

CARBON LIMITS

Environmental integrity and additionality in the new context of the Paris Agreement crediting mechanisms

Final Report

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Table of Contents

Executive Summary	iii
1. Introduction	1
1.1 Definitions	1
1.2 Scope of this analysis	2
2. Crediting in the post-Paris era: the importance of universal pledges	3
3. NDC pledges, additionality and ambition	5
4. Non-offset mitigation finance: tracking and interaction with crediting mechanisms.....	8
5. Options and recommendations	10
6. References	12

Executive Summary

The entry into force of the Paris Agreement in November 2016 opens the possibility of a new era in international cooperation on climate change mitigation. This paper analyses how the concepts of “environmental integrity” and “additionality”, which are both mentioned in the Paris Agreement and related decision, will apply to the new cooperative mechanisms created under the Agreement. The paper intentionally focuses on concepts and principles to ensure environmental integrity in new mechanisms, not the technical and practical tools for determining baselines and demonstrating additionality.

Of the 189 countries submitting Intended Nationally Determined Contributions (INDCs), almost 80% committed to GHG targets of some kind. This means that the transfer of emission reduction units from one country to another will have an impact for both countries in terms of meeting their emission reduction or limitation pledges. Under the CDM, a “business as usual” scenario that represented the baseline was generally created “bottom-up”, based on project- or technology-specific assessments and largely ignoring national policies and broader economic trends. Under the Paris Agreement, the pledges made by countries in their NDCs represent an official estimate of the emissions trajectory they can achieve by implementing climate change mitigation policies and measures. Pledges that are “unconditional” could include a wide variety of policies and measures, and would be implemented without any support from international crediting mechanisms. Although this emissions trajectory should depart from “business as usual without new climate policies”, it would essentially provide a scenario for “business as usual with new policies but before crediting”. In other words, this is the transferring country’s official estimate of where their emissions would be in the future before any investments or incentives provided by international crediting mechanisms. These pledges, therefore, could provide the basis of a crediting baseline, because they represent what would likely happen without incentives from crediting.

While this idea is conceptually simple, it may be more difficult to apply in practice for three broad reasons: conditionality, technical issues, and ambition. First, the nature of the **conditionality** of the NDC pledges is not clear. Because there is no agreed definition on what types of international support are related to unconditional and conditional pledges, some countries may understand that they can use crediting to achieve conditional goals, while others might argue that they have included crediting as a tool to achieve their unconditional goals. Secondly, there are a group of **technical issues** with translating the NDC pledges into metrics that are suitable for use as baselines and assessing the additionality of specific interventions within a sector (or overall progress in the sector). These include the time frame, level of aggregation, and type of target included in NDC pledges. Thirdly, using NDC pledges for crediting baselines assumes that the pledges are, indeed, below business as usual emissions. In other words, it assumes that all NDC pledges are **ambitious** and that even the unconditional pledges represent real action on mitigation. Such an approach will not ensure environmental integrity if transferring country pledges are above business as usual. In that case, the transferring country will achieve their pledge in any case, and the transfer of units will not require any additional domestic mitigation action, while it would permit the acquiring country to meet their pledges even if their emissions were above the pledged level. Total emissions would therefore be higher with crediting than without it.

The dramatic scaling up of finance called for under the Paris Agreement implies that new programs might increasingly be supported by both offset payments as well as non-offset mitigation finance (the combination of which is sometimes called “blended finance”). Because only the offset payments would lead to corresponding adjustments or similar adjustments under Article 6, funders would need to clearly state at the time of transaction whether they were providing offset payments or non-offset mitigation finance. Without such an upfront agreement, the risk to the transferring country would be that they would have an unexpected “corresponding adjustment” in the future, when they thought they

were receiving non-offset mitigation finance. The modalities and procedures for the Article 6 mechanisms will need to address this important distinction, particularly in cases where non-offset mitigation finance uses an Article 6 mechanism (at least in part) for the verification of mitigation impacts.

Another key question for programs with blended finance is the relationship between the non-offset mitigation financing and the baseline for crediting offset payments. If the non-offset mitigation financing would already result in some mitigation activity in the sector, compared to a situation without this financing, then the baseline for crediting could be related to the results achievable with only non-offset mitigation finance. In this case, the provider of the non-credited mitigation financing might report the deviation from business as usual as the impact of this stream of financing, while the offset payment provider might be credited for the emission reductions that go beyond this level. Alternatively, the crediting rules might define the baseline as the scenario without any of the Paris Agreement (or Article 6) policy interventions, in which case the full deviation from business as usual could be credited.

The first step towards ensuring the environmental integrity of the Paris Agreement will be to develop a robust and transparent **common accounting framework**, so that transferred units from crediting mechanisms can be tracked in the same way that national inventories and progress towards pledges is monitored. From a transferring country's perspective, crediting could would likely **only be desirable in sectors where inventories are detailed** enough to capture the mitigation impacts of crediting activities. Otherwise, the transferring country would have to undertake even more domestic mitigation activity (i.e. that was captured by their inventory) to make up for the transferred units. The common accounting framework and balancing of inventories/pledges are a necessary step to **prevent double counting**.

