COP11, leading to the deletion of the term 'emissions avoidance' from the negotiations. Despite the term 'avoidance' no longer being used in the UNFCCC context, given the term's track-record in the literature it is not surprising to see that experts and academia interpret that activities that involve reducing emissions from deforestation and forest degradation are referred to as 'emission avoidance' in the Glasgow decisions and are hence not covered by Article 6.2. This issue will need to be clarified by legal experts, given that it is only one of the possible interpretations.

The situation under the Article 6.4 mechanism is similar: The scope of activities that can be implemented under the mechanism includes activities that reduce emissions and those that increase removals (UNFCCC, 2021b, Annex, para

31a). Similar to the Article 6.2 decision, the CMA requested SBSTA to develop recommendations for the "consideration of whether [Article 6.4] activities could include emission avoidance and conservation enhancement activities" (UNFCCC, 2021b, para 5h).

As can be seen, more clarity is required regarding the scope of REDD+ activities that could be implemented under Article 6. A legal assessment of the UNFCCC text will be needed to clarify this question. More generally, it should be noted that a clear differentiation between individual activity categories could be difficult to realize in practice, as the lines between these categories become increasingly blurred. This points towards REDD+ under Article 6.2 and the 6.4 mechanism being limited to afforestation and reforestation activities.

The fate of the other market-based forestry activities will largely depend on the consideration and decision by the CMA regarding the potential inclusion of 'emission avoidance', to be taken at the end of 2022. In its work towards this decision, SBSTA should provide a clear definition of 'emission avoidance' and how it relates to REDD+ activities.

Which phases of REDD+ could be creditable under Article 6?

In 2010, Parties in Cancún agreed that REDD+ should be implemented in three phases (UNFCCC, 2011b, Decision 1/CP.16, paras 73, 74):

- The readiness phase includes the development of strategies and policies at the national levels as well as capacity development initiatives.
- This first phase is followed by the implementation phase where national policies and measures are actually implemented and

² See request by PNG and Costa Rica in UNFCCC (2006, section VI. Reducing emissions from deforestation in

developing countries: approaches to stimulate action (Agenda item 6))

which might also involve capacity development activities.

- In the third, the results-based actions phase, REDD+ activities that are fully measured, reported and verified allow REDD+ countries to seek and obtain results-based payments.

With Article 6.2 providing for the transfer of mitigation outcomes between Parties, the potential for REDD+ crediting is clearly limited to the third results-based action phase, while preparatory measures as well as the implementation of REDD+ cannot be directly financed via Article 6. This is also in line with the Warsaw Framework which limits the potential eligibility of market-based approaches to results-based actions (UNFCCC, 2014, Decision 14/CP.19, para 15).

3 What would Article 6 require from REDD+ activities?

What does the Art. 6 rulebook mean for existing as well as future REDD+ activities? Could existing REDD+ programmes in principle transition under Article 6 and what aspects must new initiatives consider? We will explore this question by looking into key requirements of the Article 6 rulebook and how they relate to existing REDD+ guidance under the Warsaw Framework.

The analysis is structured along the overarching principles that the Paris Agreement establishes for Article 6:

- Environmental integrity
- Ambition raising
- Sustainable development

All three elements are included in Article 6.1 of the Paris Agreement, the paragraph that provides the basis for all types of voluntary cooperation under Article 6.

3.1 Environmental Integrity

Environmental integrity is a term that is often referred to but which has not been clearly defined in the past (Schneider et al., 2017). For the purpose of this paper, environmental integrity will be considered to be ensured if the cooperation and transfer of ITMOs leads to aggregated global greenhouse gas emissions over time that are not higher than those that would have oc-

curred without the cooperation. While environmental integrity must be ensured at both ends of the cooperation, the demand and the supply side, we will focus on the latter by exploring selected aspects of unit generation.

Baseline setting

Baselines are a benchmark to assess the performance of crediting programs. In order to generate credits, activities must outperform this benchmark. Two main approaches to establish baselines for forest-related mitigation can be differentiated (Schneider et al., 2018):

Business-as-usual scenarios: BAU scenarios represent a forecast or projected rate of changes in carbon stocks and related GHG emissions over specific time period in the absence of the REDD+ activity. This involves modelling a counterfactual scenario that might also take into account historical trends. It should be noted, though, that BAU is not practiced for REDD+ under the UNFCCC.

