

Incentivizing mitigation: Using international carbon markets to raise ambition

April 2018

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Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety

I am grateful to the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) of Germany for their kind support of this work.

This paper benefited from discussion of an earlier version at the Second Strategic Dialogue of the Carbon Market Platform under the Group of Seven (27-28 September 2017, Rome, Italy).

My thanks also go to others who kindly reviewed and shared thoughts on various versions: Malin Ahlberg, Antoine Diemert, Simon Henry, Owen Hewlett, Christina Hood, Kelley Kizzier, Stephanie La Hoz Theuer, Amy Merrill-Steen, as well as several others who know who they are.

Of course, the views expressed here remain my own responsibility.

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EXECUTIVE SUMMARY

The case for international carbon markets being cost-effective in mitigating climate change is well established. What is less clear is how, or indeed whether, these lower costs will lead to more mitigation. Raising ambition entails an increase in the global aggregate of mitigation action but this is not automatic from using markets.

This paper explores what raising mitigation ambition means in the context of international carbon markets and the nationally determined contributions (NDCs) that countries establish under the Paris Agreement. It seeks to identify practical approaches to the implementation of carbon markets that can help make rising ambition a real outcome. There is a need to demystify the raising of ambition and be more tangible on how it may be integrated into policy design.

Six criteria are identified that can be reasonably expected to be met, to varying degrees, when countries formulate their market-related policy instruments in a manner that strives to increase mitigation ambition over time. While the presence of ambition is complex and difficult to determine, countries can strive to promote these criteria when designing and implementing their carbon market policies:

- Targets are set (well) below reasonable scenarios of business-as-usual (BAU) emissions
- New demand for emission reductions is created
- Mitigation action is broadened
- Environmental quality is ensured
- Coverage of emission inventories is expanded
- Communication of mitigation goals and policies is clear.

This paper identifies four promising approaches to implementing international carbon markets in a way that enhances mitigation ambition. These could be implemented individually or in combination. No one approach covers all of the criteria in full but they lend themselves well to supplementing each other:

- **Approach 1: Create demand by raising domestic compliance obligations.** Strengthening domestic emissions trading and carbon tax systems offer the most direct means of driving increases in mitigation ambition and demand for emission reductions via carbon markets. This approach offers clear tools, technical capacity and regulatory structures to convert this into incentives for emitters. Long-term targets give certainty

and strengthen carbon pricing.

- **Approach 2: Facilitate demand through the voluntary market.** This can tap into ongoing drivers of mitigation and demand for emission reductions, such as corporate social responsibility or offsetting carbon footprints by facilitating the operation of the voluntary market in parallel to NDCs and compliance markets. Systems are needed to ensure voluntary reductions remain distinct from reductions used for other emission targets, so that they do not displace other actions and may instead be viewed as over-achieving NDCs.
- **Approach 3: Bilateral cooperation in expanding future NDCs.** This can support developing countries in bringing new mitigation actions inside the scope of NDCs in their second cycle, potentially on an unconditional basis. This may include (a) financial and technical support over a kick-start period of the first NDC cycle in return for a transferred emission reductions, with the activities becoming unconditional contributions in subsequent NDCs, (b) measures to reduce risk for private sector investors, (c) independent oversight to assure the quality of the emission reductions and (d) support to ensure that emission inventories cover the relevant emission sources and that these may be adjusted under Article 6 accounting. A commitment to bring the new mitigation actions within future cycles of an NDC could be set as a prerequisite for counting reductions from outside the scope of NDCs towards the achievement of NDCs.
- **Approach 4: Ensure carbon markets deliver “overall mitigation” .** Acquiring country governments could apply a discount factor to all acquired emission reductions when they count them towards the achievement of NDCs. This would ensure that credits used as offsets are less than the original emission reductions, as is required for the mechanism under Article 6.4. Applying a discount in this way would safeguard the economic feasibility of mitigation activities for emitters. Countries may need to strengthen their domestic mitigation policies to still achieve their NDCs and this would amount to sharing the impact of the discounting across a wide set of emitters.

These approaches show some common features. They are all able to create new demand for emission reductions – whether through compliance obligations, voluntary markets, bilateral government cooperation or overall mitigation – that can drive markets by providing financial and other support to mitigation activities in other countries which would have otherwise gone without.

This additional ambition can be expressed through revising NDCs or be reported to the UNFCCC as an over-achievement of NDCs. Domestic policy can be further calibrated so that NDCs are fully achieved by domestic mitigation, leaving reductions acquired from abroad to contribute only to over-achieving NDCs.

The approaches above also show a path forward for allowing emission reductions from outside the scope of NDCs to be used towards NDCs. Where these can be married with robust quality standards, independent oversight and commitments to incorporate them in future NDCs, international carbon markets can be used to tap into new sectors and activities and bring them within countries' monitoring and control.

Finally, although these approaches mostly address actions that countries can undertake, the UNFCCC has a key role to play in setting the conditions, infrastructure and safeguards for using markets to raise ambition. The rules for accounting transfers towards NDCs and avoiding double counting are part of this. The UNFCCC can also:

- Establish independent oversight of emission reductions from outside the scope of NDCs
- Only allow such reductions to be used against NDCs in the context of commitments to incorporate these new mitigation activities in subsequent NDCs
- Set guidelines or best practices to facilitate the clarity, transparency and understandability of NDCs
- Provide for countries to include information on how they have strengthened their mitigation action or over-achieved their NDCs, in their reporting under Article 13.7, as a means of encouraging greater mitigation effort beyond what is already specified in NDCs.