Baselines for crediting programs should be related to NDC pledges to ensure that crediting does not make it more difficult for a country to achieve their pledges (e.g. because of transferred units). Whether the basis should be unconditional or conditional pledges requires clear guidance from the Parties on the definitions and content of these two types of pledges, as well as clarity on how countries' compliance with those pledges will be evaluated. Parties may, in fact, need to revise their NDC pledges once international agreement on these definitions and the scope of crediting is agreed. To implement the principle of linking baselines and NDC pledges, more work is needed to translate NDC pledges into annual, absolute sectoral emissions, and all countries who participate would need to move towards quantified GHG pledges. The **crediting period** for new mechanisms should take into consideration the effect of periodic revisions of the NDC pledges, and how this might affect the baseline and additionality assessment. Tackling the question of the **ambition of NDC pledges**, while politically sensitive, is necessary to ensure environmental integrity of new crediting mechanisms. One possibility for addressing this question indirectly would be to build the crediting baselines on NDC pledges that were linked to a Low Emission Development Strategy (LEDS) process in a given country. The Parties may also agree to some form of review process of NDC pledges, or at least guidance on how these should be presented and justified. Another possibility would be to use more traditional methodologies for baseline setting in parallel with the NDC pledges, to provide a "reality check" on the ambition level, but bearing in mind the limitations of these tools for understanding forward-looking emissions trajectories at the sectoral level. Finally, the countries acquiring transferable units could also have their own criteria, determined at a national level, for what type of units they would acquire and from whom. For countries that wish to implement mitigation programs and transfer credits for these under any of the Article 6 mechanisms, a **proactive approach to the technical and ambition issues** raised by new mechanisms will be beneficial.

1. Introduction

The adoption of the Paris Agreement and its entry into force in November 2016 herald a new era for international cooperation on climate change mitigation. Article 6 of the agreement provides for two international market mechanisms to support mitigation – one centrally governed (Article 6.4) and one primarily between two or more countries with some international guidance (Article 6.2). At the same time, the major shift under the Paris Agreement versus the Kyoto Protocol is that all countries have some form of mitigation pledge. There is a need, therefore, to understand how the concepts of “environmental integrity” and “additionality”, which are both mentioned in the Paris Agreement and related decision, will apply to these new mechanisms, building on the experience under the Kyoto Protocol and elsewhere, and considering the need to avoid a “double counting” of mitigation activities that are then credited to other countries. The objective of this paper, prepared for the Swedish Energy Agency, is to analyse, “how environmental integrity can be ensured and what additionality and baselines mean in the new context of the Paris agreement for activities undertaken under Article 6.2 and Article 6.4 respectively”.

This first chapter defines key terms and the scope of the current analysis. Chapter 2 then presents the context for a new era of crediting, in the structure and provisions of the Paris Agreement. Chapter 3 analyses how to address environment integrity issues in crediting based on how countries articulate the emission reduction and limitation pledges in their NDCs. This is followed in Chapter 4 by a discussion of the accounting and environmental integrity implications of the overlap among of different types of climate and carbon financing. Chapter 5 then concludes with policy options and recommendations,

1.1 Definitions

For the purposes of this report, and to provide context for the recommendations, several definitions are important:

- **Environmental integrity (EI):** as it relates to crediting mechanisms, ensuring environmental integrity means that total global emissions should not increase because of the use of crediting mechanisms.
- **Additionality** means that mitigation actions covered by a crediting mechanism would not happen in the absence of the crediting mechanism.
- **Baseline** is the most likely scenario in the absence of the crediting mechanism; the baseline does not mean current or constant emissions but rather how emissions would evolve without the incentives provided by the crediting mechanism. If the investments being considered under a crediting program, or very similar ones, are part of the baseline, then the program would not be additional.
- **Offsetting** is the use of a transferred emission reduction unit to meet part of a country’s emission reduction or limitation goal, rather than making those reductions domestically.
- **Double counting:** while there several issues related to this in the literature, the key one for this paper is when more than one country uses the results of a mitigation action to meet their NDC pledge (e.g. transferred units are used by the acquiring country to meet their goal, but transferring country does not adjust their inventory and so also claims the benefit). This is sometimes called “double claiming”.

In addition, this report makes an important distinction between two different types of financing or payments that may support climate change mitigation projects. Currently the phrase “carbon finance” is typically, but not always, used for payments made for offsetting (i.e. contributing towards a country achieving an emission reduction goal). This would be the case, for example, for Annex I countries purchasing Certified Emission Reductions (CERs) for the purposes of meeting their Kyoto Protocol obligations. The term “climate finance” is used in many ways, but typically includes both upfront and results-based payments that, while their mitigation outcomes may be quantified (e.g. by using CDM methodologies), do not affect the emission reduction or limitation obligations of the country providing the finance. This could be the case, for example, when a country provides concessional up-front financing for renewable energy investments in another country.

