WORLD RESOURCES INSTITUTE

WORKING PAPER

MAKING SENSE OF ARTICLE 6: KEY ISSUES AND WHAT'S AT STAKE

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EXECUTIVE SUMMARY

Highlights

- Parties to the United Nations Framework Convention on Climate Change (UNFCCC) will meet in Madrid, Spain, in December 2019 to finalize the rule book for the Paris Agreement, among other tasks. An essential element of discussions concerns Article 6, which provides for international cooperation through carbon markets.
- This working paper provides an overview of the key remaining issues being negotiated under Article 6; it explains each issue, what Parties disagree on, and what is at stake.
- The rules related to Article 6 can have a significant impact on the ways in which countries' climate commitments are achieved and the resulting emissions reductions.
- Strong rules are needed to ensure that double counting is avoided and that environmental integrity is preserved. With strong rules, Article 6 could also support higher ambition in mitigation and adaptation action.
- A failure to agree on effective Article 6 rules, in light of the number of countries that signaled the use of carbon markets in their nationally determined contributions (NDCs), will certainly weaken the achievement of the Paris Agreement's goals and compromise its ambition.

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Context

While last year's annual climate negotiations, at the 24th Conference of the Parties (COP24) in Katowice, largely succeeded in detailing a rule book for implementing the Paris Agreement, Parties failed to agree on terms for international cooperation under Article 6. Many Parties called for more time to resolve complex technical and political issues and argued that compromises would have serious implications for the credibility of Article 6, erode investor confidence, and weaken countries' commitments as well as the entire Agreement.

Participation in international cooperation under Article 6 is voluntary, but those Parties that choose to participate must follow the guidance and rules agreed on. The rule book for Article 6 has three main components:

- For Article 6, paragraph 2 (6.2), Parties are requested to develop guidance for robust accounting to be applied where cooperative approaches involve the use of internationally transferred mitigation outcomes (ITMOs) toward NDCs. Parties are also to ensure transparency and environmental integrity and promote sustainable development where engaging in these approaches.
- For Article 6, paragraph 4 (6.4), Parties are to adopt rules, modalities, and procedures for a central mechanism established therein (similar in concept to the Clean Development Mechanism, CDM, established under the Kyoto Protocol, although it is not defined as such).
- Parties are to decide to undertake a work programme under the framework for non-market approaches defined in Article 6, paragraph 8 (6.8).

A handful of key issues related to Article 6 prevented agreement among Parties at COP24, and these will be a major focus for the upcoming COP25 in Madrid. Issues include how to account for international carbon market transfers used toward NDCs; the rules for baselines and additionality in the Article 6.4 mechanism; whether and how to transition the methodologies, activities, and units from the Kyoto Protocol mechanisms; the application and operation of a share of proceeds, levied to support adaptation; and how to deliver an overall mitigation in global emissions, among others.

The way in which these issues are resolved will determine whether Article 6 can contribute to the Paris Agreement's ability to deliver mitigation or detract from it.

About This Working Paper

This paper aims to make sense of the key remaining issues under negotiation on Article 6. The intended audience is those who are familiar with the UNFCCC negotiations but have not been following the detailed technical discussions, such as those who are relatively new to Article 6 negotiations, representatives from civil society organizations, and the media.

The paper is organized by the main issues in Article 6.2 and 6.4 that remain under negotiation, although it is not comprehensive. There are also instances where the discussion applies to both 6.2 and 6.4. The paper does not include discussion of issues related to Article 6.8, but it should be understood that the work programme for 6.8 is a key part of the package considered necessary for agreement at COP25. The paper describes each issue, what Parties disagree on, and what's at stake. More specifically, the paper covers the following issues:

- Avoiding double counting on the basis of corresponding adjustments
  - How to make a corresponding adjustment for non-GHG mitigation outcomes
  - How to make a corresponding adjustment for single- and multi-year targets
  - How to account for mitigation outcomes generated in sectors and greenhouse gases (GHGs) not covered by the NDC
  - How to account for use of Article 6 and non-UNFCCC compliance schemes (e.g., the Carbon Offsetting and Reduction Scheme for International Aviation, CORSIA)
  - How to avoid double use of emissions reductions from the Article 6.4 mechanism that are internationally transferred
- Baselines and additionality in Article 6.4
- Transition of methodologies, activities, and units from the Kyoto Protocol's mechanisms
- Share of proceeds
- Overall mitigation in global emissions
- Governance of Article 6
- Reporting under Article 6 and link with reporting under Article 13's Enhanced Transparency Framework

Findings

We find that the way in which each of the remaining issues is resolved will have important implications that affect the long-term effectiveness of the Paris Agreement, and on emissions reductions. These issues include:

- **Double counting:** While the Paris Agreement is clear that double counting must be avoided in Article 6, the extent to which double counting is actually avoided depends on the way in which the accounting rules are operationalized. If emissions reductions are double counted, it will result in an increase in global emissions and weaken the already inadequate NDCs.
- **Additionality:** The way in which Article 6 is finalized will dictate whether emissions reductions under Article 6 will be additional to what would have occurred in the Article's absence. If non-additional reduction units are used, the ambition of the NDCs will be further watered down.
- **Delivering increased ambition and progression:** Article 6 can be designed in a way that supports increased ambition: for example, determining whether subsequent NDCs will be incentivized or disincentivized to increase coverage of GHGs and sectors and the extent to which Article 6 incentivizes enhanced ambition over time and results in an overall mitigation in global emissions. Article 6 can also drive more cost-effective emissions reductions.
- **Financing for Article 6 activities and adaptation:** The agreed-upon rules for Article 6 can either facilitate or hinder the flow of finance available for related activities because investor confidence depends on a credible carbon market. Barriers could introduce market distortion or make participation difficult. In addition, the rules can impact the finance available for adaptation, including through a share of proceeds levied to support the adaptation fund.

Accordingly, agreement on a strong Article 6 rule book can play a significant role in determining the environmental integrity of the Paris Agreement and its NDCs, the ambitiousness of Parties' current and subsequent NDCs, and the strength of Article 6 in financing and incentivizing further climate action.

INTRODUCTION

Article 6 of the Paris Agreement recognizes that countries will choose to pursue voluntary cooperation in implementing their NDCs to allow for higher ambition in mitigation and adaptation actions and to promote sustainable development and environmental integrity. The rule book for Article 6 has three main mandates:

- For Article 6, paragraph 2 (6.2), Parties are requested to develop guidance for robust accounting, including to avoid double counting, to be applied where cooperative approaches involve the use of ITMOs toward NDCs.
  - Decision 1/CP.21 makes clear that double counting is to be avoided on the basis of a corresponding adjustment.
  - Parties are also to ensure transparency and environmental integrity and promote sustainable development where engaging in these approaches.
- For Article 6, paragraph 4 (6.4), Parties are to adopt rules, modalities, and procedures for an Article 6.4 mechanism to contribute to GHG mitigation and to support sustainable development.
  - The mechanism is to be supervised by a body designated by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA).
  - The mechanism also aims to incentivize the participation of public and private entities and deliver an overall mitigation in global emissions, among other concerns.
  - Article 6.5 makes clear that emissions reductions resulting from the mechanism cannot be used by more than one Party to demonstrate achievement of its NDC. There is some tension here with 6.4(c), which states that the host Party will benefit from the emissions reductions "that can also be used by another Party to fulfill its NDC."
  - Decision 1/CP.21 sets out the basis for the rules, modalities, and procedures, and includes requirements such as additionality, verification, certification, and mitigation with real, measurable, and long-term benefits.

- For Article 6, paragraph 8 (6.8), Parties are to make a decision to undertake a work programme under the framework for non-market approaches defined therein.

Article 6.2 focuses on accounting for authorized international transfers for use toward NDCs, or other international mitigation schemes (e.g., CORSIA). This includes accounting for linked international emissions trading among other transfers. Article 6.4 establishes a central mechanism, and calls for Parties to agree on its associated rules, modalities, and procedures. See Table 1 for a description of each of the Article's provisions.

Agreement on the Article 6 rule book is critical because 51 percent of Parties' NDCs (constituting 31 percent of global GHG emissions) state a potential intent to use international cooperation through carbon markets to help achieve targets in their NDCs (Climate Watch 2019). Forty percent of NDCs constituting 24 percent of global GHG emissions have not specified whether they will do so. Given NDCs' potential reliance on carbon markets, the rules related to Article 6 can have a large impact on the ways in which the NDCs are achieved and the resulting emissions reductions.

Table 1 | **Overview of Article 6**

Article 6, paragraph 1	Recognizes that some Parties voluntarily pursue cooperation in the implementation of their nationally determined contributions (NDCs) to allow for more ambition in mitigation and ambition and to promote sustainable development and environmental integrity.
Article 6, paragraph 2	Specifies that when Parties engage in cooperative approaches involving the use of internationally transferred mitigation outcomes (ITMOs) toward NDCs, they should promote sustainable development and ensure environmental integrity and transparency, including in governance, and apply robust accounting to avoid double counting.
Article 6, paragraph 3	States that the use of ITMOs to achieve NDCs must be voluntary and authorized by the participating Parties.
Article 6, paragraph 4	Establishes a mechanism, supervised by a specifically constituted body, that credits emissions reductions that can either be used by the host or other Parties toward their NDCs. The mechanism is to promote sustainable development, incentivize private sector engagement, contribute to the reduction of emissions levels in the host Party, and deliver an overall mitigation in global emissions.
Article 6, paragraph 5	States that the emissions reductions resulting from the Article 6.4 mechanism must not be used to demonstrate achievement of the host Party's NDCs if used by another Party toward its NDC.
Article 6, paragraph 6	Ensures that a share of proceeds from the Article 6.4 mechanism covers administrative expenses as well as assists vulnerable developing countries to meet the costs of adaptation.
Article 6, paragraph 7	States that the rules, modalities, and procedures for the Article 6.4 mechanism shall be adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA).
Article 6, paragraph 8	Recognizes non-market approaches that Parties may choose to use to implement their NDCs, and establishes aims for these.
Article 6, paragraph 9	Establishes a framework for non-market approaches referred to in paragraph 8.