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1. INTRODUCTION

Carbon pricing and carbon markets are often considered to be policy instruments with a particular ability to increase the ambition of countries in mitigating climate change, with advocates generally citing their cost-effectiveness and incentive for the private sector to take action. Article 6 of the Paris Agreement¹ – the latest incarnation of these approaches in an international climate treaty – introduces itself in this very manner by seeing countries entering into international cooperation with the motivation of driving higher ambition².

Yet it is not always clear how, or indeed whether, lower costs in achieving mitigation goals will lead to greater

1 http://unfccc.int/paris_agreement/items/9485.php. Unless otherwise stated, “Article” in this paper refers to an article of the Paris Agreement.

2 Article 6.1.

contributions of mitigation action being made. While lower costs can enable greater mitigation action, its realization is not automatic and will be strongly influenced by political and economic circumstances. In fact, international carbon markets may potentially give an incentive to countries to show only low ambition in NDCs and, if not implemented well, can potentially cause more emissions to enter the atmosphere than if other policies were chosen.

This paper examines what raising mitigation ambition means in the context international carbon markets and nationally determined contributions (NDCs) under the Paris Agreement (sections 2 and 3), before seeking practical approaches to the implementation of carbon markets that can help make such rising ambition a real outcome (section 4) and reaching conclusions (section 5). Implications for the potential role of Article 6 rules under the UNFCCC are also considered.



2. MARKETS AS A MEANS OF RAISING AMBITION

NDCs set out the mitigation effort of each country, with the sum of countries' efforts collectively representing the level of global mitigation that countries have undertaken to contribute. Any attempts to raise mitigation ambition, including attempts supported by the use of international markets under Article 6, must impact on this global aggregate of mitigation effort if they are to be successful.

This aggregate mitigation effort is currently insufficient to meet the temperature goals of the Paris Agreement of holding the increase in global average temperature well below 2°C above pre-industrial levels and pursuing a rise of only 1.5°C³. The Paris Agreement therefore sets out a vision of raising the ambition of NDCs over time.

Submitted every five years, each NDC is to “progress” beyond earlier NDCs and reflect the “highest possible ambition” of countries, with developed countries committing to economy-wide targets and developing countries generally moving towards these⁴. Specific milestones are in place to review this collective effort and inform countries' choices as to how far they should go in subsequent rounds. The first milestone is the “Talanoa Dialogue” in 2018, followed by global stocktakes every five years, timed to just precede the submission of new NDCs⁵.

2.1 COST-EFFECTIVENESS

The case for carbon pricing policies – emissions trading, baseline-and-crediting systems and carbon taxes – being cost-effective means to reduce emissions is not new. Such policies internalize the costs of emissions and allow emitters to choose the most cost-effective means of reducing their emissions, including by reducing emissions from other entities and countries through carbon markets.

If set at sufficiently high and predictable levels, carbon prices can steer long-term investment into low-carbon technologies and drive long-term transformational change in emissions, especially when reinforced by complementary policies such as on energy pricing, taxation, innovation, investment and revenue recycling⁶.

International linkages enable the transfer of emission reductions between countries and give access to mitigation abroad when it proves more cost-effective

3 Article 2. For information on countries' collective progress towards meeting these temperature goals, see Rogelj et al (2017) and <http://www.climateactiontracker.org>.

4 Articles 4.3, 4.4 and 4.9.

5 Article 14, decision 1/CP.21, paragraph 20, and decision 1/CP.23, paragraphs 10-11.

6 OECD (2013) and OECD (2015).

than domestic options. The World Bank estimates that international carbon markets could reduce the costs of the global mitigation currently specified in NDCs by about a third by 2030, and by about a half by 2050⁷.

Cost reductions of this magnitude could surely enable countries to take on higher ambition. The ability to use international markets may already have allowed some countries to ensure the highest ambition in their current NDCs. In practice, while the use of markets may be limited by barriers to their implementation and caution over transferring away emission reductions that countries may need in achieving their own NDCs, such numbers indicate significant potential to make mitigation more cost-effective through the use of international carbon markets.

Around 100 countries signalled in their intended NDCs a wish to use carbon markets in some way. To date, 47 countries and subnational jurisdictions have implemented or scheduled carbon pricing policies, covering 20-25% of global emissions⁸. This number continues to grow, including now among middle income countries. However, three quarters of covered emissions are priced below US\$10/tCO₂e, mostly through unconnected carbon taxes and emissions trading systems (ETS).⁹ This is well below the rates of US\$40-80/tCO₂e seen as necessary by 2020 to be on a path to achieve the temperature goals from Paris¹⁰.

2.2 MARKETS IN THE PARIS AGREEMENT

International markets provide a key means for cooperation among countries in the context of Article 6. In doing so, they fall within the political and strategic context of ambition raising set out in Article 6.1, which creates an expectation that the use of cooperation should lead countries over time to adopt stronger NDCs, while at the same time safeguarding sustainable development and environmental integrity.

Article 6 specifically recognizes that international cooperation can achieve and transfer emission reductions to be counted towards NDCs in recipient countries¹¹. Countries can engage in such transfers in two ways:

- **Operate and govern their own cooperative approaches under Article 6.2.** Transfers can be made

7 World Bank Group (2017).

8 With the commencement of China's national emissions trading system.

9 All data from World Bank Group (2017).

10 Carbon Pricing Leadership Coalition (2017).

11 Article 6 refers to both mitigation outcomes and emission reductions. This paper, for simplicity, refers only to emission reductions and means this to also include “removals”.

via emissions trading and crediting systems involving private and public sector entities. Governments can cooperate bilaterally as well to achieve and transfer emission reductions. All cooperation resulting in such “internationally transferred mitigation outcomes” (ITMOs) is to ensure sustainable development, environmental integrity and transparency, including in governance, and be subject to robust accounting that, among other things, ensures no double counting of reductions against multiple NDCs.