The confusion arises when an acquiring country uses a carbon market standard such as the CDM to verify the mitigation impact of their payments, but then “retires” or “cancels” those credits and does not apply them towards their emission reduction obligations. Under the Kyoto Protocol, the use of the transferred units did not affect the transferring country, so an acquiring country could decide at any time whether to use the units to offset their emission reduction obligation or to cancel them. Under the Paris Agreement, the situation is different because of the requirement for “no double counting”. The transfer of units that may eventually be used for compliance by the acquiring country has a direct impact on the transferring country. For this reason, it would be essential that the purpose of the financing is known at the time of the transaction. To avoid the confusion in financing labels, in the context of the current paper, we therefore use another two more specific terms

- **Offset payments** - financial transfers for measurable mitigation impacts that have been quantified as transferable units and that are used towards compliance with the acquiring entities’ emission reduction or limitation targets.
- **Non-offset mitigation finance** - financial transfers with measurable mitigation impacts (regardless of how and whether these impacts are measured) but not claiming those impacts as a means to achieve the acquiring country’s emissions reduction obligations (even if tradable units are issued). Payments may be upfront or results-based, and could be counted in relation to any commitments made to provide climate-related financing by the acquiring country (i.e. as opposed to emission reduction or limitation targets¹).

1.2 Scope of this analysis

To focus this analysis on the implications of crediting mechanisms, we consider environmental integrity only in the context of Article 6 of the Paris Agreement. There will be other accounting and transparency issues in the Paris Agreement where the interpretation and implementation could affect the overall climate impact of the agreement and environmental integrity, but here we focus on the principles and rules for crediting mechanisms.

This analysis covers crediting *within the scope* of the country’s NDC pledges. This means that, for countries with NDC pledges covering only certain sectors and not their entire economy, we are concerned with crediting only in those sectors covered by the NDC. The reason for this is that, outside of the sectors covered by the NDC, the same concepts and tools that have been traditionally applied for crediting activities in countries without mitigation pledges would still apply. Crediting inside the NDC is what presents new challenges for assessing additionality and ensuring environmental integrity. Of

¹ For the sake of brevity, in the remainder of this paper, the terms “emissions reduction targets” or “emission reduction pledges” should be read as “emission reduction and limitation targets”

course, over time, all countries will likely move towards NDC pledges covering their entire economy², because otherwise it may not be possible to achieve the goals of the Paris Agreement, but this may not be the case in the short to medium term. While making this distinction between crediting inside and outside of the NDC pledges, we also acknowledge that there could be cases of overlap between these categories (e.g. where crediting activities outside the NDC have upstream or downstream impacts inside the scope of the NDC pledges) (Fuessler et al. 2014; Schneider, Kollmuss, and Lazarus 2015).

Also in terms of scope, while Parties may continue to discuss whether Reduced Emissions from Deforestation and forest Degradation (REDD) should be considered under Article 6, this paper does not address REDD and the additional environmental integrity issues that crediting mechanisms for REDD could raise.

Finally, the paper intentionally focuses on concepts and *principles* to ensure environmental integrity in new mechanisms, not the technical and practical tools for determining baselines and demonstrating additionality. Currently the mechanisms are defined by only a few pages of text in the Paris Agreement and related decision, and include language that was intentionally vague so that the Paris Agreement could be accepted by all Parties. The first step in translating the framework text into more detailed rules (i.e. Modalities and Procedures) would be to establish the key principles (e.g. avoidance of double counting, consideration of transferred units in assessing progress toward meeting pledges, etc.) and clarify the meaning of language such as “environmental integrity”, “additional”, and “overall mitigation” in the specific context of the Paris Agreement. Clarity on principles will reduce time needed to negotiate the detailed rules, which is even more important now that the Paris Agreement has already entered into force.

In parallel to this work on principles, other recent papers provide more detail on tools, including possible baseline tools for crediting under NDC pledges, although these are somewhat hypothetical (Fuessler et al. 2014; Fuessler et al. 2015; Kreibich and Obergassel 2016)³.

2. Crediting in the post-Paris era: the importance of universal pledges

One of the fundamental shifts from the Kyoto Protocol to the Paris Agreement is the latter’s voluntary commitment by all countries to mitigation actions (Obergassel et al. 2016). Of the 189 countries submitting Intended Nationally Determined Contributions (INDCs), almost 80% committed to GHG targets of some kind (WRI 2016). The developing countries that played the largest role in the CDM (e.g. China, India, Brazil, South Korea, Mexico) all have quantitative GHG targets (albeit not absolute ones). And while not all countries yet have GHG targets covering their entire economy, this will likely be the case over the long term, as mentioned earlier. This means that the transfer of units from one country to another will have an impact for both countries in terms of meeting their GHG pledges. This is in contrast to the CDM, where the transferring countries hosting CDM projects did not have GHG targets, and so were not affected in any way by the transfer and use of the units. Crediting

² The Paris Agreement notes that, “Developing country Parties should continue enhancing their mitigation efforts, and are encouraged to move over time towards economy-wide emission reduction or limitation targets in the light of different national circumstances.”

³ This literature also includes two reports under development for the Partnership for Market Readiness – one on demand for scaled-up crediting and the other on baselines for scaled-up crediting – which will be published later in 2016.

mechanisms under the Paris Agreement may be more like Joint Implementation (JI) under the Kyoto Protocol, therefore, rather than the CDM. However, this assumes that all the GHG reduction or limitation pledges made under the Paris Agreement are, in fact, below “business as usual”. A recent review of JI showed that, in practice, weak targets and institutions may have led to substantial approval of non-additional projects (Kollmuss, Schneider, and Zhezherin 2015). Because all INDCs (and the NDCs⁴ that will follow) are voluntary, there is no explicit mechanism in the Paris Agreement to individually review their ambition level. There is no way to ensure that pledges are, in fact, below business as usual. This issue is discussed further in the next chapter.