Historical emissions: Historical baselines are based on the average rate of changes in carbon stocks and GHG emissions over a specific time period prior to the implementation of the REDD+ activity. They might also be adjusted to take into account national circumstances. Under the WFR, only historical averages and adjustments for high forest and low deforestation countries (HFLDs) are allowed. Adjustments need to be justified.

Key elements of the Article 6 rulebook

Accounting rules. In order to avoid double counting of emission reductions, the accounting rules adopted in Glasgow require Parties to account for all ITMOs authorized or used by applying so-called “corresponding adjustments” on an annual basis: The seller adds the mitigation outcomes occurred to its emissions balance while the buyer subtracts the mitigation outcomes from its emissions balance (UNFCCC, 2021a Annex, para 8).

Parties also agreed that corresponding adjustments must be applied if an NDC contains non-GHG metrics (UNFCCC, 2021a Annex, para 9), or if the NDC is not quantified but only consists of policies and measures (UNFCCC, 2021a Annex, para 10). The accounting rules apply to all units under Art. 6.2 as well as to those credits under the 6.4 mechanism authorized by the host Party and irrespective of whether the underlying mitigation activity is covered by the scope of the NDC or not (inside vs. outside NDC).

Reporting. Parties in Glasgow have further agreed on detailed reporting provisions for Parties using Article 6 and to establish an Article 6 database and a centralized accounting and reporting platform to compile, process and publish the information submitted by Parties. Parties must submit an initial report with comprehensive information on their role as Article 6 Party as well as detailed information on each of the cooperative approach they are involved in. On an annual basis, Parties must further submit information on the ITMOs authorized and used for recording in the Art. 6 database.

The reporting provisions are also interlinked with the broader Transparency Framework of the Paris Agreement, as Parties are required to report relevant information related to their participation in cooperative approaches as an annex to the biennial transparency reports (BTRs) to be submitted under the Transparency Framework (Art. 13 PA). Information to be provided includes authorization of use of ITMOs (towards NDCs and other international mitigation purposes), how corresponding adjustments have been undertaken, as well as information related to the contributions of the cooperative approach to the implementation of the NDC and how environmental integrity is ensured, inter alia.

Review. Another key element is the review process established by the Article 6.2 guidance. The information submitted by participating Parties is to be reviewed by an Article 6 technical expert review team in accordance with guidelines to be adopted by the CMA. The Article 6 review is to be coordinated with the review process under Article 13 of the Paris Agreement.

Art. 6 RMP. Parties in Glasgow have further agreed on Rules, Modalities and Procedures (RMPs) for the Article 6.4 mechanism (UNFCCC, 2021b), the successor of Kyoto Protocol’s Clean Development Mechanism (CDM). The structure and functioning of the Art. 6.4 mechanism largely resembles that of the CDM.

The mechanism is overseen by the Supervisory Body, which approves methodologies, registers individual activities and approves the issuance of emission reductions (A6.4ERs) if activities meet all relevant requirements. Activities must be developed using methodologies that are approved by the Supervisory Body, related to additionality demonstration, baseline setting as well as monitoring and calculation of emission reductions. Similar to the CDM, activities will be validated by accredited Designated Operational Entities (DOEs). DOEs will also be tasked with the verification and certification of emission reductions.

In comparison to the CDM, host Parties will have a more prominent role as they will not only have to approve the activity as such but also authorize the issuance of A6.4ERs for use towards NDC achievement or other international mitigation purposes. However, the Article 6.4 RMPs also (implicitly) allow for the issuance of A6.4ERs that are not authorized by the host Party and not backed by corresponding adjustments (UNFCCC, 2021b, Annex, para 43). These ‘unauthorized A6.4ERs’ may not be used towards NDCs and international mitigation purposes, such as CORSIA, while the potential use under the voluntary carbon market is not regulated.