- **Participate in the crediting system offered by Article 6.4.** Activities under this mechanism generate emission reductions for transfer while at the same time fostering sustainable development. The mechanism is universal in being centrally governed under the UNFCCC and open for all countries and their private and public sector entities. It is to deliver an overall mitigation in global emissions and not only supply reductions to countries that are then used to justify higher emissions of the same quantity. As with Article 6.2, emission reductions are not to count towards multiple countries’ NDCs.¹²

These transfers require robust tracking and accounting, guidance for which is being negotiated under Article 6 on the basis of “corresponding adjustments”¹³. In effect, since the reduction is now used by the acquiring country, these adjustments subtract emissions from the total emissions relating to the acquiring country’s NDC, as shown in its emission inventory, and add them to the NDC-related emissions shown in the transferring country’s inventory¹⁴. This ensures the emission reductions are taken into account when assessing the achievement of NDCs and are not counted towards the NDCs of more than one country.

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12 Article 6.8 also recognizes cooperation through non-market approaches, focused on coordination across instruments and institutional arrangements rather than measures that result in transfers of mitigation outcomes. The status of negotiations on Articles 6.2, 6.4 and 6.8 is reflected in the draft texts contained in UNFCCC (2018a), UNFCCC (2018b) and UNFCCC (2018c).

13 Decision 1/CP.21, paragraph 36. This is specified in the context of Article 6.2, however Article 6.5 sets a similar requirement for the Article 6.4 mechanism.

14 These adjustments would not change the inventory itself, as this must remain intact as a record of a country’s emissions and removals, but could be recorded in a parallel table. The adjustments may alternatively be made on the side of the emissions allowed under NDCs (emission “budgets”), as in the approach used for Kyoto Protocol accounting.

3. CRITERIA FOR AMBITION RAISING

Reducing the costs of mitigation through international carbon markets can provide a basis for countries to take on greater mitigation ambition, but in itself does not guarantee that mitigation effort will grow. Certain characteristics, or criteria, can however be expected to be present when market policies are built to embody high ambition and promote rising ambition over time.

The degree to which increasing ambition is taken into account when establishing mitigation policies will differ across countries and policy types, or within countries over time as circumstances change. Cost-effectiveness is a legitimate policy aim in its own right and may be pursued independently of the size of the mitigation effort. Modelling may however be used to help determine an appropriate balance of policy intervention and any adverse impacts on emitters, which may lead to stronger targets being taken. These may also be recalibrated in the future.

This section explores criteria consistent with countries integrating international carbon markets into their mitigation policy in a manner that seeks to increase ambition over time and not only reduce costs.

3.1 TARGETS ARE (WELL) BELOW BAU EMISSIONS

Assessing the level of ambition in NDCs and market policies is inherently difficult – technically but also politically in the sense of how open the system is to outside scrutiny. Nevertheless, a sense of how far an NDC or market policy will shift emissions away from what would have happened without the policy intervention is integral to understanding if the NDC or market policy is ambitious and to what extent the country may be prepared to strengthen it over time.

Mitigation ambition in NDCs can be assessed from numerous perspectives, each reflecting different views on how much and what mitigation action should occur or seeking common means to compare countries. Finding that no single viewpoint is best in all cases, Höhne et al (2017) propose a comprehensive framework for assessing the ambition of NDCs that involves eight assessment types to serve multiple perspectives. These are clustered under “moral obligation/equity” (what is perceived as fair, taking account of differentiation among countries) and “technical necessity/efficiency” (what is technically required, going forwards, in order to achieve global mitigation goals). They argue that only considering all perspectives can give a full picture as to the degree of ambition incorporated in NDCs.

A narrower focus may consider whether NDC targets lie beneath a country’s expected emissions under a business-as-usual (BAU) scenario, as this will signal that emissions

covered by NDCs will at least be reduced below levels they would have otherwise attained. It is important that the BAU scenario is reasonable, including where emissions are legitimately expected to rise as a country develops. Whether the NDCs may also be considered “ambitious” depends on how they fare against the other perspectives, but this narrower focus can at least ensure that the targets take countries in the right direction.

This narrower focus is a minimum requirement in assessing if countries are using markets to raise ambition levels. Countries will tend to reflect this ambition in the stringency of their ETS targets and the quality of credited emission reductions, in order to be cautious when transferring emissions internationally and therefore preserving their own ability to achieve their own NDCs.¹⁵

Where NDC targets lie above BAU emissions, on the other hand, they would not be stringent and at least some degree of “hot air” will be present. An acquiring country would emit more while the transferring country does not emit less, so that transfers would raise aggregate global emissions and work to undermine any ambition that countries may have in their use of international markets.

La Hoz Theuer et al (2017) compare NDCs and BAU emission projections over a range of countries and scenarios. Results based on one dataset of 55 countries indicate there may be between 0.4 GtCO₂e and 5.4 GtCO₂e of hot air in 2030 under current NDCs, in high and low mitigation scenarios respectively¹⁶. The high end of this range could be almost three times the emission reductions expected in 2030 from countries with NDC targets more stringent than BAU. Their results using another dataset of 131 countries indicate a narrower range of estimated hot air but spread across a greater number of NDCs – between a third and half of the NDCs considered¹⁷.