Both Article 6 and the related decision text mention the terms environmental integrity for Article 6.2 and 6.4 activities, and the term “additional” for credited activities under Article 6.4. How this will be incorporated into the more detailed modalities and procedures and whether the concepts are similarly applied across all mechanisms is not yet clear. One component of addressing environmental integrity is to ensure that emission reductions achieved through cooperative mechanisms are only counted in one country. Because most countries have GHG reduction or limitation commitments under the Paris Agreement, Article 6 on mechanisms explicitly says that the transferable units under the international mechanism (6.4), “shall not be used to demonstrate achievement of the host Party’s nationally determined contribution if used by another Party to demonstrate achievement of its nationally determined contribution.” Similarly, paragraph 37 of the Paris Agreements says that guidance on Article 6.2 should “ensure that double counting is avoided on the basis of a corresponding adjustment by Parties for both anthropogenic emissions by sources and removals by sinks covered by their nationally determined contributions under the Agreement.” Balancing the accounting of transferable units and pledges was not necessary under the CDM for implementing countries, because they did not have pledges. This also meant that the emission reductions transferred as CERs under the CDM also showed up as lower GHG inventories for the transferring countries. This will not be allowed under the Paris Agreement mechanisms. In principle, this means that transferring countries would have an incentive to be conservative in estimating mitigation impacts of crediting activities within their NDCs, because any over-crediting would make it more difficult for them to reach their emission reduction pledges. This assumes, however, that the pledges are below BAU, as discussed above, and could face the same challenges as JI.

Two other important changes in the mechanisms under the Paris Agreement are the scale of interventions and the lack of a common unit. In terms of scale, the new mechanisms could potentially be beyond project and program-based mechanisms to include sectoral and policy crediting, areas which pose new challenges for developing baselines and ensuring environmental integrity (Schneider and Cames 2009; Michaelowa and Hoch 2013; IISD, Perspectives, and Ricardo AEA 2016). Unlike Kyoto Protocol, the Paris Agreement does not have a universal unit (e.g. Assigned Amount Units - AAUs) for accounting both national pledges and transferred units under market mechanisms. A common accounting framework still needs to be developed that would track the transfer and use of tradable units from crediting mechanisms. This could be even more important for activities under Article 6.2, where there may not be centralized oversight of this mechanism and the where the transfer of units need not necessarily be linked to specific mitigation activities.

⁴ INDCs, or updated versions of the INDCs, become Nationally Determined Contributions (NDCs) after a country ratifies the Paris Agreement.

3. NDC pledges, additionality and ambition

This chapter considers the implications of the Paris Agreement, and particularly the NDC pledges, for understanding additionality and ensuring environmental integrity in crediting mechanisms. As a preface to this discussion, it is important to note that, regardless of how crediting baselines are set and additionality is determined, the principle of “no double counting” requires, at a minimum, tracking units and adjusting inventories/pledges of both countries consistently. This system is a necessary precursor to crediting mechanisms that ensure environmental integrity. However, as noted in earlier papers (Schneider, Kollmuss, and Lazarus 2015; Kreibich and Hermwille 2016), adjusting inventories may not be sufficient to ensure environmental integrity,

Under the CDM, a “business as usual” scenario that represented the baseline was generally created “bottom-up”, based on project- or technology-specific assessments and largely ignoring national policies and broader economic trends (Spalding-Fecher 2013). The tools developed (e.g. “Tool for the demonstration and assessment of additionality”, “Tool to calculate the emission factor for an electricity system”) were largely “backward-looking”, in that they used the current situation and recent trends as a proxy for the future over the crediting period. These tools did not encompass all current domestic policies and were not able to capture future policies and trends, in part because very few countries had national climate change strategies with projections and commitments that could be directly linked to project-specific investments. Reform and refinement of these tools over time (e.g. Platanova-Oquab et al. 2012; Hermwille, Arens, and Burian 2013; Greiner et al. 2015; Spalding-Fecher, Sammut, and Ogunleye 2015) are improving the confidence of the international community in them, but still leave open questions about their ability to consistently screen out non-additional activities or to appropriately represent longer term emission trajectories in the baseline (Spalding-Fecher 2013; Barata 2016; Erickson, Lazarus, and Spalding-Fecher 2014). The relatively small impact of revenue from CER sales exacerbated the problems of distinguishing the “signal” of carbon revenue impacts from the “noise” of variability in other parameters that determined the viability of mitigation investments. Where most of the new projects in a sector received CDM funding (e.g. wind power projects in China), this also raised questions about how effective the tools were to address sector-wide trends (e.g. He and Morse 2013).