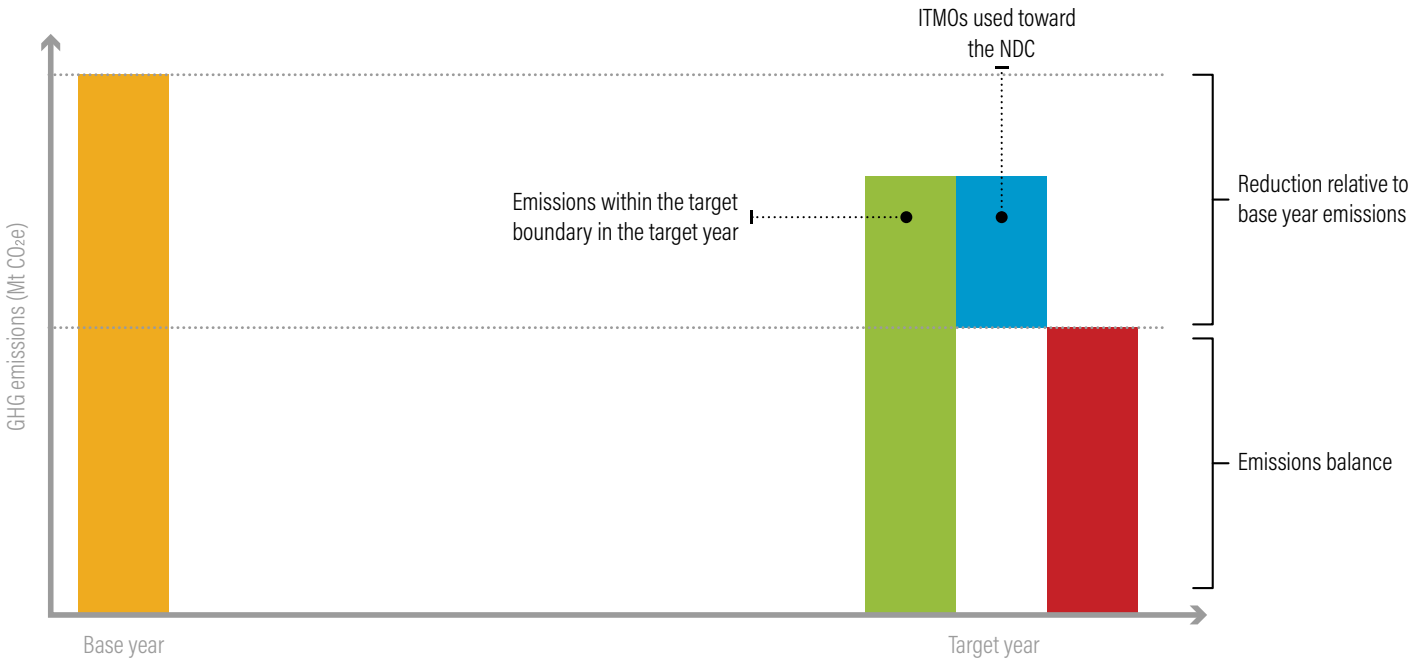
Parties have chosen to engage in international cooperation through carbon markets for several reasons (WRI 2014). Some Parties want to count, for international purposes, the results of existing or planned internationally linked emissions trading systems. International cooperation through carbon markets can bring additional public and private finance and catalyze emissions reductions, as well as contribute to sustainable development in a country hosting the mitigation activity. However, when this mitigation outcome is transferred abroad, the Party needs to balance these gains with ensuring that their own NDCs are met.

For purchasing, or acquiring, countries, using carbon markets to achieve their NDCs (e.g., through ITMOs acquired from abroad) has both advantages and disadvantages. Using international carbon markets enables access to a wider pool of opportunities to reduce emissions that might lead to higher ambition, given that mitigation can be made more cost-effective, which provides flexibility. On the other hand, relying on mitigation elsewhere to achieve targets can have a negative impact on domestic action because emissions reductions are achieved in another jurisdiction.

This might limit the co-benefits of GHG mitigation that would otherwise accrue or could result in a lock-in of carbon-intensive technologies and emissions pathways. It is important for all Parties to pursue domestic mitigation action to ensure they meet their own sustainable development aspirations and balance this with participation in carbon markets. Lastly, many vulnerable countries benefit from carbon markets given that they provide an important source of finance for their adaptation activities via a share of proceeds that funds adaptation.

Figure 1 illustrates the process of using carbon markets to achieve an NDC. In the figure, emissions are above the target level, so acquisitions through carbon markets are used to make up the difference. If ITMOs or emissions reductions used toward an NDC are not robustly accounted for, or are of low environmental quality, their use would compromise the integrity of that NDC target and could lead to an increase in global emissions relative to a situation in which the NDC target is met through domestic reductions.

Figure 1 | **Use of Transferred Emissions Reductions Toward an NDC**



Source: Adapted from WRI (2014).

Negotiators are still discussing how to operationalize the provisions of Article 6, and the upcoming negotiations at COP25 in Madrid, hosted by Chile, aim to chart a way toward resolving these issues. The way in which they do so will determine whether Article 6 delivers on environmental integrity, avoids double counting, incentivizes and delivers mitigation, and provides finance, including support for adaptation.

WHAT'S AT STAKE?

Several issues can compromise the ability of Article 6 to deliver the rules framing a credible carbon market, contribute to higher ambition in the Paris Agreement, and ensure the intent of the NDCs is achieved. These are summarized here and also highlighted below where relevant as part of the discussion on each remaining issue:

Double counting: A number of provisions throughout the Paris Agreement state that double counting must be avoided; for example, see Articles 4.13, 6.2, 6.5, and accompanying 1/CP.21 paragraphs 36, 92(f), 106 and 107 (Schneider et al. 2017). Double counting typically occurs when the same mitigation outcome is counted toward the NDC of more than one Party (or other compliance scheme). Double counting undermines mitigation by misrepresenting the actual quantity of global emissions reductions, as well as reducing the level of real-world action required to meet targets. The discussions focus on **double claiming**, which would occur if a mitigation outcome is applied toward the mitigation goal of more than one Party. In the Paris Agreement, Parties determined that double counting must be avoided on the basis of a **corresponding adjustment** – a system of bookkeeping whereby the transferring Party adds to their relevant GHG emissions balance, while the Party using the ITMO subtracts from their relevant GHG emissions balance. The starting point for this balance is the emissions inventory. The result is an adjusted emissions balance. Where every relevant addition is matched by a subtraction – where the adjustments correspond – double counting is avoided. Double counting is a risk for both Article 6.2 and Article 6.4 (see p. 7).

If the rules are designed in a way that fails to adequately prevent double counting, and both Parties to the international cooperation through Article 6 count the mitigation toward their NDC, it would lead to an increase in global emissions. An analysis performed by the Environmental Defense Fund, which relies on a variety of assumptions, finds that the volume of emissions at risk of being double counted could potentially be greater than the volume of emissions reduced under all current NDCs. In other words, they note, the mitigation that would result from achieving current NDC targets could be zeroed out altogether (and exceeded) in the absence of strong rules on double counting (EDF 2018).

Additionality: Emissions reductions traded through carbon markets should be *additional;* that is, that they should produce additional abatement compared with a reference scenario of emissions reductions that would have occurred in the absence of the market-based mechanism (Michaelowa, Hermwille, et al. 2019). In the case of Article 6.2, additionality is not an explicit requirement because the determination and applicability of additionality is often more relevant at the project or programme level (i.e., to the emissions trading scheme rather than to the link between emissions trading schemes) than to a cooperative approach, because under 6.2 it would be the responsibility of the Parties involved, and because Article 6.2 refers to the broader principle of environmental integrity, which includes additionality. For Article 6.4, the determination of additionality is an explicit requirement of the rules, modalities, and procedures of the mechanism and will likely be undertaken through the approval of methodologies by the Article 6.4 Supervisory Body and the host Party.

Delivering increased ambition: At the very least, Article 6 must not disincentivize greater ambition from the next round of NDCs. If designed well, it should allow for higher ambition in mitigation and adaptation (Fuessler et al. 2019). Whether it does this, and the extent to which it does so, is a subject of debate among negotiators. For example, Article 6 outcomes can affect whether subsequent NDCs will be more or less likely to increase coverage of sectors and GHGs in future NDCs. Also, the rules related to Article 6 will determine whether the carryover of pre-2020 emissions reductions from the Kyoto Protocol will be acceptable to carry forward and use toward NDCs, which could weaken a signal to reduce emissions. Another issue involves the extent to which Article 6 results in additional emissions reductions, beyond a simple transfer of emissions reductions from one Party to another. This is also known as "overall mitigation in global emissions."

Financing for Article 6 activities and adaptation: The rules associated with Article 6 can either facilitate or hinder private sector participation and the flow of finance available for Article 6 activities, as well as the availability of adaptation funding derived from a share of proceeds (see p. 18) for this purpose.

REMAINING ISSUES

While some progress was made on Article 6 at COP24 and was maintained at the Subsidiary Body for Scientific and Technological Advice (SBSTA) 50 in June 2019, many critical issues have yet to be resolved. This paper focuses on the key remaining issues in the negotiations; specifically:

- Avoiding double counting on the basis of corresponding adjustments
  - How to make a corresponding adjustment for non-GHG mitigation outcomes
  - How to make a corresponding adjustment for single- and multi-year targets
  - How to account for mitigation outcomes generated in sectors and greenhouse gases (GHGs) not covered by the NDC
  - How to account for use of Article 6 and non-UNFCCC compliance schemes (e.g., the Carbon Offsetting and Reduction Scheme for International Aviation, CORSIA)
  - How to avoid double use of emissions reductions from the Article 6.4 mechanism that are internationally transferred
- Baselines and additionality in Article 6.4
- Transition of methodologies, activities, and units from the Kyoto Protocol's mechanisms
- Share of proceeds
- Overall mitigation in global emissions
- Governance of Article 6
- Reporting under Article 6 and link with reporting under Article 13's Enhanced Transparency Framework

We provide a brief overview of each issue, explain how negotiations are divided and for what reasons, and discuss what is specifically at stake in the negotiations.