The authors stress the sensitivity of the results to the underlying data, assumptions and scenarios. In particular, results are strongly dependent on BAU emission projections and the clarity and interpretation of NDC targets. Nevertheless, their findings indicate significant potential for hot air within the current set of NDCs.

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15 The stringency of NDCs and market policies relates also to their environmental integrity (see section 3.4).

16 The high mitigation scenario includes conditional and unconditional contributions, and/or takes the higher end of any target ranges given. The low mitigation scenario is based on only unconditional contributions and/or the lower end of any target ranges given in NDCs. Results are based on data from <http://www.climateactiontracker.org/countries.html>.

17 Using data from the Australian-German Climate and Energy College (Meinshausen and Alexander, 2016).

Even if it is difficult to adequately assess the ambition of NDCs, the measurability inherent in effective carbon market policies should provide quantitative information that may be used to assess the stringency of the market policies and their impact in reducing targeted emissions below BAU levels. Market policies may after all be stringent even where the underlying NDC lacks ambition.

Transparency of information is essential to any assessment of current ambition or indications of future ambition. It would be particularly helpful for the UNFCCC, through its current work programmes under decision 1/CP.21, to elaborate guidelines or best practices in relation to:

- Information to be included in NDCs that would facilitate their clarity, transparency and understandability
- The estimation of BAU emission projections
- The scope and coverage of planned mitigation actions and goals, and the expected impacts of planned mitigation actions on emissions
- Timeframes for the implementation of actions and achievement of results, including information on expectations for emissions trajectories over time
- The distinction between mitigation action that a country plans to implement unconditionally with its own resources and that which is conditional on the country receiving international support¹⁸.

These could be supplemented by some form of expert or peer review among countries to facilitate transparency and help improve the quality of NDCs over time.

3.2 NEW DEMAND FOR REDUCTIONS IS CREATED

The concept in the Paris Agreement of successive NDCs representing a “progression beyond the Party’s then current NDC” is a call for countries to communicate greater mitigation contributions at least every five years¹⁹. Progression may take different forms, depending on countries’ circumstances and the shape of their initial NDCs. In today’s demand-constrained international carbon market, which can be expected to remain for some time, commitments of new mitigation will have greater impact on aggregate mitigation effort if they expand demand rather than supply.

Countries can raise ambition beyond their existing NDCs by either deepening their current NDC contributions or, in the case of non-economy-wide NDCs, broadening their emissions coverage. Scenarios are shown in the figure.

.....
18 The following work programmes are particularly relevant: features of NDCs (decision 1/CP.21, paragraph 26), information to facilitate clarity, transparency and understanding of NDCs (paragraph 28), accounting of NDCs (paragraph 31), and common timeframes for NDCs (Article 4.10).

19 Article 4.3.

The impact on aggregate mitigation levels from stronger NDCs involving international carbon markets will vary:

- Countries strengthening NDCs on an **unconditional basis** do not expect to receive international support to enable the new mitigation action. Where the additional mitigation may be met at least in part through greater reductions from other countries, this creates new international demand for emission reductions – this incentivizes and supports a higher volume of conditional emission reductions in other countries. The aggregate mitigation of countries therefore rises.
- Countries strengthening NDCs on a **conditional basis** make the action dependent on support from sources outside the country, such as from international markets or climate finance. Where a country is open to support via markets, this amounts to an increase in the potential supply of emission reductions. However, with transfers constrained by demand for the foreseeable future, this increase in supply alone will not translate into greater mitigation occurring through market support.
- A country may not strengthen its NDC at all but be willing to reduce emissions **outside the scope of its NDC**²⁰. As in the conditional case, aggregate mitigation only rises if another country increases its NDC on an unconditional basis, hence offering support by acquiring more reductions.