The Article 6.2 Guidance requires participating Parties to describe in their initial reports how each cooperative approach ensures environmental integrity, “including through conservative reference levels, baselines set in a conservative way and below ‘business as usual’ emission projections (including by taking into

account all existing policies and addressing uncertainties in quantification and potential leakage)” (UNFCCC, 2021a, Annex, para 18h (ii)).

The Article 6.4 RMPs include more detailed provisions on how baselines are to be developed:

Baselines must be set using a methodology approved by the Supervisory Body, with methodologies applying one of the approaches defined by the RMPs (e.g. a performance-based approach based on best available technologies) (UNFCCC, 2021b, Annex, paras 35, 36). Baseline methodologies are to encourage ambition over time, be set below business as usual and align to the long-term temperature goals of the Paris Agreement (UNFCCC, 2021b, Annex, para 33). Baselines must be approved by the Supervisory Body following a technical assessment.

The Warsaw Framework, by contrast, does only provide little guidance on how to set baselines (Chagas et al., 2019). In the past, this has led to a situation in which the government of the country submitting the baseline freely chose its approach for developing the baseline (Schneider et al., 2018).

As can be seen, the existing provisions of the WFR are much less restrictive, not only in comparison to those of the Article 6.4 mechanism but also when compared to those of the Article 6.2 Guidance. As shown by O'Sullivan (2020), the use of the current REDD+ guidance can lead to varying results in terms of baselines, highlighting the concerns regarding environmental integrity and robustness if such baselines are used for generating REDD+ credits (O'Sullivan, 2020). Hence, additional requirements would have to be established in order to align the existing baseline setting provisions of the WFR with Article 6.

Additionality

In the context of carbon crediting, additionality is a key criterion for ensuring environmental integrity of emission reductions. Additionality is a concept that describes the relationship between the mitigation activity and the policy intervention that is to trigger the activity. Such a mitigation activity would only be deemed additional if it would not have been implemented in

the absence of the overarching policy intervention (see: Gillenwater, 2012).

Additionality is one of the criteria that defines the nature of ITMOs according to the Article 6.2 Guidance (UNFCCC, 2021a, Annex, para 1a). Under the Article 6.4 mechanism, the provisions for additionality demonstration inter alia require activities to take into account all relevant national policies and to show that the mitigation activity exceeds any mitigation required by law or regulation (UNFCCC, 2021a, Annex, para 38).

The Warsaw Framework, by contrast, does not contain any provisions on additionality. Additionality is assumed through baseline setting and there is no requirement to take into account relevant policies and measures (Chagas et al., 2019).

Review and verification

Robust review processes are an essential tool for ensuring environmental integrity and can be applied to many of steps of a crediting process, such as baseline setting, additionality demonstration as well as monitoring and reporting. In addition, verification may further be required at the level of individual units.

As has been outlined above, the Article 6.2 Guidance establishes a reporting framework with review processes that link with the transparency framework established under Article 13 of the Paris Agreement. While the guidelines for the Article 6 technical expert review still have to be adopted by the CMA, the desk reviews are to inter alia ensure consistency between the reporting of all Parties participating in a cooperative approach, consistency of the information submitted by Parties and recommendations to the Party on how to improve consistency with the Art. 6.2 Guidance and relevant CMA decisions (UNFCCC, 2021a, Annex, para 25-28). In addition, the Art. 6.2 Guidance requires ITMOs to be verified (UNFCCC, 2021a, Annex, para 1a).

The Article 6.4 mechanism contains additional provisions for third-party verification of Article 6.4 activities by independent designated operational entities (UNFCCC, 2021b, Annex, para 51).

Under the Warsaw Framework, review process are quite flexible, consisting of nonbinding expert assessments that are facilitative in nature and largely implemented for capacity building purposes (Streck et al., 2017). This must be seen as a compromise that emerged in the context of the negotiations on REDD + back in 2013 during which Norway had pushed for independent verification of actions by international experts while Brazil wanted a considerably softer approach (Sterk et al., 2013). However, Parties agreed that REDD+ activities that may be eligible for future market-based approaches “may be subject to any further specific modalities for verification” (UNFCCC, 2014, Decision 14/CP.19, para 15), pointing towards the need for further improvements in the future.