1. Avoiding Double Counting on the Basis of Corresponding Adjustments

A corresponding adjustment ensures that mitigation outcomes are not double counted between participating Parties. When a Party transfers mitigation outcomes internationally for use toward an NDC target or other compliance scheme, it would make a corresponding adjustment to its emissions balance by adding the amount transferred to its account of emissions, just as if that quantity had resulted from an emitting activity. On the other end of the transfer, when a Party acquires or uses mitigation outcomes toward its NDC, it would subtract this amount from its emissions balance, just as if its own emissions had been reduced by that amount. These adjustments ensure that both Parties are not counting the same mitigation outcomes toward their NDCs.

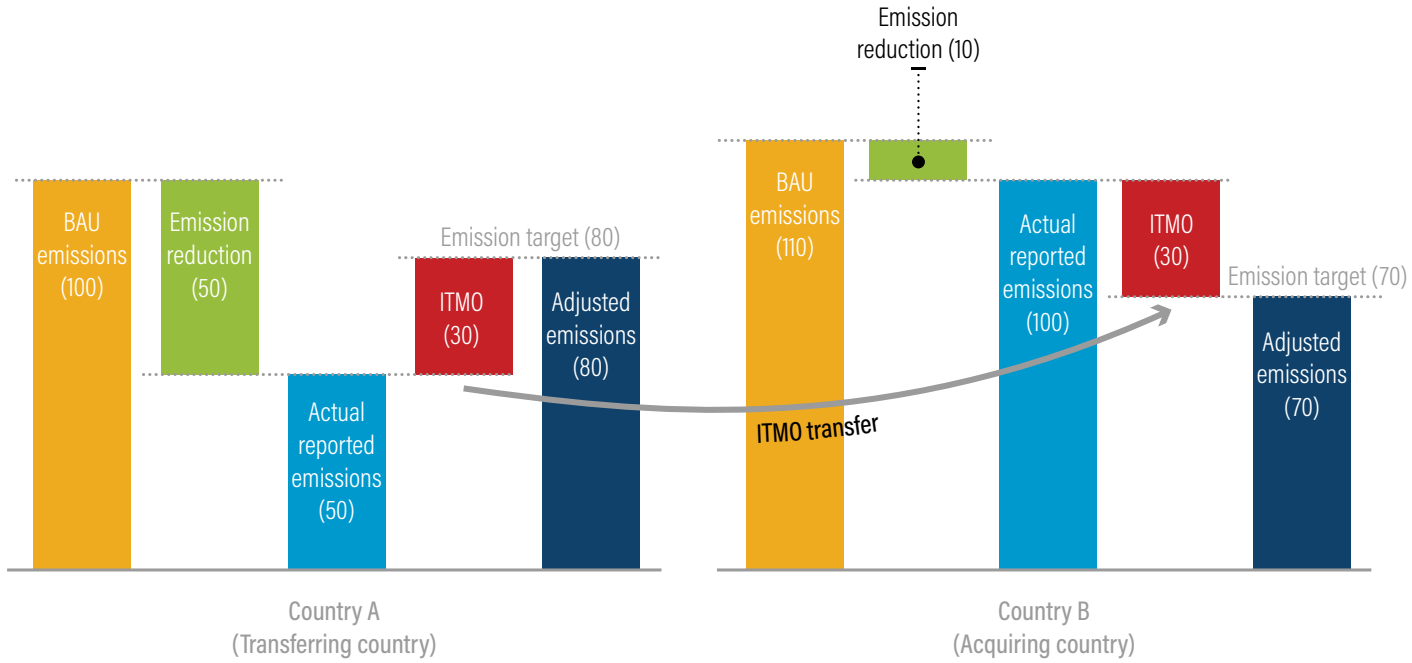
Most Parties support an **emissions-based approach** to accounting because of several advantages, including ensuring that the adjustment is based on actual emissions as it is rooted in the national inventory, avoiding double counting, accommodating a diverse set of NDCs, and capitalizing on the fact that all Parties must regularly provide a national inventory report. Under this approach, corresponding adjustments are made to participating Parties' emissions balances using the relevant GHG totals provided in the national inventory report. The result is an adjusted balance. The emissions-based approach does not make any changes to the national inventory itself, but rather to an emissions balance, which uses the NDC-relevant GHG totals provided in the inventory as a starting point to add and subtract to arrive at the adjusted balance.

Rules related to corresponding adjustments would also ensure that the participating Parties understand their obligations independent of one another. The transferring Party could be obliged to apply the corresponding adjustment (an addition to its emissions balance) for all authorized first transfers, regardless of whether the acquiring Party uses them toward its NDC. The using Party could then use the transferred mitigation immediately upon acquisition or during its NDC period because the transferring Party has already surrendered the claim to that emissions reduction. Upon use, the using Party would then also make an adjustment. Parties are also considering measures to address any issues that arise due to any extended delay between the transfer and use of a mitigation outcome.

Different NDC types present challenges for conducting corresponding adjustments of transfers. A major benefit of an emissions-based approach is that it addresses concerns regarding application of corresponding adjustments given the diversity of commitments. For instance, in the case of an emissions intensity target,[1] the adjusted emissions balance would be the intensity target numerator – the emissions rather than the emissions per gross domestic product (GDP) figure. For a baseline scenario target, the adjusted emissions balance would also be used to track progress.

Although the text of Article 6.2 currently includes an obligation for Parties to quantify their NDCs, it also includes an understanding that this is not possible for some NDC types from the outset, since not all NDCs easily correspond to a fixed emissions level in the target year. In this case, a methodology for quantification could be provided ex ante, while the actual quantification of the NDC is only provided ex post. Figure 2A illustrates how a corresponding adjustment operates in emissions-based accounting. Figure 2B illustrates an example of double counting in which a corresponding adjustment is not made.

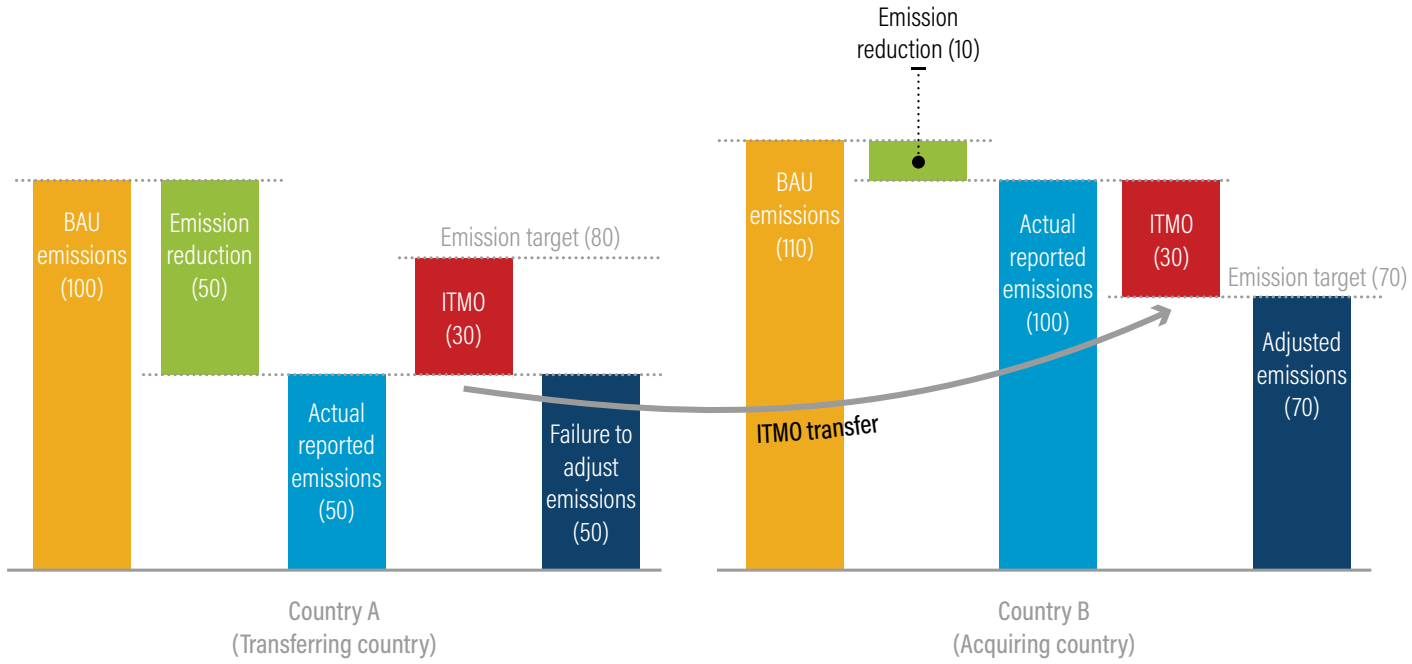
Figure 2A | **Corresponding Adjustment for ITMOs**



Note: In the above diagram, 30 ITMOs are transferred from Country A to Country B. Country B adjusts its NDC-relevant total to reflect these ITMOs, whereas Country A adjusts its NDC-relevant total upward by 30 to ensure that it is not double counted between the two Parties. In this diagram, the total amount of mitigation between the two Parties (60 units) is the same whether the transfer had occurred or not, but the transfer allows flexibility for Country B (the acquiring country) in how it achieves its target. It can source more cost-effective mitigation in Country A and use that toward its NDC.

Source: Schneider et al. 2017.

Figure 2B | **Double Counting of ITMOs**



Source: Adapted from Schneider et al. 2017.

There are several issues related to corresponding adjustments that remain unsettled. These include:

- How to make a corresponding adjustment for non-GHG mitigation
- How to make a corresponding adjustment for single- and multi-year targets
- How to account for mitigation generated in sectors and GHGs not covered by the NDC
- How to account for use of Article 6 and non-UNFCCC compliance schemes (e.g., CORSIA)
- How to avoid double use of emissions reductions from the Article 6.4 mechanism that are internationally transferred

How to make a corresponding adjustment for non-GHG targets

WHAT IS THE ISSUE IN A NUTSHELL?