Under the Paris Agreement, the pledges made by countries in their NDC represent an official estimate of the emissions trajectory they can achieve by implementing climate change mitigation policies and measures. Pledges that are “unconditional” could include a wide variety of policies and measures, and it is reasonable to assume that these measures could be implemented without any support from international crediting mechanisms. Whether meeting these pledges might be supported by non-offset mitigation finance is not specified in the Paris Agreement, and countries currently have different interpretations of what type of international support could be used to reach unconditional pledges. Although the emissions trajectory for unconditional pledges should presumably depart from “business as usual without new climate policies”, it would essentially provide a scenario that could be called “business as usual with new policies but before crediting and other external support”. In other words, this is the implementing country’s official estimate of where their emissions would be in the future before any investments or incentives provided by international crediting mechanisms. The NDC pledges, therefore, could provide the basis of a crediting baseline, because they represent what would likely happen without incentives from crediting. In contrast to traditional approaches, these baselines and the related additionality assessments would be forward-looking, and would incorporate the relevant national and sectoral policies (current *and* future). Similarly, in principle, the additionality of a mitigation activity could be assessed based on whether it would likely be part of the country achieving

their unconditional targets, bearing in mind that this would depend on the level of detail in NDC pledges.

While this idea is conceptually simple – a follows from the Article 6.1 condition that mechanisms should lead to “higher ambition” - it may be difficult to apply in practice for three broad reasons: conditionality, technical (or disaggregation) issues, and ambition. First, the nature of the **conditionality** of the NDC pledges is not clear. More specifically, countries may have different views on what type of external support they expect or do not expect to achieve their pledges – and many countries have not even specified whether their NDC pledges are conditional or not. Because there is no agreed definition on what types of international support are related to unconditional and conditional pledges, some countries may understand that they can use crediting to achieve conditional goals, while others might argue that they have included crediting as a tool to achieve their unconditional goals. Still others might see crediting only as a tool to go beyond their *conditional* targets, with their conditional pledges based on requests for capacity building, technology transfer and non-credited mitigation finance. One key problem with using crediting mechanisms (e.g. Article 6.2 and 6.4) to achieve NDC pledges, of course, is that the provisions against double counting (e.g., Article 6.5 and paragraph 36 of the decision text referring to “corresponding adjustments”) imply that the transferring country would most likely not be allowed to use these mitigation outcomes to meet their own NDC pledges - conditional or otherwise⁵. This needs to be clarified in the negotiations, including whether the Article 6.5 text applies *only* to the Article 6.4 mechanism or also to the Article 6.2 mechanism as well. More broadly, the negotiations need to clarify what “unconditional” and “conditional” mean for NDC pledges, in terms of both support by non-offset mitigation finance and use of the crediting mechanisms.

Secondly, there are a group of **technical issues** with translating the NDC pledges into metrics that are suitable for use as baselines and assessing the additionality of specific interventions within a sector (or overall progress in the sector). These include the following:

- Time frame: most NDC pledges are only single year commitments for the year 2030, unlike the Kyoto Protocol pledges that covered total emissions over the five years of the first commitment period. Mitigation activities have an impact over many years, and so need a baseline emission level for each year for which credits could be issued.
- Level of aggregation: many NDCs include national GHG targets or sector-wide targets, but crediting activities are likely to be at the sectoral-, programmatic-, or even project-level. The allocation of national pledges, for example, to different sectors or sub-sectors is not straightforward, since the costs of abatement will vary significantly, as do policy priorities in each sector. If the NDC, or the official policies and strategies upon which it is based, does not specify this allocation, it would be difficult to create this within the crediting mechanism rules on baselines.
- Type of target: Not all countries have GHG targets – some may have pledges for certain actions or other non-GHG targets (e.g. MW of renewable power to be constructed). Even those that have GHG targets may not express them in absolute terms (e.g. total emissions allowed in a given year) but may express them as change from a business as usual trajectory (i.e. “business as usual without new climate policies”). Some countries also have emission intensity targets, which would need to be converted into absolute emissions levels using estimated or actual level of economic activity. Even for the best case, where a country has an absolute GHG target, the large

⁵ Note that this is different from using a carbon market standard to evaluate the impact of “non-offset mitigation finance”. The methodology used to evaluate the impact is not the determining factor here, but rather whether there is a transfer of mitigation outcome from one country to another and an application of this outcome towards the acquiring countries’ emission reduction pledges.

uncertainties in projecting emissions for developing countries a decade or two into the future are well known (Prag and Clapp 2012; World Bank 2015),. This complicates an accurate assessment of mitigation impacts.

Thirdly, using NDC pledges for crediting baselines – and as a proxy for “business as usual with new policies but before crediting” – assumes that the pledges are, indeed, below business as usual emissions. In other words, it assumes that all NDC pledges are **ambitious** and that even the unconditional pledges represent *real action* on mitigation. As mentioned in the previous chapter, there is no guarantee that this is the case. NDC pledges are entirely voluntary, and, although Parties are asked to explain how the pledges are fair and ambitious, there is no specific mechanism or standard used to verify this, given the political sensitivity of this issue. Under a crediting system, if both countries have pledges below business as usual, then adjusting the inventories of both countries to reflect transferred units will prevent double counting and would ensure that total emissions did not increase (as long as the emissions sources are fully and accurately covered in the implementing country). However, this is *not* the case for implementing country pledges that are *above* business as usual. In that case, the transferring country will achieve their pledge in any case, and the transfer of units will not require any additional domestic mitigation action, while it would permit the acquiring country to meet their pledges even if their emissions were above the pledged level. Total emissions would therefore be higher with the transfer and crediting than without. This is precisely the problem of “hot air” and crediting under the Kyoto Protocol, and the source of the significant criticism of the environmental integrity of Joint Implementation (Kollmuss, Schneider, and Zhezherin 2015). This leads to the question of whether credits from countries that cannot demonstrate that their pledge is below BAU would meet the criteria of environmental integrity.