Permanence and avoidance of leakage

Non-permanence is a risk to environmental integrity that relates to the lifetime of the mitigation outcomes achieved by the crediting activity. This risk is particularly relevant in the context of land-based activities, where the permanence of emission reductions or removals could be threatened by reversals induced by natural (wildfire, disease) as well as anthropogenic causes (increased agricultural activities). It should be noted, though, that addressing non-permanence is key for any activity that involves the removal and storage of carbon.

Another risk to environmental integrity is carbon leakage, which refers to the situation carbon dioxide or another GHG is transferred outside the scope of the mitigation activity. In the forestry sector, leakage is closely related to the drivers of deforestation or degradation and how these are addressed by the specific REDD+ intervention. In the context of REDD+, relevant

experiences in how to limit, monitor and account for leakage have been made (Schneider et al., 2018). Both phenomena are associated to the relocation of emission: While leakage leads to the movement of emissions in space, non-permanence moves emissions in time.

Both topics are covered by the Article 6 rule-book. The Article 6.2 Guidance requires Parties to minimize the risk of non-permanence and to ensure that any reversals are addressed in full (UNFCCC, 2021a, Annex, para 18h (iii)). Similarly, The RMPs for Art. 6.4 mechanism require activities to minimize the risk of non-permanence of emission reductions and to ensure that reversals occurred are fully addressed (UNFCCC, 2021b, Annex, 31d (ii)).

Under Article 6.2 any potential leakage must be taken into during baseline setting (UNFCCC, 2021a, Annex, para 22b (iii)). Under the Art. 6.4 mechanism, the leakage risk must be minimized and remaining leakage is to be adjusted for in the calculation of the activities’ mitigation impact (UNFCCC, 2021b, Annex, para 31d (iii)).

In the context of Warsaw Framework for REDD+, the issues of non-permanence (or reversals) and leakage are covered by the Cancún Safeguards. The wording, however, is considerably softer: When implementing REDD+ activities, Parties “should” promote and support actions to address the risks of reversals and actions to reduce displacement of emissions (UNFCCC, 2011b, Appendix I, paras 2f,g).

Robust accounting

Robust accounting of emission reductions transferred is a key prerequisite for ensuring environmental integrity and requires several elements to be in place. Some of these elements are relevant regardless of the Party’s willingness to engage in a market-based voluntary cooperation, such as the communication of a national mitigation target or the reporting of data that allows to assess whether this target has been

met. Other elements are specific to the transfer of units, such as registries that allow for tracking of units or administrative bodies to authorize the transfer of units.

The Article 6.2 Guidance builds upon and expands existing reporting and review requirements under the Paris Agreement and its Transparency Framework, such as preparation and communication of an NDC, the submission of the most recent inventory and the biennial transparency reports (BTR). To avoid double counting of emission reductions, the Art. 6.2 Guidance requires Parties to implement corresponding adjustments for emission reductions transferred and to report on their implementation. The reporting and accounting framework is also applied to authorized Article 6.4 emission reductions.

As REDD+ in its current form has not been conceived as a transfer-based framework, only some of these aspects are already covered by the Warsaw Framework for REDD+. The WFR for instance requires Parties to establish national forest monitoring systems and to measure and monitor activities taking and guided by the most recent IPCC guidance and guidelines (UNFCCC, 2014, Decision 11/CP.19, Decision 14/CP.19). While it has also established a review process which might in its initial years be more robust than the new process introduced under Article 6.2, other aspects, such as a registry, are not yet covered.

Under the Paris Agreement, there is no requirement for countries to definitely include their forestry sector within their NDC. However, since corresponding adjustments will be required for all ITMOs exported, irrespective of whether they are covered by the NDC or not, Parties that have excluded the land use, land use change and forestry (LULUCF) sector from their NDC, will be disincentivized to sell units from this sector. According to a recent analysis by the UNFCCC Secretariat, however, most Parties

have economy-wide NDCs with LULUCF coverage lying at 84 per cent (UNFCCC Secretariat, 2021).

3.2 Ambition raising

Ambition and ambition raising are arguably key elements of the Paris Agreement and its Article 6, with the voluntary cooperation intended to allow for higher ambition of Parties (UNFCCC, 2016, Art. 6.1 (PA)). Despite its relevance, there is no commonly agreed definition of ambition raising under the UNFCCC and there have been different interpretations in the literature about how ambition could be increased in the context of market-based cooperation (see: CCAP, 2017; Howard, 2018; Kreibich, 2018; Warnecke et al., 2018).