In order to ensure that Article 6 accounting is robust, Parties must use common global warming potentials when converting other gases to carbon dioxide equivalents (CO_2e). But what about mitigation outcomes measured in terms of non-GHG outcomes (e.g., committing to restore a certain number of hectares of land)? Many headline NDC or NDC components are framed in non-GHG terms. These present a particular challenge in terms of emissions-based accounting, which by definition uses GHG emissions as its basis. Should these countries be limited in their access to Article 6? Some Parties have called for a "buffer registry" approach to be used in these cases, whereby corresponding adjustments are applied to transfers (additions) and to acquisitions (subtractions) resulting in a net transfer figure. It is possible that this approach will only apply to ITMOs measured in metrics other than CO_2e (e.g., kilowatt-hours of renewable electricity). The main issue with this approach is that it is not clear whether or how the resulting information on net transfers is useful in demonstrating NDC implementation and achievement. How is this figure reconciled with the NDC? It is also not

clear that this approach would compare apples with apples; that is, that additions and subtractions would be on the basis of the same metric. It would be difficult, for instance, to net out on the basis of kilowatt-hours transferred and hectares restored. This is an important issue, given that there is no starting point for such transfers (vis-à-vis the emissions balance approach, which uses the inventory as the starting point). More broadly, it has yet to be determined whether and how a country with a non-GHG NDC target would convert the mitigation outcome or the target itself into CO_2e (Schneider et al. 2017). There are further complications as well; for example, when clean power is transferred to another country in a connected grid (e.g., from Bhutan to India) and the project is structured as an offset (in this case, it is unclear what grid factor would be used to quantify the reductions). If the Article 6 rule book is agreed on at COP25, it seems likely that these concerns will be taken up in a work program after 2020.

WHAT REMAINING ISSUES DO PARTIES NEED TO AGREE ON?

Parties have yet to agree on how to make corresponding adjustments for non-GHG targets. Those that argue that NDC targets or corresponding adjustments should be converted into metric tons of CO_2e suggest that it would ensure that adjustments are truly "corresponding." Further, they argue that a common metric can help reconcile and aggregate mitigation outcomes and provide transparency and greater clarity of overall reductions achieved (Schneider et al. 2017). Others argue it is technically possible for the corresponding adjustment to be conducted in a different metric for the two countries involved, and point out that many NDCs are not defined in CO_2e terms. However, even if two countries had the same type of target, the emissions impact of, for example, generating electricity from renewable energy sources in one country may differ significantly from the impact in another country, depending on which nonrenewable sources of energy are displaced and what baseline is used. It has yet to be determined whether, and how, a country with non-GHG targets in its NDC would convert the mitigation outcome or the target itself into CO_2e (Schneider et al. 2017).

WHAT'S AT STAKE?

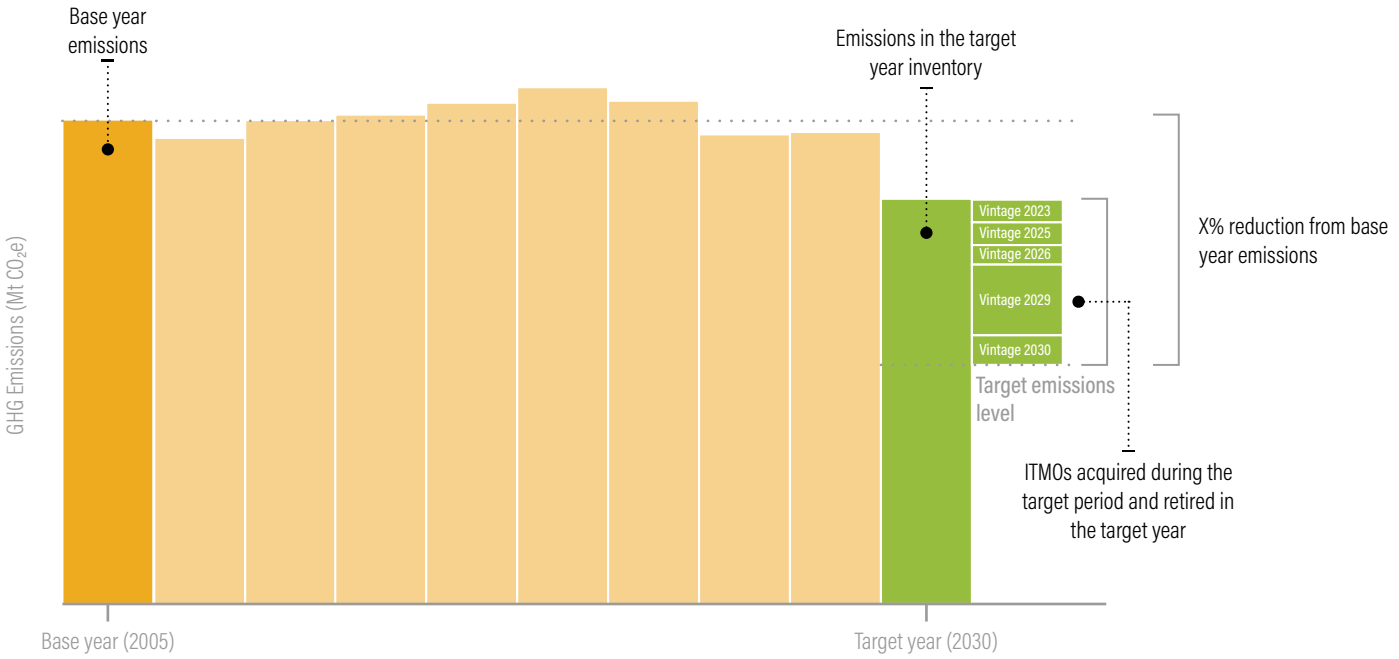
With regard to corresponding adjustments for non-GHG targets, if weak rules are agreed on, trading outcomes that are not comparable could lead to inaccuracies and potentially a rise in emissions. Any conversion of non-GHG metrics to CO_2e would need to be conducted in a robust way, if deemed possible (for example, in the case of a renewable energy target, two Parties engaged in a transfer may have very different emissions impacts associated with the generation of renewable energy).

How to make a corresponding adjustment for single- and multi-year targets

WHAT IS THE ISSUE IN A NUTSHELL?

Most (77 percent of NDCs, constituting 97 percent of global emissions) of the current NDC targets are single-year targets, which specify an emissions target for just a single future year (e.g., 2030) (Climate Watch 2019). Other targets, known as multi-year targets, are defined over several years (e.g., over the period 2021–30). Multi-year NDCs are most conducive for accounting. Adjustments could be made regularly throughout the NDC implementation period or once at the end of the period, and cumulative transfers and use are accounted for. Single-year targets pose a particular challenge because buying Parties could count many years of accumulated mitigation outcomes toward a single year's emissions in the absence of rules prohibiting them from doing so (Hood and Soo 2017; Lo Re and Vaidyula 2019). See Figure 3. This creates issues related to violating environmental integrity (the mitigation effort represented by a single-year target can easily be eroded if large quantities of acquired credits are applied in the target year), as well as fairness (the Party with the multi-year NDC has to acquire more to account for the cumulative emissions across the implementation period). In addition, it creates significant issues for the market, since global demand could be cut significantly, depending on the NDC time frame. On the other side, in the absence of an approach, sellers would only need to account for transfers in the target year, again creating fairness issues and also making it easy to game transfers to avoid adjustments, which would significantly undermine environmental integrity.

Figure 3 | **Accumulated Mitigation Outcomes Applied Toward a Single-Year Target**



WHAT REMAINING ISSUES DO PARTIES NEED TO AGREE ON?

There are several approaches being considered to address the single-year target issue (Schneider et al. 2017), including some related to accounting and transparency. There is also a question of whether all Parties must pick the same approach or whether they can choose. For instance, countries involved in the transfer could be required to state their commitments as multi-year targets in order to be eligible to participate in transfers. However, most NDCs do not have a multi-year target, so this requirement would pose challenges related to their national determination. Another option is the "vintage" approach, whereby a country can only use or transfer mitigation outcomes generated in their NDC target year. This approach is rather impractical to implement and could create issues related to investor incentives, since it strictly limits both market demand and supply; it can also create market distortions if trading is limited to only certain years. A third approach would specify that transfers and use of mitigation outcomes could be averaged over the NDC implementation period to ensure that transfers and use of mitigation outcomes are representative of the entire NDC period. Some argue that this approach results in poor representativeness of the actual pathway and could pose practical constraints.[2] Lastly, countries could be required to develop a multi-year emissions trajectory, against which the transfer and use of ITMOs is accounted for each year. This approach may have advantages of not concentrating the use of corresponding adjustments in only a single year but may pose challenges with single year targets where there may be multiple trajectories to achieving the target (Schneider et al. 2017). It remains to be seen how a trajectory would be defined, and there is a risk that a trajectory could be inflated to allow for perceived overachievement across the implementation period, which could lead to transfers of "hot air." Furthermore, few Parties communicated NDCs with a trajectory, posing further challenges, especially considering the nationally determined nature of their commitments.

Several ways forward have been presented, including capturing principles (e.g., consistency, representativeness) in the guidance and rules, recognizing that the methods would need to be fleshed out further in a work programme; agreeing to a menu of methods; and agreeing to a menu of options with a default option if a Party does not choose a particular method.

WHAT'S AT STAKE?

With regard to corresponding adjustments for single-year targets, many experts have noted that single-year targets can be achieved too easily, given that much less mitigation may be needed to achieve a single-year target unless limits are applied to the amount and/or vintage of credits applied in the target year. Accordingly, what's at stake is the amount of mitigation required for Parties with single-year targets to achieve their goals.

How to account for sectors and GHGs not covered by the NDC

WHAT IS THE ISSUE IN A NUTSHELL?

Another unresolved issue relating to both Articles 6.2 and 6.4 concerns whether (and if so, for how long), Parties can transfer emissions reductions that they achieve outside of sectors and gases covered in their NDCs. For example, if a country does not have an economy-wide NDC, can it pursue emissions reduction activities in an excluded sector (such as waste) and be eligible to transfer these reductions to another country? Forty percent of NDCs cover only certain sectors (e.g., the energy sector only), and 54 percent cover only some GHGs, such as CO_2 only (Climate Watch 2019). The key question is therefore whether internationally transferred mitigation outcomes and/or emissions reductions can be generated from sectors or GHGs that are not covered by the NDC, and, if so, whether a Party must pursue a corresponding adjustment for such mitigation. It should also be noted that there are other complicating factors here. First, the scope of an NDC is not always clear, so it may not be possible to know whether an ITMO was generated from inside or outside an NDC. It is also the case that mitigation outcomes could be generated in a manner that impacts more than one sector.