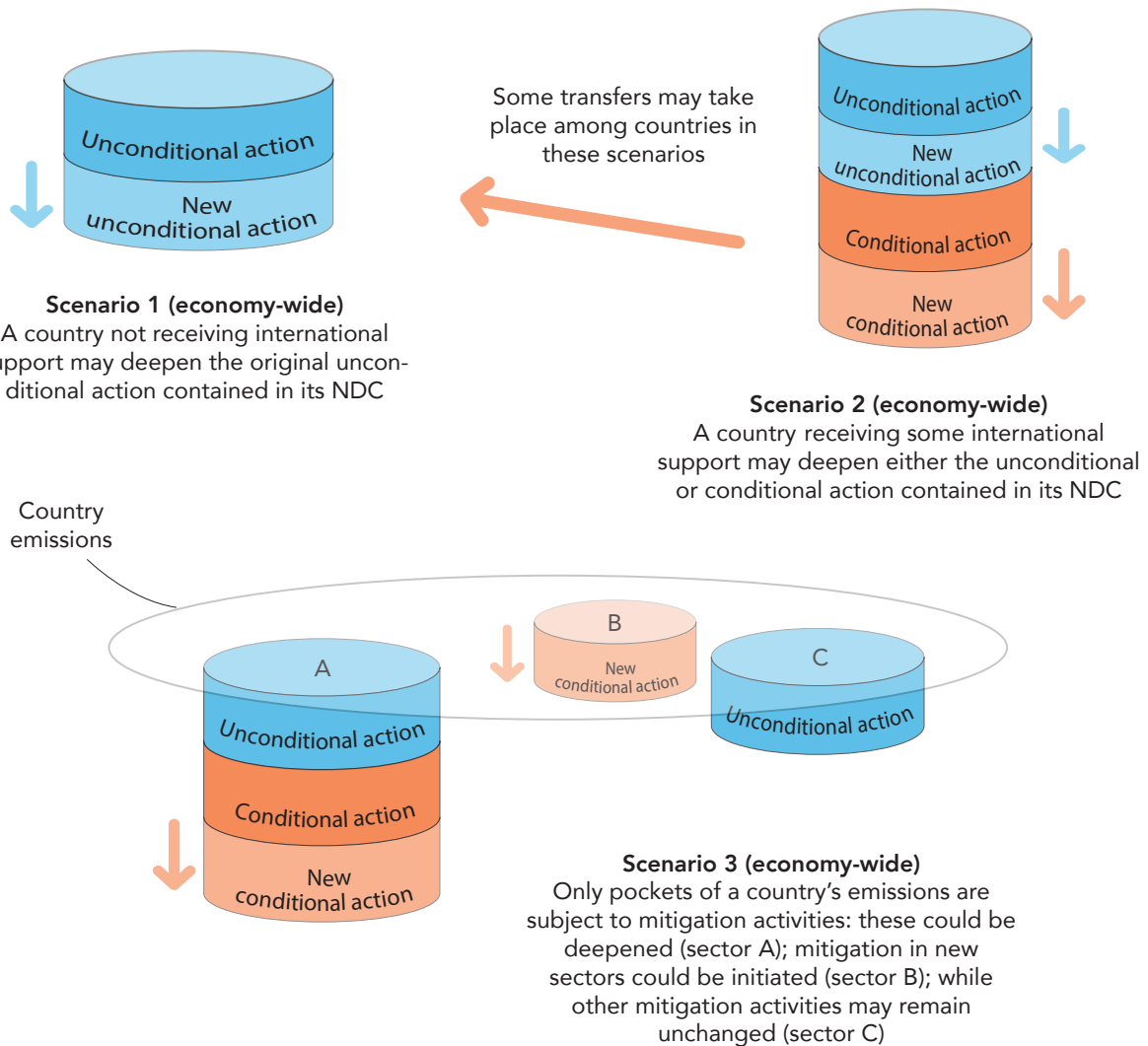
It is apparent that using international markets to increase mitigation ambition requires at least some countries to increase their unconditional contributions. Only in this case is new demand for emission reductions created, allowing new (or previously unsupported) conditional mitigation contributions to be supported and realized via markets. In the absence of new demand, additional supply from new conditional contributions – and potentially from new reductions outside the scope of NDCs – only diverts support from other conditional contributions²¹.

Furthermore, countries with conditional contributions will need to retain sufficient emission reductions to demonstrate achievement of their NDCs, while countries and entities providing support via markets also wish to receive the reductions. This competition for the reductions under conditional contributions limits the extent to which international carbon markets may be practical, unless emissions can be reduced sufficiently below the target level to satisfy the needs of both the host and supporting countries. Otherwise, there may be a preference for international support from sources not requiring emission reductions in return, such as climate finance, limiting the opportunities to use markets to increase ambition.

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20 Allowing transfers under the Article 6 rules from outside the scope of NDCs is controversial (see section 3.4).

21 Increased conditional contributions could however attract new climate finance, and may therefore contribute to higher mitigation ambition supported in that manner.

SCENARIOS FOR AMBITION RAISING



3.3 MITIGATION ACTION IS BROADENED

The Paris Agreement calls for countries to either adopt economy-wide targets (developed countries) or, in light of different national circumstances, move towards them over time (developing countries)²². This reflects the value of countries bringing emissions from new sectors and activities within their monitoring and control, at least making a start in addressing new mitigation areas that can be expanded later.

Countries with NDCs limited to specific sectors or activities may broaden the scope of their mitigation action and, most beneficially, include this within their NDCs by including new contributions on an unconditional or conditional basis. Bringing new mitigation areas within the coverage of NDCs is valuable – environmentally because it

extends mitigation effort to a greater scope of emissions and institutionally due to countries' technical and political readiness to undertake further mitigation action and pursue the necessary support.

Undertaking even small mitigation actions in new areas can raise technological and political awareness of mitigation opportunities, build technical capacity, introduce or disseminate new technologies more broadly, generate and gather data, and build infrastructure and institutions that are essential for investment. For many countries, even relatively small mitigation contributions from new areas may be important in the implementation of long-term mitigation strategies.

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22 Article 4.4.

3.4 ENVIRONMENTAL QUALITY IS ENSURED

Article 6 stresses the need for environmental integrity in international cooperation. In the absence of environmental integrity, transfers have the effect of increasing global emissions and work against efforts to raise mitigation ambition. While stringent NDC targets give incentive to countries to ensure environmental integrity, they provide no guarantees and are also not always present. Robust standards for environmental integrity are needed, at either national or international levels, particularly in situations where this NDC incentive is weaker.

Environmental integrity is repeated throughout Article 6. It is explicit in the vision for international cooperation in Article 6.1 and as a requirement for cooperative approaches under Article 6.2. It is implicit in the Article 6.2 requirement of no double counting, in the Article 6.4 mechanism not allowing mitigation benefits to be used by more than one country, and in rules for Article 6.4 to ensure that emission reductions have real, measurable and long-term benefits for climate change, are additional, and are subject to verification and certification processes²³.