Related to the ambition of the initial NDC is the question of how future revisions of NDC pledges might affect the baseline for crediting mechanisms and the assessment of additionality. If NDCs are revised every five years and are progressively more ambitious, this then affects the assessment of additionality of the activities that might be considered under a crediting program. For example, a lower emission technology might be beyond the goals of the initial NDC pledge, but the revision of this pledge to a more ambitious goal might be implemented by a policy instrument that would support this same mitigation activity and ensure its implementation even without support from an international crediting mechanism. Allowing these technologies to continue to generate credits would therefore weaken the environmental integrity of the agreement. This would suggest that either:

- the crediting period should only last until the next NDC revision, or
- the baseline and additionality assessment should be completely updated to reflect the NDC revision.

Shorter crediting periods could pose a challenge for technologies with higher incremental costs, where more years of mitigation-linked payments are needed to make the technology viable.

The discussion in this chapter has mainly focused on the ex-ante demonstration of additionality and setting of baselines. Because baselines under new mechanisms could be forward-looking and linked to future emission trajectories, the mechanisms will also need a robust MRV system at both the national level and the level of the crediting interventions (e.g. project, program, sector). This MRV system may even be needed for ex-post verification of baselines (e.g. if the GHG targets were relative to economic development, and this is then measured ex-post). The negotiations on a transparency regime for the Paris Agreement (i.e. Article 13) will therefore be important to ensuring that mitigation actions and transfer of units are accurately captured and reflected in national reporting. There would almost certainly need to be some minimum requirements in terms of transparency and quantification of NDC

pledges before a country can credibly utilize crediting mechanisms, similar to how Track 1 JI was only open to countries with a certain standard of inventories and accounting. The requirements for participation in Article 6.2 transfers might, in fact, need to be *more* stringent than for Article 6.4 activities, since the latter would follow more detailed international guidance (although the former could also be stricter if they are undertaken by “clubs” of countries with similar views on high quality crediting). One challenge with Article 6.2, however, is that the text of the Paris Agreement does not actually require a directly linkage between mitigation activities and the transfer of units. In other words, there will be guidance for transfers under this article, but there is nothing in the text that requires a link between each transfer and a specific verified mitigation activity.

4. Non-offset mitigation finance: tracking and interaction with crediting mechanisms

The focus of this paper so far has been on offset payments – payments for transferable units that the acquiring country will use to meet their emission reduction pledges. This market included several billions of dollars of transactions per year several years ago, but has dwindled to a small fraction of that because of lack of demand for pre-2020 credits. Much larger flows of finance may come through climate finance – or, more specially, what we have called “non-offset mitigation finance” (see section 1.1). This could include the funds pledged to the Green Climate Fund (GCF), and, implicitly, the goal of \$100 billion per year of funding from developed to developing countries pledged under the Cancun Accord (UNFCCC 2010). The estimates of “climate finance” flows often include various forms of development finance to support low carbon technologies, mostly with upfront capital, as well as the private finance mobilized by this public climate finance. The dramatic scaling up of finance called for under the Paris Agreement implies that new programs might increasingly be supported by both offset payments as well as non-offset mitigation finance (a process sometimes called “blended finance”) (Ci-Dev 2015). This has already happened frequently in the past – for example, projects have received underlying project finance from one government and signed an ERPA with a carbon fund. The attention to avoiding double counting in the Paris Agreement could mean that the reporting of mitigation impacts for these multiple types of finance must be clarified.

Where programs are supported by both offset payments and non-offset mitigation finance, two forms of MRV will happen in parallel. The “currency” of offset payments is emission reductions (tCO_{2e}), and this would be the accounting basis of transferable units. Sources of non-offset mitigation finance will still use emission reductions as a performance measure (e.g. the GCF Initial Performance Management Framework (GCF 2016)), but the “currency” for this type of finance is actually the amount of financing disbursed. In other words, what must be reported to the UNFCCC as “climate finance” is the disbursements, not the quantified mitigation impacts, and there is no effect on the acquiring country’s emission reduction pledges or GHG inventories. At the same time, obviously the funders supporting non-offset mitigation finance also want to be assured that their contributions have demonstrable mitigation impacts, which necessarily requires some form of quantification and establishing a link between funding “inputs” and mitigation results.