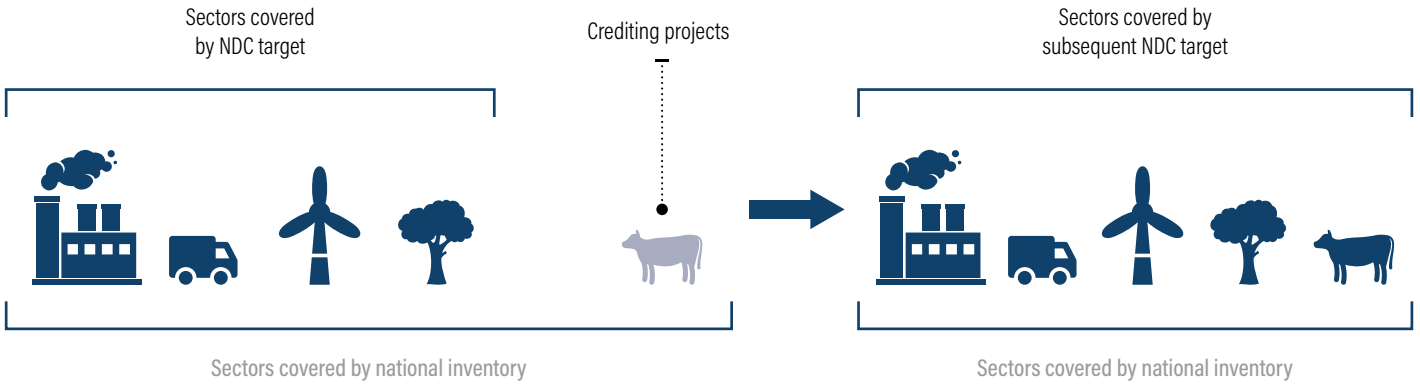
WHAT REMAINING ISSUES DO PARTIES NEED TO AGREE ON?

The first point of disagreement among Parties is whether mitigation outcomes generated from sectors/gases not covered by a Party's NDC can be internationally transferred for use toward another NDC. Those in favor of allowing such transfers point out that double counting would not be an issue because the emissions reductions/enhanced removals do not count toward the achievement of the transferring Party's NDC (Hood 2019). Also, allowing trade in sectors and gases not included in the NDC encourages investments in technologies that may not otherwise receive finance, helps countries achieve sustainable development, targets mitigation in otherwise overlooked sectors, and builds capacity for countries to include those sectors/gases over time in NDCs; for example, through the collection of data (CCAP 2018; Spalding-Fecher n.d.). It can also lower the costs of mitigation, and some have noted that it can be difficult to clearly distinguish what is outside the scope of the NDC in all cases (Schneider et al. 2019).

Those against allowing such transfers suggest that doing so would provide a perverse incentive for countries to avoid expanding the scope of their NDCs (the intent of the Paris Agreement). This is the case because once a sector is included in an NDC, the countries will have to apply corresponding adjustments for related transfers. Another cited concern is that allowing transfers from uncovered sectors and gases could weaken the environmental integrity of credits, because robust accounting may not necessarily be applied in the same way that it would be under the NDC (EDF 2018; Hood 2019). One proposal that has been put forward is that if mitigation outcomes are generated in uncovered sectors or gases in the current NDC, then the relevant sector or gas must be included in future NDCs (CCAP 2018). See Figure 4 for how a host Party could be required to expand coverage of its future NDC.

Another point of disagreement is whether these outside-of-scope mitigation outcomes would be subject to a corresponding adjustment if and when they are transferred internationally for NDC use. Some have suggested that Article 6 is clear in this regard: if an ITMO is used toward an NDC, a corresponding adjustment is required (EDF 2018). Accordingly, the NDC's relevant emissions would be adjusted based on the transfer of the emissions reduction outside the NDC. Some Parties and experts also argue that a corresponding adjustment is necessary to negate a disincentive to expand the coverage of an NDC over time (EDF 2018). Several options have been put forward, including a requirement for corresponding adjustments for uncovered sectors or gases, no requirement for a corresponding adjustment for uncovered sectors, and a delay before a corresponding adjustment is required, for example, a delay until 2031 (Marcu and Rambharos 2019; Hood 2019). Some further argue that ITMOs should only be generated within NDCs and mitigation outcomes from outside NDCs would not be eligible for use.

Figure 4 | **Increased Coverage of Sectors in Subsequent NDCs Resulting from Out-of-Sector Transfers**



Source: Adapted from Hood 2019.

WHAT'S AT STAKE?

Those arguing against the use of uncovered sectors or gases toward NDC targets would suggest that the incentive to expand the scope of their NDCs over time, as well as the environmental integrity of credits, is as stake. Those that support their use would argue that finance and capacity building for emissions reductions in uncovered sectors and gases is at stake, as well as access to untapped mitigation opportunities. Some Parties also argue that the diffusion of new technology, finance, and enhanced monitoring and reporting of GHG emissions can nudge the transferring Party to include the sector/gas in its next NDC and, accordingly, such an incentive is at stake.

How to account for use of Article 6 and non-UNFCCC compliance schemes

WHAT IS THE ISSUE IN A NUTSHELL?

An additional issue related to Article 6 and emissions reductions or removals "outside of the scope of the NDC" concerns the credits used in other compliance schemes. The discussion to date has focused on CORSIA, an international agreement focused on reducing international aviation emissions. CORSIA aims to avoid double counting per an International Civil Aviation Organization (ICAO) Council decision (Biniaz 2017; ICAO 2019). Accordingly, a mitigation outcome used for compliance under CORSIA must not be counted toward NDCs.

While Article 6 does not explicitly mention avoiding double counting with other schemes, current discussions reference the use of credits for non-NDC uses. Further, the issue is mentioned under the modalities, procedures, and guidelines for the Paris Agreement's enhanced transparency framework, in that Parties are to include authorized mitigation outcomes for international purposes other than the achievement of their NDCs in their structured summary for tracking progress (Biniaz 2017; UNFCCC 2018, para. 77d).

WHAT REMAINING ISSUES DO PARTIES NEED TO AGREE ON?

As described above, the key remaining issues pertain to how to avoid double claiming between the use of credits toward NDCs and other compliance schemes, including how to apply corresponding adjustments and track and report their use (Hood 2019; American Carbon Registry 2019). There are some technical challenges to avoiding double claiming because emissions reductions from a project that is used for CORSIA could lead to a lower national inventory, which in turn can aid the achievement of the host Party's NDC (Hood 2019). Article 6 credits used for purposes other than NDC compliance could accordingly be subject to the accounting provisions related to Article 6, including corresponding adjustments (Hood 2019), although this has yet to be agreed on.

WHAT'S AT STAKE?

The primary issue is the double claiming of emissions reductions between achievement of NDCs and CORSIA, which would jeopardize the environmental integrity of both and impede their impact on emissions reductions.

How to avoid double use of emissions reductions from the Article 6.4 mechanism internationally transferred

WHAT IS THE ISSUE IN A NUTSHELL?

While Parties agree that corresponding adjustments will be made to Article 6.2 transfers because this is explicitly referenced in the Paris Agreement's accompanying decision, Parties have yet to agree on whether Article 6.4 emissions reduction credits – which are transferred internationally for use toward NDCs – would be subject to a corresponding adjustment by the host Party. The majority of Parties argue for the host Party to apply a corresponding adjustment when Article 6.4 units are internationally transferred, to avoid counting the underlying emissions reductions twice. They also suggest that when Article 6.4 emissions reductions are transferred internationally for use toward an NDC or other compliance scheme, they constitute an ITMO; it would therefore make sense to apply Article 6.2 guidance. A few other Parties, on the other hand, argue that the Paris Agreement does not explicitly reference corresponding adjustment in relation to Article 6.4; noting the language in Article 6.4c, they point out that the explicit additionality requirement means that it is unnecessary to avoid double counting through the use of corresponding adjustments (Marcu and Sinha 2019). With regard to additionality, these Parties point out that the Article 6.4 activity is necessarily additional to what would have otherwise occurred, so the emissions reduction cannot be counted toward the NDC. If it is not counted toward the NDC, by virtue of being additional, it cannot be double counted. For these Parties, the scope of the NDC is determined not only in terms of sectors and gases but also by the actions or activities included when it was communicated. As a result, they argue that if Article 6.4 activities are outside of this scope, they are additional to the NDC, so the avoidance of double counting is unnecessary.

Most other Parties will note that this argument misses the fundamental question of double counting, which is: "Are emissions reductions counted twice?" If the emissions reductions created under the Article 6.4 mechanism are used to meet the NDC target of another Party, or used for another purpose, these reductions are claimed elsewhere. Given that these reductions will be reflected in the transferring Party's inventory, there would need to be a corresponding adjustment to ensure that the same reductions are not counted twice.

WHAT REMAINING ISSUES DO PARTIES NEED TO AGREE ON?

It remains to be agreed on whether corresponding adjustments will be required for the Article 6.4 mechanism when the resulting mitigation is internationally transferred and used toward NDCs or for other international purposes. If corresponding adjustments are required, there is an additional question of whether they would follow the guidance of Article 6.2 or apply specifically designed accounting rules (Lo Re and Vaidyula 2019).

WHAT'S AT STAKE?

Most fundamentally, the amount of mitigation could be compromised if corresponding adjustments are not applied accurately and comprehensively for all mitigation outcomes that are internationally transferred and used and if double counting ensues. The integrity and credibility of the carbon market would also be at stake.