Environmental integrity in the context of Article 6 requires that, where an acquired emission reduction allows one country to emit more, this must be matched by a reduction of at least that quantity of emissions in the transferring country. This is needed so that international cooperation does not undermine global mitigation efforts by inadvertently allowing global emissions to increase.²⁴

23 Decision 1/CP.21, paragraph 37.

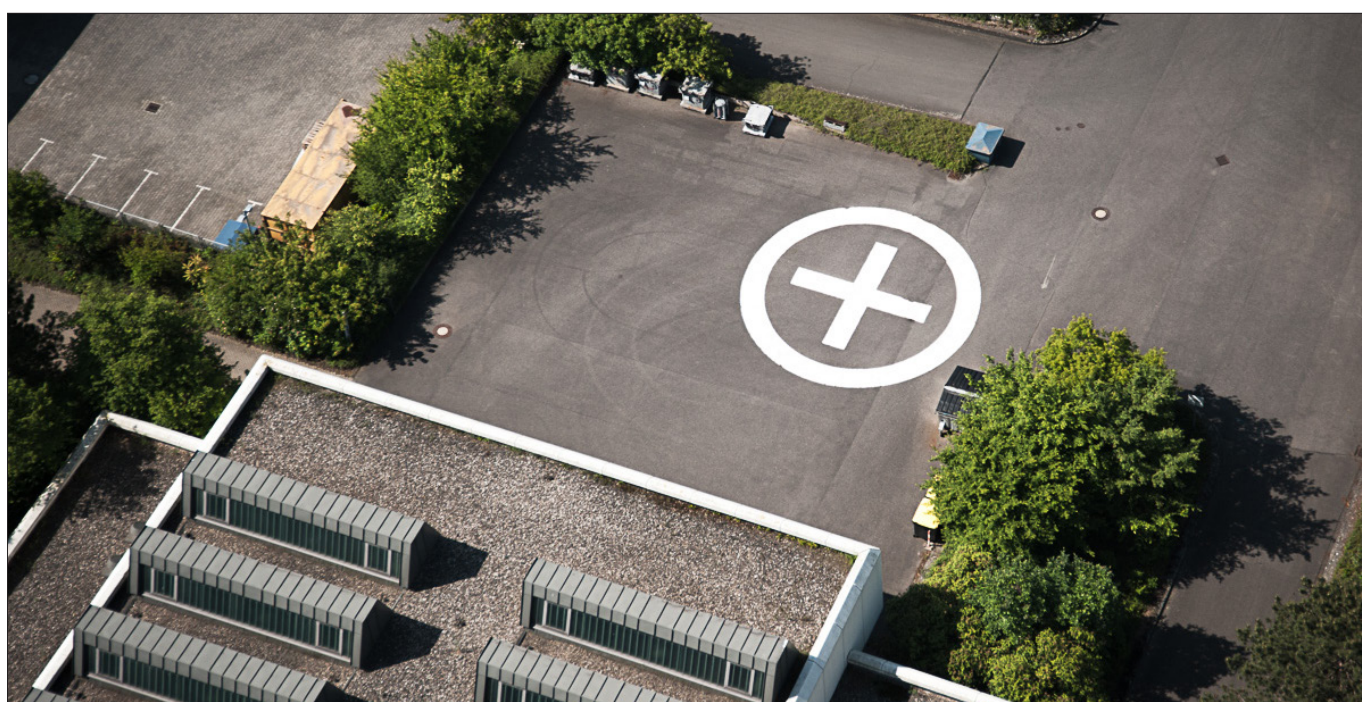
24 This understanding of environmental integrity draws upon Schneider et al (2017) and Howard et al (2017).

The foremost requirement of environmental integrity in transferred emission reductions relates to their quality, in that the reductions really occur as stated, go beyond reductions that would have occurred in the absence of the mitigation activity, and have lasting mitigation effect²⁵:

- For an **ETS**, quality is gained by ETS targets for covered sectors being set below BAU emissions and ensuring robust measurement, verification and reporting (MRV) standards when assessing actual emissions. Any reductions below target emissions are then quantified and, by definition, go beyond levels that would otherwise have occurred. Such targets are a real constraint on emitters – transferring emissions abroad will trigger (or be the result of) an equivalent emission reduction in the transferring country.
- In the case of **crediting systems**, quality needs robust MRV standards but also other standards – to estimate the baseline emissions that would have otherwise occurred, taking into account policies implied in unconditional and possibly conditional NDCs²⁶; ensure reductions are additional to this baseline; and ensure reductions are permanent in that any subsequent reversals will be adequately compensated.

25 Schneider et al (2017). The other key requirement of environmental integrity is robust tracking and accounting of the emission reductions against NDCs so no double counting of emission reductions towards multiple NDCs can occur (as discussed in section 2.2).

26 This requires baseline assessments to anticipate the implementation of newly intended policies, in addition to looking backwards at historical behaviour and costs (Spalding-Fecher et al, 2017). Regular baseline revisions and shorter crediting periods may be needed to remain relevant, perhaps in line with the five-yearly cycle of NDC revisions.



Stringent NDCs contain an inherent incentive for countries to ensure the quality of the reductions they transfer. Without such quality, the accounting requirements will add more emissions to the transferring country than were reduced through the cooperation, making it harder for it to meet its NDC. However, as discussed in section 3.1, such stringency is not always present.

Furthermore, this incentive is not as strong for conditional NDCs. As countries do not have full control over whether their conditional contributions will be enabled by international support, there may be little culpability or reproach if a country does not achieve them. In practice, the lower emissions expected under conditional contributions may be only partially reflected in emission inventory results, or not reflected at all, with little clarity as to whether this is due to a lack of international support or a lack of quality in what has been transferred.