In the Article 6 rulebook, the concept of ambition raising has been operationalised to varying degrees. Operationalisation of ambition raising under Article 6.2 remains limited and is not integrated with the reporting requirements of the framework: the Article 6.2 Guidance does not require Parties to report how the participation in the cooperative approach has supported ambition of participating Parties' NDCs. Instead, ambition is limited to the provision of resources for adaptation as well as cancellations of ITMOs to deliver an overall mitigation in global emissions (UNFCCC, 2021a, Annex, paras 37-40). However, the reporting rules agreed in Glasgow require participating Parties to submit information on the specific cooperative approaches in the context of which ITMOs have been generated. By linking ITMOs to mitigation activities, these provisions exclude mere government to government transfers of ITMOs. The requirement for ITMOs to be generated through actual activities (such as policies and measures) does not automatically lead to ambition raising. However, the information on the cooperative approach from which ITMOs were generated makes it easier for the international community

to assess whether ambition has been raised, for instance during the global stocktake.

Under Article 6.4, by contrast, ambition is more strongly integrated with the methodologies that activity participants must use when implementing their activities. According to para 33 of the RMPs, the methodologies “shall encourage ambition over time” *inter alia* by aligning with the long-term temperature goal of the Paris Agreement, the host Parties’ NDCs and long-term low GHG emission development strategies (UNFCCC, 2021b, Annex, para 33). This is in particular related to the crediting baselines for the development of which the RMPs provide different approaches. Baselines must *inter alia* be below business as usual and be adjusted downwards if based on historical or actual emissions (UNFCCC, 2021b, Annex, para 36).

As the concept of ambition raising has been introduced with the Paris Agreement in 2015, it is not surprising to see that the Warsaw Framework for REDD+ does not make reference to this approach. There are, however, also other differences between REDD+ and Article 6.2 in the context of reporting that might impact the ambition raising potential: While under Art. 6.2 Parties are required to report on individual cooperative approaches, REDD+ countries are to develop National Strategies or Action Plans in order to access results-based payments. The former can be expected to take a more concrete activity-based form than the latter. Furthermore, it should be noted that REDD+ countries are given substantial flexibility in the context of baseline setting (see section on baseline setting above), which is considered one of the main instruments for fostering ambition in the context of market-based instruments, as the section on ambition raising under Article 6.4 above shows.

3.3 Sustainable Development

Forestry activities have in the past been associated with both, a strong potential for contributions to sustainable development as well as concerns related to adverse social and environmental impacts. While expectations related to potential SD benefits are one of the reasons why REDD+ projects are achieving higher credit prices on the VCM (Schwarz et al., 2021), concerns regarding negative SD impacts have also fuelled fierce opposition against REDD+ in the past. Overall, the literature on the performance of REDD+ in terms of social and environmental benefits as well as governance provides a mixed picture (see e.g. Bayrak & Marafa, 2016; Duchelle et al., 2018; Hajjar et al., 2021; Milbank et al., 2018; Wong et al., 2019).

In the context of voluntary based cooperation under the Paris Agreement, delivering on sustainable development can be considered a requirement for all Article 6 activities, according to Article 6.1 of the Paris Agreement. At the same time, adverse social and environmental impacts must be avoided. This is also reflected by the Article 6 rulebook agreed in Glasgow (see also: Holm-Olsen & Arens, 2021): the Article 6.2 Guidance contains reporting provisions that require Parties to describe how each cooperative approach will “minimize and, where possible, avoid negative environmental, economic and social impacts” (UNFCCC, 2021a, para 18i (i)). Reporting is to also cover how human rights and other rights are respected (UNFCCC, 2021a, para 18i (ii)) and describe how cooperative approaches are „consistent with the sustainable development objectives of the Party, noting national prerogatives” (UNFCCC, 2021a, para 18i (iii)).