2. Baselines and Additionality

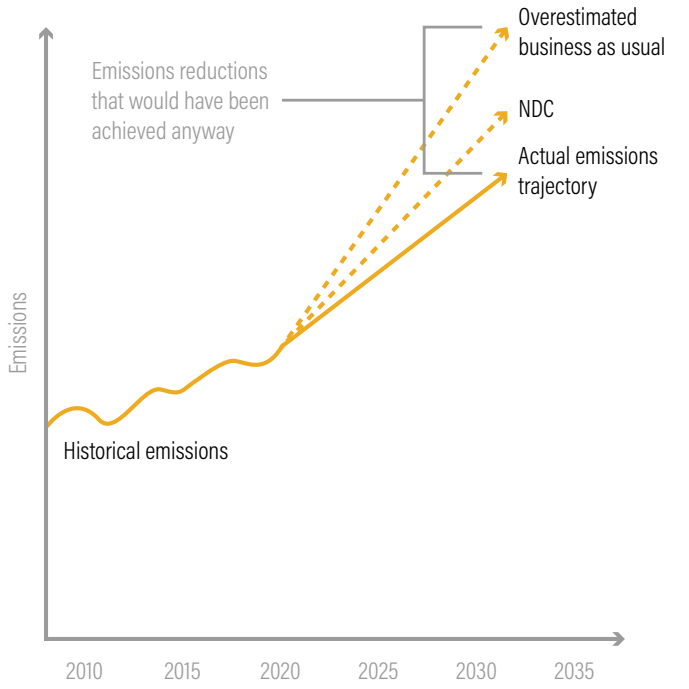
WHAT IS THE ISSUE IN A NUTSHELL?

It will be critical that Article 6 not undermine the emissions reductions that the NDCs intend to deliver. One critical aspect for crediting mechanisms, such as the one established in Article 6.4, is whether the emissions reductions are additional to what would have happened in the absence of the mechanism.

As mentioned above, in the case of Article 6.2, additionality is not an explicit requirement because the determination and applicability of additionality to a cooperative approach would be the responsibility of the Parties involved. And while additionality related to Article 6.2 is not the focus of negotiations, compared to additionality of Article 6.4, the concept is still relevant. As not all NDCs are ambitious, representing real emissions reductions beyond business as usual, or BAU, (UNEP 2018) there is the risk that Article 6 will allow Parties with weak NDCs to export carbon credits that are not backed by actual mitigation. This would accordingly reduce the domestic efforts of buying countries with stronger NDCs and lead to an overall increase in global emissions compared to what would have otherwise occurred. For example, a transferring Party could have a target that is above its BAU emissions trajectory, meaning that this country would have exceeded achievement of its NDC anyway. If it transfers carbon market units that are not backed by actual emissions reductions, aggregate emissions between both countries are higher than they would have

been in the absence of the transfer (Schneider and La Hoz Theuer 2019; La Hoz Theuer et al. 2019) (see Figure 5). Here we are speaking of additionality as a broad concept that is central to environmental integrity. In reality, the role of international rules in determining additionality depends on the nature of the cooperation.

Figure 5 | **Risk of Weak NDCs Exporting Carbon Credits Not Backed by Actual Mitigation**



Source: Adapted from Michaelowa et al. 2019.

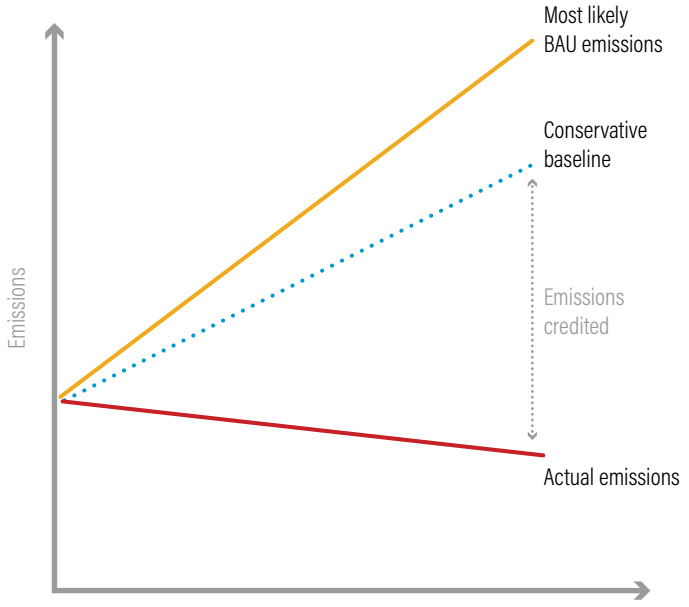
Under Article 6.4, Parties are negotiating specific options related to addressing additionality, given the explicit reference to ensuring that the mechanism's credits are additional. One issue at hand is the establishment of the project or programme baseline. Baselines are projected reference levels of emissions that would occur in the absence of the mechanism. Credit can be issued for emissions reductions achieved below the baseline, and, accordingly, the baseline will determine the crediting threshold. If a baseline is not conservative and set sufficiently below BAU emissions, the resulting credits will not be real or additional.

Under Article 6.4, a methodology sets the rules for how a baseline is established, how additionality is demonstrated, and how emission reductions are monitored. Methodologies are subject to approval by the Article 6.4 mechanism's Supervisory Body and potentially by the host Party.

The Paris Agreement, in which all Parties have NDCs, creates new challenges related to the role of the host Party, including the establishment of baselines and the determination of additionality (Lo Re et al. forthcoming). It is important that the mechanism does not put a host Party at risk of not achieving their NDC when the emission reduction is transferred internationally. That is, the host Party must ensure that it does not transfer away emission reductions that it actually needs to meet its own NDC. In recognition of this issue, the Article 6.4 negotiations are emphasizing host Party engagement, and the negotiating texts include a broad role for host Parties in approving various aspects of the activity, including the type of activity, the methodology (as well as the approach to determining baselines and additionality), and the crediting period.

Some Parties also want to make sure that Article 6.4 activities enhance ambition over time and do not lead to a situation in which host Parties are encouraged to transfer all of their low cost emission reductions abroad. Rather, they want to ensure that some of these are retained by the host Party. These Parties propose that baselines are set well below BAU emissions levels so that some of the reductions (those that occur above the baseline, which is set lower than BAU) accrue to the host Party as they are not credited, and some can be credited (those that occur below the baseline) and be transferred internationally. This is sometimes referred to as an "own contribution" or "own benefit." See Figure 6.

Figure 6 | **Setting of Conservative Crediting Baselines**



Source: Adapted from Schneider et al. 2014.

There is also some debate about whether and how the NDC itself and related policies should be taken into account when determining the mechanism's baselines and additionality. Many Parties point out that if the project/programme baseline does not include all existing policies and reflect NDC achievement as part of the baseline, it could be inflated and the resulting credits unlikely to be real or additional. That being said, how it does so remains to be seen. It is not always possible to reflect a given policy, law, or regulation in a baseline and it might not always be relevant, but where these are relevant the methodology should specify that they be taken into account. As policy changes over time, these changes would need to be reflected by allowing a baseline to be dynamic, becoming increasingly stringent over time to reflect policy and legislative updates and to avoid crediting hot air. Of course, this dynamism needs to be balanced with some certainty about when and how baselines are updated. Some Parties feel that their full ambition has already been included in their NDCs, or that NDCs and policies to implement them are not in any way related to baseline determination, and a requirement to set baselines below NDCs or related policies is onerous. That said, it is in the transferring Party's interest to ensure that baselines either reflect NDCs or are at least no higher than BAU emissions to avoid an over-transfer of emissions reductions.

These issues are closely related to the issue of Article 6.4 accounting and the related incentives. If a Party has to account (i.e., make an adjustment for one metric ton of CO_2e) for an Article 6.4 credit that it transfers internationally, it is in that Party's interest to ensure that the credit is worth at least the value of the adjustment. In other words, in this case, it is in the host country's interest to ensure that baselines either reflect NDCs or at least are no higher than BAU emissions to avoid an over-transfer of emissions reductions. If there is no accounting obligation, the incentive structure changes.

WHAT REMAINING ISSUES DO PARTIES NEED TO AGREE ON?

While negotiators are not actively discussing additionality under Article 6.2, given that there is no direct reference to it in the Paris Agreement, broad principles are being discussed, including those related to setting conservative baselines. For both Article 6.2 and 6.4, if transferred emissions reductions come from an unambitious NDC, and the transferring Party would still achieve its NDC target, ambition would be compromised.

In addition, the Article 6.4 negotiating text includes many options for determining baselines and additionality. Parties have proposed several options to ensure that domestic mitigation measures that aim to achieve NDCs and other related policies are taken into account. For baselines, Parties that are concerned about the stringency of the crediting threshold for environmental integrity reasons have proposed explicit references to "below BAU" and options related to baseline determination based on benchmarks or best available technologies. Other Parties have asserted that competing options, such as baselines based on BAU or historical emissions, should be permitted. It is important that Parties narrow the options so that the Supervisory Body and the host Parties can develop clear guidance on what constitutes appropriate baselines and approaches to additionality. This would also benefit those acquiring the credits because they would have more certainty that a given activity had a sensible baseline and was subject to a robust approach for determining additionality. If the rules do not provide for a robust determination of additionality and sufficiently conservative baselines, they will undoubtedly undermine the mechanism's credibility as well as the NDCs' ambition.

WHAT'S AT STAKE?

The integrity and effectiveness of Article 6 and its ability to contribute to Paris Agreement goals could suffer if emissions reductions transferred under Article 6 are not additional (Michaelowa, Hermwille, et al. 2019). Ultimately emissions could rise if additionality is not ensured.

3. Transitioning Kyoto Protocol Mechanisms and Their Methodologies, Activities, and Units

WHAT IS THE ISSUE IN A NUTSHELL?

One of the most significant unresolved negotiating issues related to Article 6 is the continuation of market mechanisms under the Kyoto Protocol, mainly in relation to the CDM, but also to Joint Implementation (JI) and emissions trading. It should be noted that the Paris Agreement and its accompanying decision are silent on this issue, but Kyoto Protocol mechanisms could be included in Article 6 in various ways, including the use of CDM rules and governance arrangements; the transition of Kyoto Protocol mechanism activities (projects and programmes of activities), allowing them to continue to generate units for emissions reductions achieved after 2020; and allowing certified emissions reductions (CERs), assigned amount units, and emissions reduction units from Kyoto Protocol mechanisms that are generated prior to 2020 to be applied after 2020 (Schneider et al. 2017; Greiner et al. 2017).

WHAT REMAINING ISSUES DO PARTIES NEED TO AGREE ON?

The first decision is with regard to the transition of the rules and methodologies from Kyoto mechanisms to the Article 6.4 mechanism (Lo Re and Vaidyula 2019). Some of these rules and methodologies might be relevant for Article 6.4, and Decision 1/CP.21 explicitly calls for the rules, modalities, and procedures to take into account the lessons learned under Kyoto. The rules that might be useful include those related to the accreditation of verifiers. As the methodologies for CDM and JI include the determination of baselines and the approach to additionality, these would likely need to be updated to reflect any new framing under Article 6.4 before being used by an Article 6.4 activity.