It is not yet clear if emission reductions made outside the scope of NDCs will be allowed for transfer under Article 6, because of this lack of NDC incentive and because such transfers may disincentivize countries from bringing new mitigation areas within the scope of NDCs. It is however also not clear that conditional components of NDCs offer sufficient accountability to act on their own as an effective incentive for environmental integrity. Before both outside-NDC reductions and conditional contributions are excluded from international carbon markets, there would be value in exploring how standards and transparent reporting can be ensured for these areas.

The UNFCCC process is in a unique position to provide such standards and reporting processes, as the credibility of emission reductions relies on their assessment being independent of the entities and countries that stand to benefit. Specifically, the rules being developed for Article 6 could require any emission reductions generated outside the scope of NDCs to be subject to independent, international oversight if they are to be used by countries towards the achievement of an NDC. There are several options for this, including:

- Generate the emission reductions directly under the Article 6.4 mechanism
- Apply technical standards and infrastructure, such as baseline methodologies and accredited third-party verifiers, that have been approved for use under the 6.4 mechanism
- Establish international principles, potentially based on the Article 6.4 mechanism, to guide the in-country generation of emission reductions
- Establish or identify other international standards, which have demonstrated quality of an equivalent level to that of the Article 6.4 mechanism.

Any mix of the above routes could be deemed to meet a UNFCCC requirement for independent, international oversight. They can all be made to reference standards that are accepted internationally in the context of the Article 6.4 mechanism. While it may not be necessary for all emission reductions and mitigation activities to fall within the governance of the Article 6.4 mechanism, applying certain standards or infrastructure from it – or at least demonstrating equivalent quality – can provide international credibility over the emission reductions.

3.5 EMISSION INVENTORIES ARE EXPANDED

Emission inventories do not always cover the sectors in which emission reductions are generated, at least not at a level of granularity that would detect all reductions. Where this is the case, efforts to incorporate emissions into inventories can help better understand the emissions profile of the sectors and opportunities to reduce emissions. International cooperation under Article 6 can provide opportunities and support for strengthening inventories in these areas.

Many developing countries do not have complete emission inventories, and yet the initiation of emission-reducing activities through carbon markets would indicate that data can be gathered and made available. Sectors and activities in which emission reductions are made will after all require baseline setting and the MRV of emissions. Catalysing on these activities to prepare or improve emission inventories for the relevant sectors and activities can help better understand their emission profiles and facilitate further emission reductions in the future.

3.6 COMMUNICATION OF MITIGATION GOALS AND POLICIES IS CLEAR

Countries that are confident in the ambition of their current mitigation efforts and their plans to continue strengthening ambition over time are likely to publicize their intent and supply sufficient information to make it clear and credible. Long-term goals, perhaps accompanied by a schedule for the strengthening of targets, would be valuable in providing investment certainty and stability in carbon prices. NDCs should ideally be kept comprehensive and up-to-date, although this may not always occur.

The discussion in the preceding subsections refers mostly to strengthening NDCs. These are to reflect a country's "highest possible ambition" and each NDC is to progress beyond the country's previous NDC²⁷. As discussed in section 3.1, NDCs are in practice often difficult to interpret and negotiations are ongoing in the UNFCCC under decision 1/CP.21, paragraph 28, on guidance to facilitate their clarity, transparency and understandability.

However, a country may also strengthen its mix of mitigation policies within the five-year cycle without

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27 Article 4.3.

immediately revising its NDC. While revising and keeping NDCs up-to-date would be a clearer statement of the country's mitigation contribution, the act of reopening NDCs may be politically challenging and strengthening them may heighten concerns around the risk of not being able to achieve the new actions. In such cases, other means of publicizing intentions and information are available, such as national strategies, NDC implementation plans, policy announcements, background research and modelling, as well as legislation.

The reporting cycle under the transparency framework can provide an effective and flexible approach to sharing information on increased mitigation ambition. In particular, the requirement under Article 13.7 for countries to report at least every two years on progress in

implementing and achieving their NDCs can provide for:

- Countries to include information on new or strengthened mitigation policies and targets, including information to support the clarity, transparency and understandability of such measures
- The UNFCCC process, both during and after the NDC period, to specifically recognize over-achievement against NDCs as a means of encouraging greater mitigation effort beyond what is specified in NDCs.

The higher ambition would however need to be incorporated in the next NDC submission of the five-yearly cycle, if these are to reflect the country's "highest possible ambition" and progress beyond the country's previous NDCs.



4. APPROACHES TO RAISING AMBITION

As discussed above, the cost-effectiveness of market-related mitigation efforts does not lead automatically to undertaking greater ambition. This section builds on the criteria discussed above by exploring practical approaches to the implementation of international carbon markets that can help make rising mitigation ambition a real outcome.

Effective means of using international carbon markets to raise ambition involve creating demand. Countries with lower abatement costs can respond to such rising demand



and greater support by implementing more mitigation activities and achieving greater reductions. Their options in using Article 6 to increase ambition are however limited without demand being raised.

In the context of the universal obligation under the Paris Agreement for all countries to submit NDCs, it can also no longer be assumed that supply will always respond to demand. Developing countries now need to generate and retain emission reductions for their own achievement of NDCs. The space for international cooperation and support under Article 6 – in particular vis-à-vis other finance, technology and capacity support under the Paris Agreement, which carry no expectation of sharing the emission reductions – needs to be found where emission reductions are not needed by the host country or where sufficient new abatement can be generated to adequately satisfy the multiple claims on it.