The challenge for blending carbon markets and climate finance is the relationship between the non-offset mitigation financing and the baseline for crediting offset payments. If both sources used the same approach for setting a baseline and estimating emission reductions (e.g. a sectoral emissions trajectory derived from the unconditional NDC pledges), then both sources would estimate similar volumes of GHG reductions – even though only the offset payments would result in transferable units

that affect the achievement of NDC pledges on emission reductions. However, if the non-offset mitigation financing would already result in some mitigation activity in the sector, compared to a situation without this financing, then the baseline for crediting could be related to the results achievable with only non-offset mitigation finance. In this case, the provider of the non-credited mitigation finance might report the deviation from business as usual as the impact of this stream of financing, while the offset payment provider might be credited for the emission reductions that go beyond this level. Alternatively, the crediting rules might define the baseline as the scenario without any of the Paris Agreement (or Article 6) policy interventions, in which case the full deviation from business as usual could be credited.

Another aspect of this challenge is that, in practice, non-offset mitigation financing could also include early stage activities such as capacity building and supporting “readiness” for low carbon investments. This funding will be much smaller than the eventual program investments, but it may be catalytic, and even necessary, before implementation happens. Would this imply that some of the mitigation impacts could be attributable to this early stage support, and therefore less should be attributed to the later non-offset climate finance and offset payments? Whatever choice is made in terms of reporting should very carefully explain how the results were estimated and reported, and any assumptions that were made about the contribution of different sources of upfront and ongoing finance, and how this affects the baseline for crediting.

This discussion also assumes that the providers of offset payments and non-offset mitigation finance have designated the type of financing in advance. This has not been the case, however, under the Kyoto Protocol. Because the use of transferred CERs does not affect the reporting or obligations of the transferring country, it did not matter whether the acquiring country used these units for compliance with GHG targets or simply cancelled them. Several countries have used the CDM process to verify emission reductions, but then cancelled the CERs and financed these transactions with development cooperation funding. This provided an assurance to the funder that this development finance had the intended impact on GHG emissions. Under the Paris Agreement, because transfers of units would trigger corresponding adjustments, funders would need to clearly state at the time of transaction whether they were providing offset payments or non-offset mitigation finance. Offset payments would be related to transfers of units that would trigger a corresponding adjustment. Non-offset mitigation finance should not trigger a transfer of units or a corresponding adjustment. If a funder want to use the Article 6 mechanisms to verify the impact of non-offset mitigation finance, therefore, some provision would be needed to ensure that there was no transfer or adjustment – and this was agreed upfront. Options for this could include the following:

- The activities supported by non-offset mitigation finance might use the entire project cycle up to verification, but not request issuance of any transferable units. With no units issued, there would be no requirement for a corresponding adjustment or similar action.⁶
- Alternatively, units could be issued but the transferring country would inform the UNFCCC that the units were being cancelled, and this would then stop the actual transfer and the need for corresponding adjustment or similar action. The acquiring country could not be responsible for the

⁶ If units were issued, then there could be a risk that the transferring country could sell these units to another country for a profit, even though this mitigation was financed by a non-offset mitigation finance facility. This is because the issued units would presumably be under the control of the government that hosted the mitigation activity.

cancellation, because any transfer of units from one country to another would presumably trigger a corresponding adjustment.⁷

Without contractual clarity on the nature of funding being provided, the risk to the transferring country would be that they would have an unexpected “corresponding adjustment” in the future, when they thought they were receiving non-offset mitigation finance.⁸ The nature of the financing might also determine which mitigation activities were most appropriate for international cooperation, because countries might be willing to receive non-offset mitigation finance for low cost mitigation activities, but not to engage in crediting and offset payments for those activities (since this would take away low cost mitigation opportunities for reaching their own NDC goals for mitigation). In the case of funding provided by multi-lateral facilities, any contract with a transferring country (or authorized entity within that country) would need to specify the *share* of the funding that was offset payments versus non-offset mitigation finance.

5. Options and recommendations

The first step towards ensuring the environmental integrity of the Paris Agreement will be to develop a robust and transparent **common accounting framework**, so that transferred units from crediting mechanisms can be tracked in the same way that national inventories and progress towards pledges is monitored. This framework is needed for both acquiring and transferring countries. It is difficult to imagine a meaningfully scaled-up crediting market under the Paris Agreement with a heterogeneous mix of standards and approaches instead of a common accounting framework. Parties should consider whether a certain level of accounting and inventory sophistication might be a pre-requisite for utilizing crediting schemes. The accounting framework will provide a basis for the “corresponding adjustments” required for transferred units under Article 6.2 and ensuring that units transferred under Article 6.4 “shall not be used to demonstrate achievement of the host Party’s nationally determined contribution if used by another Party to demonstrate achievement of its nationally determined contribution.” In other words, the common accounting framework and the balancing of inventories/pledges are a necessary step to **prevent double counting**. The details of this will be needed in both the rules for Article 6 as well as for other relevant articles (e.g. Article 13). In addition, from a transferring country’s perspective, crediting would likely **only be desirable in sectors where inventories are detailed** enough to capture the mitigation impacts of crediting activities. Otherwise, the transferring country would have to undertake even more domestic mitigation activity (i.e. that was captured by their inventory) to make up for the transferred units because of the required “corresponding adjustments” when their emissions inventory had not, in fact, been reduced by the credited activity.