For projects and programmes currently registered under the CDM or JI, there are some Parties that argue that these should be automatically registered under Article 6.4 without constraint. Others argue that these projects or programmes can be registered under Article 6.4, potentially even through an expedited procedure, to the extent that they meet or are updated to reflect the new rules. Those arguing against the automatic registration of these projects point out that it might perpetuate the regional imbalance of project activities under the CDM, and would dilute overall ambition because most of these projects generate emission reductions regardless of the ability to sell units (Warnecke et al. 2019; Schneider et al. 2017), calling their additionality into question – they would clearly happen even without the mechanism. They argue that allowing these projects to continue generating units after 2020 would lead to continued low carbon prices and thus neither reward previous investments nor provide incentives for new investments in mitigation action. They would essentially crowd out new and additional activities. Some have accordingly suggested that only CERs from project types that would discontinue GHG abatement without carbon finance could be eligible for use after 2020 (Schneider et al. 2017). Others, however, have pointed out that designating the eligibility of certain project types could be challenging. It is possible that existing projects or programmes could undergo some sort of simplified registration process under Article 6.4 to update those elements impacted by the new rules.

A second area of debate is the use of units from Kyoto Protocol mechanisms that are generated prior to and applied after 2020. Those that argue against using CERs after 2020 to meet NDCs state that there will be no signal to catalyze significant emissions reductions beyond what would have otherwise occurred (Schneider et al. 2017). One recent study estimates the potential supply of CERs for the 2013–20 period to be 4.65 billion. The current demand is estimated up to 600 million, meaning that 4 billion could be available for use toward NDCs or CORSIA if the rules allow for their use (Warnecke et al. 2019). This means that pre-2020 Kyoto Protocol units could substitute for action post-2020.

Proponents of using Kyoto Protocol CERs toward post-2020 targets argue that they could lower the costs of achieving mitigation targets, preserve investments, and ensure that existing efforts are not discontinued (Schneider et al. 2017). They also argue that use of Kyoto Protocol mechanism activities could help foster the quick implementation of Article 6 and meet the demand from CORSIA and NDCs, since there is a ready-made pipeline of activities (Greiner et al. 2017). Those that support the use of CERs from emissions reductions achieved prior to 2020 for use toward achieving NDCs suggest that the timing of the reductions would in theory not affect cumulative emissions over time, insofar as the CERs are additional. This would presumably require that the availability of CERs was taken into account when Parties set their NDC targets, and that they are accordingly more ambitious than they would have otherwise been.

Several options have been put forward to limit the eligibility of the Kyoto Protocol mechanisms, including precluding or limiting the types of CERs, projects, and/or programmes of activities and/or geographies, vintages of CERs, crediting period, and discounting credits, among other ideas (Greiner et al. 2017). There is also a question regarding double claiming with 2020 targets, and some have accordingly proposed requiring transferring countries to apply corresponding adjustments (Schneider et al. 2017).

WHAT'S AT STAKE?

The ambition of the NDCs themselves could be compromised if, for example, CERs flood the market and do not provide an adequate signal for post-2020 emissions reduction. The emissions reductions underlying the CERs would occur regardless, because these were generated in the absence of a price signal as the market is completely oversupplied. Large volumes of pre-2020 units exist, which could make the already insufficient NDCs even easier to meet, and less action would be required to meet them, diluting mitigation. Furthermore, these older emissions reductions have already been achieved and are reflected in Parties' national inventories but risk being used toward new post-2020 NDCs, undermining the NDCs' effectiveness in reducing emissions. There is also a concern that continuing

Kyoto Protocol mechanisms or units will perpetuate regional distortions of financial benefits already seen by the mechanisms, where certain countries benefited much more than others. Those arguing for greater applicability of Kyoto mechanisms (either in terms of rules, units, or activities) to the Paris Agreement would suggest that the continuation of current emissions reduction projects, investor confidence, signals to early movers, and ability to serve new demand is at stake.

4. Share of Proceeds on Article 6 Activities

WHAT IS THE ISSUE IN A NUTSHELL?

Article 6, paragraphs 4 and 6 state that a "share of proceeds" from the Article 6.4 mechanism will cover administrative expenses, as well as assist vulnerable developing countries to meet the costs of adaptation. This is akin to an international tax on mitigation outcomes created through the mechanism (Michaelowa, Greiner, et al. 2019). There is a precedent under the Kyoto Protocol's CDM in which a share of proceeds was set aside for administrative purposes and to support the Adaptation Fund (Michaelowa, Greiner, et al. 2019). The Doha Amendment (Decision 1/CMP.8), not yet entered into force, extended the levy to the other Kyoto mechanisms; some argue this sets a precedent for extending the share of proceeds to all carbon market mechanisms. In a similar vein, the Paris Agreement introduced a share of proceeds to support adaptation activities as well as to cover the costs to administer the mechanism.

WHAT REMAINING ISSUES DO PARTIES NEED TO AGREE ON?

While the share of proceeds is explicitly referenced in Article 6.4, the Paris Agreement is silent regarding a share of proceeds for cooperative approaches referenced under Article 6.2. Parties have not come to an agreement on whether a share of proceeds would also apply to Article 6.2 activities. There are two primary arguments cited for applying a share of proceeds to Article 6.2. First, some Parties have argued that if a share of proceeds only applies to Article 6.4 activities, it would disadvantage 6.4 activities in the marketplace relative to cooperative approaches under Article 6.2. Second, some Parties have also pointed out that adaptation is significantly underfinanced, and applying a share of proceeds more broadly is critical for financing adaptation and creating predictability and sustainability for the Adaptation Fund (Michaelowa, Greiner, et al. 2019).

Parties that do not support applying a share of proceeds to Article 6.2 argue that the Paris Agreement simply does not have a provision for this, and therefore claim there is no legal mandate for doing so. Others have countered this argument by saying that the Paris Agreement's silence on the topic does not necessarily mean there is no basis for applying a share of proceeds to Article 6.2. Those not in favor of this also state that it would be technically challenging to apply a share of proceeds to linked emissions trading schemes. However, some experts have suggested that technical challenges could be overcome (Michaelowa, Greiner, et al. 2019). Some also cite legal challenges given the issue's lack of explicit reference in Article 6.2.

In addition to applicability, other technical questions remain: these include, for example, how the share of proceeds will be operationalized under Article 6.4 (and under Article 6.2 to the extent deemed relevant), including what percentage should be used to apply a share of proceeds; how the money collected will be used; how often and when the share of proceeds will be levied; how credits will be converted into revenues; and how much of the proceeds would be monetary versus in-kind (Michaelowa, Greiner, et al. 2019).

WHAT'S AT STAKE?

All Parties agree on the importance of continued and stable sources of adaptation funding. However, the volume of funding to be generated by Article 6 for adaptation is at stake. The carbon market has historically been a source of adaptation financing. Some argue that if the application of share of proceeds is limited to Article 6.4, then the Article 6.4 mechanism is disadvantaged relative to 6.2. These Parties do not interpret silence in Article 6.2 as limiting Parties' ability to include provisions in the guidance. Other Parties view the application of the share of proceeds in 6.2 as not in line with the Paris Agreement or as an unnecessary link between adaptation funding and market-based transactions.

5. Overall Mitigation in Global Emissions

WHAT IS THE ISSUE IN A NUTSHELL?

Article 6.4 stipulates that the mechanism is to deliver an "overall mitigation in global emissions" (often referenced as OMGE). For some Parties, overall mitigation in global emissions could mean that some of the credits generated under Article 6.4 are not used toward any Party's NDC, resulting in a net global decrease in emissions rather than simply a transfer of emissions reductions (Gao et al. 2019). Such credits would also not be used for other

compliance purposes, such as the ICAO's CORSIA scheme (Schneider et al. 2018). For example, if 10 metric tons of CO_2e emissions reductions were generated through the Article 6.4 mechanism, some percentage of that would be set aside and not be available for use by any Party. Accordingly, the mechanism will not simply be an offsetting tool, in which emissions reductions are transferred from one Party to another with no guarantee of additional emissions cuts beyond the NDCs, but rather a tool that contributes to further abatement (Schneider et al. 2018; Howard 2018). Some have stated that this additional mitigation benefit could increase the acceptability of offsets, given that they could result in greater emissions reductions (Schneider and Warnecke 2019).

WHAT REMAINING ISSUES DO PARTIES NEED TO AGREE ON?

The definition of overall mitigation in global emissions is still contested, but establishing it will help determine the options for how this concept is operationalized. Additionally, similar to the share of proceeds, Parties are primarily divided on whether overall mitigation in global emissions applies only to Article 6.4, where it is directly referenced in the Paris Agreement, or to Article 6.2 approaches as well. Some Parties argue that the Agreement clearly stipulates that overall mitigation in global emissions pertains only to Article 6.4, since it is only referenced in that paragraph. Again, other Parties counter this by stating that the Agreement's silence on the applicability to Article 6.2 does not translate to no application and does not preclude application to 6.2. Those calling for an overall mitigation in global emissions to be applied to activities under both Article 6.2 and 6.4 cite several benefits, including ensuring ambition of Article 6 as a whole, as well as not disadvantaging Article 6.4 activities in the marketplace (Schneider et al. 2018; Schleussner et al. 2018). Proponents also argue that this is the most direct way to get Article 6 to actually deliver higher mitigation ambition. Some also suggest that more mitigation will be achieved domestically if overall mitigation in global emissions is applied to the whole of Article 6 (Schleussner et al. 2018). Those not in favor of applying overall mitigation in global emissions to Article 6.2 argue that it could lead to market distortions and higher costs.

In addition to whether the overall mitigation in global emissions is pertinent to all Article 6 activities or just those related to 6.4, the specific mechanism for operationalizing this concept has yet to be determined. The mechanics considered in the literature include, for example, discounts, cancellations, provisions for conservative baselines, and shortened crediting periods, among others (Schneider et al. 2018; Gao et al. 2019; Wang-Helmreich et al. 2019). In addition to how overall mitigation is delivered, Parties have yet to agree on when it will be delivered; that is, at issuance, transfer, or use toward an NDC (Gao et al. 2019). Parties also have yet to agree on how many units are applicable to the provision on overall mitigation in global emissions. Some note that credit prices will rise as a greater share of credits is used for the overall mitigation in global emissions. However, a recent study has found that higher credit prices will lead to an increase in net revenues and in the level of emissions reduction in transferring countries (Schneider et al. 2018). A follow-up study goes on to state that the higher credit prices can help finance more costly mitigation action, which can lead to greater ambition in the longer run (Schneider and Warnecke 2019).