Parties that aim at hosting Article 6.4 activities will have to indicate how the participation in the mechanism contributes to sustainable development (para 26d) as well as the SD contributions of individual activities to be approved

(para 40a). Furthermore, the Supervisory Body will establish further requirements and processes related to the application of social and environmental safeguards as well as tools and approaches to assess how each activity is fostering sustainable development (UNFCCC, 2021b Annex, para 24a (x and xi)). The RMPs further contain the requirement for activities to implement local and subnational stakeholder consultations to ensure public participation and involvement of local communities and indigenous peoples, if applicable (UNFCCC, 2021b Annex, para 33f). The RMPs also introduce an independent grievance process that will allow stakeholders to appeal decisions of the Supervisory Body (UNFCCC, 2021b Annex, para 26). (para 62). These provisions can be expected to be complemented in the future, as the CMA requests the Supervisory Body to develop recommendations on how to deal with activities that involve removals, including on how to avoid negative environmental and social impacts (UNFCCC, 2021b Annex, para 6c).

In the context of REDD+, social and environmental benefits of forestry activities have been a key element of the discussions right from the start. These discussions culminated in the Cancún Safeguards, which Parties adopted in 2010 at COP10 in Mexico. The Cancún Safeguards comprise seven safeguards that “should be promoted and supported” when implementing REDD+ activities, with the paragraphs c to e being particularly related to sustainable development (UNFCCC, 2011b, Appendix):

- c) Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples;
- (d) The full and effective participation of relevant stakeholders, in particular indigenous

peoples and local communities, in the actions referred to in paragraphs 70 and 72 of this decision;

- (e) That actions are consistent with the conservation of natural forests and biological diversity, ensuring that the actions referred to in paragraph 70 of this decision are not used for the conversion of natural forests, but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits;

REDD+ countries are further required to develop a system to report on how these safeguards are being addressed and respected during the implementation of REDD+ activities (Decision 1.CP.16, para 71d) and to present their most recent Summary of Information to demonstrate how all the Cancún Safeguards have been addressed when seeking to obtain results-based payments (Rey Christen et al., 2020). The UNFCCC agreed on some key characteristics these Safeguard Information Systems (SIS) must possess (Decision 12/CP.17, para 2):

- Provide transparent and consistent information that is accessible by all relevant stakeholders and updated on a regular basis;
- Be transparent and flexible to allow for improvements over time;
- Provide information on how all of the safeguards referred to in appendix I to decision 1/CP.16 are being addressed and respected;
- Be country-driven and implemented at the national level;
- Build upon existing systems, as appropriate;

In order to establish and operationalize these systems, REDD+ countries must define institutional arrangements and procedures to manage and process the social and environmental information which is included in the database.

Countries have made valuable experiences in developing these systems, and international programmes such as UN-REDD and early initiatives such as the REDD+ Social & Environmental Standards assisted the learning process through development of dedicated tool and knowledge sharing activities (UN-REDD Programme, 2020).

As can be seen, contributions to sustainable development and the avoidance of adverse social and environmental impact of activities are enshrined in both, REDD+ and Article 6. With the Cancún Safeguards and the requirement to establish Safeguard Information Systems, REDD+ could provide important insights and lessons learned regarding the development of institutions and processes needed to ensure these objectives are met. The SD provisions adopted with the Article 6.2 Guidance, by contrast, are more generic while having a stronger wording: Parties using Article 6.2 *shall* provide information on the fostering of SD and the minimization and avoidance of adverse impacts. Activities implemented under Article 6.4, by contrast, will have to follow much more detailed provisions, which is in line with the nature of Article 6.4 being a mechanism.

4 Discussion and Conclusions

This paper aimed at contributing to the ongoing discussion about the role of market-based forestry activities under Article 6 of the Paris Agreement. In order to foster this debate, we looked into the decisions on Article 6 taken by Parties at COP26 in Glasgow and juxtaposed these with the REDD+ provisions under the UN-FCCC to assess what they might imply for implementing market-based forestry activities.

The forestry sector: a frontrunner slowed down

Forestry is more advanced than other sectors seeking to implement activities under Article 6. At the same time, however, challenges and risks of market-based activities in this sector are higher than in others. These risks have been reflected on both sides: REDD+ activities are not clearly referenced to under Article 6 of the Paris Agreement while the WFR has not been established as a crediting framework for REDD+.