In principle, the **baselines for crediting programs should be related to NDC pledges**. This is to ensure that crediting does not make it more difficult for a country to achieve their pledges (e.g. because of transferred units). Whether the basis should be unconditional or conditional pledges

⁷ The assumption here is that, to enforce the language in Article 6 and the related decision text on preventing double counting, some form of adjustment would be automatic when any units were transferred under the Article 6 mechanisms. The exact modalities and procedures for this are obviously still under negotiation.

⁸ A contract could also specify a certain amount of funding that would be provided as non-offset mitigation financing and an option to provide additional funding as offset payments in the future, if the transferring country was confident that they would achieve their NDC pledges. This would depend, however, on the transferring country’s strategy about how and where to use offset payments versus non-offset mitigation finance as part of their national climate policy.

requires clear guidance from the Parties on the definitions and content of these two type of pledges, as well as clarity on how countries' compliance with those pledges will be evaluated. Parties may, in fact, need to revise their NDC pledges once international agreement on these definitions and the scope of crediting is agreed. To implement the principle of creating baselines from NDC pledges, more work is needed to translate NDC pledges into annual, absolute sectoral emissions, and all countries who participate would need to move towards quantified GHG pledges. There are two main options for quantifying the baseline relative to the NDC pledges:

- Ideally the implementing country would do the conversion of national GHG emissions to a sectoral or sub-sectoral emissions trajectory (e.g. 2020-2030) as part of their revision of their NDC (or when their NDC is first submitted at ratification) and clarify the conditionality of their pledges (once the definitions of conditionality are clarified, of course). This means that all countries would need the technical, methodological, and institutional skills to break down their pledges into sectors (top-down) or to explain how different sectors contribute to reaching the overall pledge (bottom-up).
- Alternatively, standard guidelines on how single year aggregate GHG targets would be converted into sectoral or sub-sectoral baselines could be agreed internationally, although this could be politically and technically challenging to agree, particularly for targets that are not given in absolute GHG levels. Ideally the converted emission trajectories would then form part of a revised NDC.

The **crediting period** for new mechanisms should take into consideration the effect of periodic revisions of the NDC pledges, and how this might affect the baseline and additionality assessment. This could mean shorter crediting periods (e.g. five years) or a complete review of the baseline and additionality assessment when the NDC pledges are revised.

Tackling the question of the **ambition of NDC pledges**, while politically sensitive, is necessary to ensure environmental integrity of new crediting mechanisms. As discussed earlier, even with proper accounting of transferred units, using a baseline (from an NDC pledge) that is above business as usual (i.e. "hot air") will lead to higher global emissions. One possibility for addressing this question indirectly would be to build the crediting baselines on NDC pledges that were linked to a Low Emission Development Strategy (LEDS) process or outputs in a given country. The Paris Agreement asks all Parties to communicate their "long-term low greenhouse gas emission development strategies" by 2020, and these strategies could include more detail and justification, not only on the overall emission trajectories, but also on how those will be realized in particular sectors. The LEDS process could outline a national scenario that is compatible with their Paris Agreement goals, and then also identify what resources are needed to reach these goals. In other words, in combination with international agreement on how to define the "conditionality" of pledges, the analysis behind the LEDS process could more clearly define how far the country could move without international support, what more they could do with non-offset mitigation finance, and what more could be done with international crediting. A "bottom-up" analytical process would not only identify the most cost-effective opportunities for mitigation in the specific national context, but also provide the options for baselines for international crediting activities. The Parties may also agree to some form of review process of NDC pledges, or at least guidance on how these should be presented and justified. This could be in the context of Article 4.6, which notes that "in communicating their nationally determined contributions, all Parties shall provide the information necessary for clarity, transparency and understanding...", or in the context of negotiating the implementation of other articles under the Paris Agreement. Another possibility would be to use more traditional methodologies for baseline setting in parallel with the NDC pledges, to provide a "reality check" on the ambition level, but bearing in mind the limitations of these tools for understanding forward-looking emissions trajectories at the sectoral level. Finally, countries acquiring transferable units may also have their own criteria, determined at a national level, for what type of units

they would acquire and from whom. The acquiring country's evaluation of the "quality" of the transferable units could include an analysis of the ambition level of the transferring country's NDC pledges. The impact of this last option would obviously depend on what share of the buyer market was applying such a quality screen.

For countries that wish to implement mitigation programs and transfer credits for these under any of the Article 6 mechanisms, a **proactive approach to the technical and ambition issues** raised by new mechanisms will be beneficial. For example, if the implementing country had already converted their single year GHG targets from the INDC into sectoral or sub-sectoral GHG emission trajectories (and transparently justified the level of ambition) when they submit their NDC at ratification, this would facilitate the setting of robust baselines for crediting mechanisms in that country. Similarly, if the NDC pledges are linked to LEDS with transparent justification for the ambition of these targets, potential acquiring countries would be more likely to see units from this country as "high quality" credits.

Finally, to facilitate the greater use of blended financing (i.e. offset payments and non-offset mitigation finance) the funders and recipients of these flows should will need to **agree in advance on whether the funding will result in offsets and therefore corresponding adjustments**. The modalities and procedures for the Article 6 mechanisms will need to address this important distinction. In addition, funders and recipients need to agree to transparent **rules on how non-offset mitigation finance might affect the baseline** for crediting activities,

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