WHAT'S AT STAKE?

At stake is the opportunity to use Article 6 to raise ambition. Also, some would argue that limiting overall mitigation in global emissions to Article 6.4 will disadvantage that mechanism.

6. Governance of Article 6

WHAT IS THE ISSUE IN A NUTSHELL?

The governance of the Article 6.4 mechanism is relatively clear with respect to establishing a Supervisory Body, with the acknowledgement that details on its composition and rules of procedure still need to be agreed on. However, the governance of Article 6.2 has been a subject of controversy, with some calling for centralized governance that is as stringent as that for Article 6.4. Others seemed to have reached middle ground at Katowice, agreeing instead to ensure the functions related to governance for Article 6.2 are clearly defined.

Another key outstanding issue related to governance is the review process. The reporting and review cycle requires initial and regular reports to be filed, providing transparency with regard to a Party's fulfillment of Article 6.2's requirements for participation. Review teams play a particularly important role with respect to governance. Parties are wary of duplication and onerous requirements for submitting information. Many feel that the Article 13 review team has a clear mandate elaborated in the Article 13 modalities, procedures, and guidelines as it relates to review of Parties' biennial transparency reports and inventories. The guidance for the Article 6 review team is not yet elaborated and remains an area of negotiation. Many Parties regard these review teams as distinct and performing different roles.

WHAT REMAINING ISSUES DO PARTIES NEED TO AGREE ON?

Parties have yet to agree on the governance of Article 6.2. In addition, Parties have not yet agreed on the role and form of the Article 6 review team vis-á-vis the Article 13 review team, or the coordination between these teams, as well as the timing of reviews. It is expected that the Article 6 review would be separate from the Article 13 review given the need to review initial and regular reports and assess the corresponding adjustments.

WHAT'S AT STAKE?

If the roles of the review teams and the timing of the reviews are not resolved now, there could be market activity that is not reviewed for many years, and there could be pressure from early market participants for certain governance features that would facilitate a faster start. Any discrepancies in participation requirements or corresponding adjustments would be picked up years too late and the consequences of such a situation remain unclear. This would impact the credibility of the carbon market and could undermine the ability of Article 6 to deliver emissions reductions.

7. Reporting of Article 6 and Link with Reporting under Article 13's Enhanced Transparency Framework

WHAT IS THE ISSUE IN A NUTSHELL?

While Parties did not finalize negotiations pertaining to Article 6 at COP24, they did agree to an enhanced transparency framework. Under the reporting requirements, there is a provision (paragraph 77(d) of the Annex to 18/CMA.1) that each Party must provide information in a structured summary, the format of which is currently under negotiation and expected to be concluded by COP26, including information on the use of ITMOs (see Box 1). The CMA noted that information provided in a structured summary referred to in paragraph 77(d) is "without prejudice" to Article 6 outcomes. In addition, there will be reporting requirements under Article 6 that have yet to be agreed on.

Box 1 | **Paragraph 77(d) of the Enhanced Transparency Framework (of the Annex to 18/CMA.1)**

Each Party that participates in cooperative approaches that involve the use of internationally transferred mitigation outcomes toward a nationally determined contribution (NDC) under Article 4, or authorizes the use of mitigation outcomes for international mitigation purposes other than achievement of its NDC, shall also provide the following information in the structured summary consistently with relevant decisions adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA) on Article 6:

- The annual level of anthropogenic emissions by sources and removals by sinks covered by the NDC on an annual basis reported biennially;
- An emissions balance reflecting the level of anthropogenic emissions by sources and removals by sinks covered by its NDC adjusted on the basis of corresponding adjustments undertaken by effecting an addition for internationally transferred mitigation outcomes first-transferred/transferred and a subtraction for internationally transferred mitigation outcomes used/acquired, consistent with decisions adopted by the CMA on Article 6;
- Any other information consistent with decisions adopted by the CMA on reporting under Article 6;
- Information on how each cooperative approach promotes sustainable development; and ensures environmental integrity and transparency, including in governance; and applies robust accounting to ensure inter alia the avoidance of double counting, consistent with decisions adopted by the CMA on Article 6.

WHAT REMAINING ISSUES DO PARTIES NEED TO AGREE ON?

Parties have yet to agree on what additional reporting requirements would be needed on top of those included in paragraph 77(d). Some have argued that much more information is needed, while others say that current requirements are sufficient.

A major point of contention is the scope of the applicability of paragraph 77(d). The wording specifically focuses on ITMOs. One question that has surfaced is whether and when credits created under the Article 6.4 mechanism become ITMOs, and in turn whether and when this guidance would apply to Article 6.4 transfers. This issue is connected to the above-mentioned issue on when corresponding adjustments are required, including for Article 6.4 (see p. 14). Some argue that this reporting should be undertaken whenever a transfer is used toward an NDC, since it would require a corresponding adjustment; others argue that Article 6.4 emissions reductions are not subject to a corresponding adjustment and, accordingly, should not be subject to such reporting provisions.

Additionally, given that paragraph 77(d) was agreed "without prejudice" to Article 6 outcomes, Parties disagree about the extent to which its provisions can be reopened and renegotiated (Marcu and Rambharos 2019). Some argue that it can all be renegotiated, since Article 6 is only now being finalized. Given the specificity of reporting (i.e., annual reporting, corresponding adjustments for the first transferred/transferred ITMOs), some Parties have noted that if paragraph 77(d) is not subject to amendment, it could prejudge remaining decisions under Article 6 (Unger 2019). Others suggest that paragraph 77(d) has already been concluded and, accordingly, whatever is agreed on Article 6 should be able to accommodate the reporting under paragraph 77(d). It is important to note that 77(d) is about reporting only and in no way obligates a Party to do accounting. While some Parties feel that 77(d) is sufficient, most Parties feel it does not go far enough and only covers reporting.

WHAT'S AT STAKE?

The primary issue at stake is the level of transparency of Article 6 transfers. It has yet to be determined what Parties will need to report under both Article 6.2 and 6.4, how often, and in what format(s).

CONCLUSION

Effective rules are essential to avoid Article 6 undermining the Paris Agreement, and rules that undermine countries' commitments are worse than no rules. It is expected that a work programme will be designed to allow for some issues to be worked out among technical experts, and accordingly, not every detail will be finalized at COP25. Potential solutions are on the table, but negotiators' goodwill is needed to overcome differences.

Studies have shown that if designed well, Article 6 has the potential to contribute to the Paris Agreement's goals at a lower cost compared to reliance on the domestic market. Article 6 can also provide significant incentive for private sector investment in various countries, and could help some countries leapfrog their technological development. These achievements can only be realized, however, if the market is efficient, credible, and reliable.

Depending on how these issues are resolved in the negotiations, Article 6 could either deliver this ambition or fail dismally. There are many critical issues at stake, including double counting, whether emissions reductions will be additional, and whether increased ambition will be delivered, incentivized, or reduced.

There exists a significant emissions gap between where emissions are headed versus where they need to be to avoid the worst climate impacts. Article 6 must aid – rather than undermine – the ambition and environmental integrity of the Paris Agreement and countries' commitments under it.

ABBREVIATIONS

BAU	Business as usual
CDM	Clean Development Mechanism
CER	Certified emissions reduction
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
CO_2e	Carbon dioxide equivalent
COP	Conference of the Parties
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
GDP	Gross domestic product
GHG	Greenhouse gas
ICAO	International Civil Aviation Organization
ITMO	Internationally transferred mitigation outcome
JI	Joint Implementation
NDC	Nationally determined contribution
SBSTA	Subsidiary Body for Scientific and Technological Advice
UNFCCC	United Nations Framework Convention on Climate Change

ENDNOTES

1. Emissions intensity targets are framed as a percentage reduction in emissions intensity (GHG per unit of output, typically GDP) to be achieved relative to base year emissions intensity.
2. See Schneider et al. (2017) for more information.

GLOSSARY

Additionality: The idea that emissions reductions should produce additional abatement compared with a reference scenario of emissions reductions that would have occurred in the absence of the market-based mechanism.

Article 6.4 emissions reduction: An emissions reduction generated from the Article 6.4 mechanism. It is to be real, measurable, and permanent and measured as a ton of carbon dioxide equivalent (CO_2e) calculated consistently with the methodologies and common metrics assessed by the Intergovernmental Panel on Climate Change.

Business-as-usual (BAU) scenario: A reference case that represents future events or conditions most likely to occur as a result of implemented and adopted policies and actions.

Double counting: An instance in which the same mitigation outcome is counted toward the NDC of more than one Party (or other compliance scheme).

Double use: An instance in which the same carbon credits are counted twice toward achieving mitigation targets or goals, including toward NDCs and non-UNFCCC schemes.

Double claiming: An instance in which the same emissions reduction or removal is claimed by two different countries or entities toward achieving climate change mitigation goals. This occurs if a country claims the credit of emissions reductions in its inventory, for instance, and the reductions are also claimed by the country or entity using the carbon credit (i.e., no corresponding adjustment is undertaken).

Emissions reductions: A reduction in GHG emissions relative to a base year or baseline scenario.

Environmental integrity: Possible definitions include ensuring that international transfers do not lead to a situation in which aggregate actual emissions exceed the aggregate target level; that aggregated global emissions are no higher as compared to a situation where the transfers did not take place; and that international transfers lead to a decrease in global GHG emissions as compared to a situation where the transfers did not take place (Schneider et al. 2018).

ITMO: A mitigation outcome resulting from cooperative approaches under Article 6.2, which are internationally transferred and authorized for use toward NDCs, or authorized for international mitigation purposes other than NDC achievement.

Multi-year target: A goal or commitment designed to achieve emissions reductions (or reduction in emissions intensity) over several years of a target period.

Single-year target: A goal or commitment designed to achieve reduction in emissions (or emissions intensity) by a single target year.

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