Further clarity on the eligibility of REDD+ activities under Article 6 needed

Neither the Article 6.2 Guidance nor the Rules, Modalities and Procedures for the Article 6.4 mechanism contain an explicit reference to REDD+ or Article 5 of the Paris Agreement. While this does not directly exclude all forestry activities from participating under Article 6, only afforestation and reforestation activities seem to be clearly covered under Article 6. This partial coverage is due to the current exclusion of 'emission avoidance' in both, Article 6.2 and

the Art. 6.4 mechanism. Forest conservation activities as well as activities involving the sustainable management of forests might be beyond the scope of Article 6. As these activities preserve existing carbon stocks and may not necessarily enhance them, they could be considered 'emission avoidance', not being covered under Article 6. While the situation is less clear for activities that reduce emissions from deforestation and forest degradation, a reading of the Article 6 decision in line with the common use of the concept of avoidance suggests that these activities might also be beyond the scope of Article 6. At the same time, one could argue that any mitigation activity in any sector that avoids future emissions from occurring would at least partially also fall into the category of 'emission avoidance'. As can be seen, further clarity on the term 'emission avoidance' and how it relates to forestry activities is needed.

Requirements of the Article 6 rulebook and the Warsaw Framework for REDD+ differ

Many of the aspects included in the Article 6.2 Guidance and the Rules, Modalities and Procedures of the Article 6.4 mechanism are also covered by existing REDD+ guidance. In several areas, however, the Article 6 requirements go well beyond the existing provisions for REDD+, for instance with regard to the development of baselines and the revision processes. The analysis also showed that the Warsaw Framework for REDD+ is rather generic and offers considerable room for interpretation.

This shows that there is a need to further strengthen the provisions of the Warsaw

Framework before they can guide the implementation of Article 6 activities in the forestry sector.

This does, however, not mean that the forestry sector cannot build on the experiences made under REDD+. Once the questions about the eligibility of REDD+ are clarified, the sector could use existing institutions and procedures and adapt these to the needs to the requirements of Article 6. The experiences made in the forestry sector could also inform the design and application of international processes. Synergies seem to be particularly strong in the area of sustainable development reporting where REDD+ has gained valuable experiences with the application of tools and national systems.

At the national level, it is important to note that many REDD+ countries are already going beyond the bar set by the Warsaw Framework. This is also due to the fact that many of the existing multilateral programmes and donors require REDD+ countries to meet additional criteria. Capacities in the forestry sector at the national level will therefore presumably be higher than what the provisions of the Warsaw Framework might suggest.

REDD+ on the agenda at COP27

In order for REDD+ countries to build on the achievements and experiences made at the national level, prevailing uncertainties at international level must be eliminated and open questions addressed. First and foremost, Parties will have to arrive at a clear definition of 'emission avoidance'. What does 'emission avoidance' entail and how can it be differentiated from emission reductions and removals? How does this concept relate to REDD+ and its different activities? Once there is conceptual clarity, the question about the eligibility of 'emission avoidance' must be addressed and whether these activities should be creditable under Article 6. In the run up to COP27, both SBSTA and the Supervisory

Body will have to find answers to this question and consider the role of 'emission avoidance' activities under Art. 6.2 and Art. 6.4, respectively. Under Article 6.4, the Supervisory Body was further requested to develop recommendations for dealing with removal activities. Recommendations will inter alia relate to the robust accounting of removals, how to deal with reversals and avoid leakage as well as how to address adverse social and environmental impacts of these activities. These aspects covered by the broad mandate given to the Supervisory Body are of key relevance for the future role of REDD+ under Article 6.4 and might also inform its role under Article 6.2.

While discussions about the role of REDD+ in market-based cooperation are set to continue, Parties should keep in mind the very nature of Article 6 and its role under the Paris Agreement when addressing the broader question of how to deal with 'emission avoidance': Article 6 is to allow for the cooperation of Parties that aim at increasing their climate ambition. Parties should hence not be rewarded for not increasing their harmful impact on the climate, but for implementing activities that go beyond their highest ambition level and which they cannot implement without external support.

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