This section explores a range of approaches, including some that have been raised in submissions by countries on the Article 6 rules. Some would require rules to be established at the level of the UNFCCC, although they mostly concern how countries themselves may choose to implement carbon markets. All these approaches may be used in combination, making consideration of how they may complement each other worthy of consideration.

4.1 CREATE DEMAND BY RAISING DOMESTIC COMPLIANCE OBLIGATIONS

The most direct form of increasing ambition via carbon markets would be countries strengthening domestic compliance obligations for emitters under emissions trading and carbon tax systems. This approach offers clear tools, technical capacity and regulatory structures to convert this new ambition into incentives for emitters.

Stronger ETS compliance obligations could be set, for example, by lowering targets, tightening allocation rules or increasing coverage to include new emission sources. This would set stronger mitigation targets for the multiple years of an ETS programme, even where NDCs are formulated only for single years. Similarly, the introduction or strengthening of carbon taxes can raise ambition by setting higher carbon prices. Allowing emitters to surrender internationally-sourced allowances and credits towards their ETS or tax obligations can leverage lower costs and support the strong targets placed on emitters.

Ensuring domestic policy targets are set for the long term, out to at least 2030 but perhaps further to 2050 or beyond, can give greater certainty over the commitment of the

country and the long-term development of carbon prices. This can impact investment decisions, help avoid the lock-in of high-emission infrastructure, and help shift the focus of emitters from short-term goals towards long-term economic transformation and low-emissions growth.

The full linking of systems, with the high degree of harmonization it requires, is however not necessary. Linkages can be partial, through for example allowing only one-way transfers, accepting the use of credits but not ETS allowances, or limiting the surrender of imported reductions. Countries can control how much ETS or carbon tax obligations may be met by international acquisitions, as well as the countries, sectors and mechanisms from which they are sourced. Countries need to find their own balance: allowing more international access can lower costs and drive reductions in other countries; limiting international access can drive higher domestic carbon prices and greater domestic reductions.

Finding emission reductions available for transfer may however be challenging. As well as needing environmental integrity, the reductions must not be required for the transferring country's NDC. There appears to be two areas where emission reductions may be sourced:

- In sectors or activities covered by unconditional or conditional contributions but where emission reductions can exceed levels foreseen in the NDC. In practice, there are not always lines drawn between abatement efforts that contribute to unconditional and conditional contributions, or extensions beyond these. The onus lies with transferring countries to ensure they have sufficient emission reductions for their own purposes. This may however limit the extent to which the volume of transferable emission reductions incentivizes the involvement of the private sector.
- In sectors or activities outside the scope of NDCs. There would need an assurance of the quality of the emission reductions – towards potential buyers who need confidence in the value of the emission reductions – and towards other countries and stakeholders that wish to be sure of the system's environmental integrity. This requires independent rules and verification systems, such as those under the Article 6.4 mechanism or other international standards.

It would be important that the strengthened ETS or tax obligations not be compensated by relaxing other contributions – either other components of the country's NDC or by on-selling acquired reductions to other countries as offsets against their NDCs. The impact of raising ambition would need to be safeguarded by reserving the increased mitigation effort and reporting it to the UNFCCC as achievement of a strengthened NDC or as an over-achievement of an NDC.

The impact on ambition could be made stronger still if

all international acquisitions were to be reserved as an NDC over-achievement. This would involve the country calibrating its other domestic mitigation policies to fully achieve the NDC, allowing the demand created and satisfied through the use of Article 6 to be directed towards ambition raising. The internationally-sourced reductions would constitute an increase in mitigation beyond the intended mitigation set out in the NDC.

4.2 FACILITATE DEMAND THROUGH THE VOLUNTARY MARKET

Away from compliance obligations set by domestic policy, the voluntary market is driven by motivations such as corporate social responsibility (CSR), offsetting carbon footprints and support for sustainable development. By their nature, such emission reductions go beyond reductions foreseen in NDCs. Any moves by countries to facilitate the effectiveness and volumes of reductions achieved by the voluntary market would constitute an increase in ambition.

The voluntary market has to date been effective in tapping into voluntary demand in developed countries to drive emission reductions in developing countries. This has been achieved without government recognition or acceptance as offsets against ETS obligations. Volumes of emission reductions have however remained small in comparison with crediting targeted toward compliance markets.

With the Paris Agreement so open to decentralized market mechanisms and countries determining what credits may count towards their NDCs, a challenge faced by the voluntary market is to hold emission reductions it transfers separate from others used towards NDCs and domestic compliance obligations under ETS and carbon tax systems. If, for example, emission reductions made to satisfy a CSR commitment are subsequently used by a country towards its NDC, this would constitute double counting and undermine one or the other use of the credits.

The challenge in relation to market transfers is two-fold:

- Voluntary market actors need to know in advance where they can invest in reductions that the host country is not intending to include in its NDC accounting – either because its NDC does not cover that sector or activity, or where the emission reductions are in a covered sector or activity but go beyond those needed to meet the NDC
- Countries need to know when reductions in emissions have been used to satisfy a voluntary market commitment. Some form of notification is needed in order that (a) the host country knows to account for this

use appropriately²⁸ and (b) any country receiving such emission reductions does not allow them to be counted towards either domestic compliance obligations or the achievement of NDCs²⁹.

Without these conditions, emission reductions made in the voluntary market will lessen the pressure created by the NDC to reduce emissions, in effect cancelling out the original emission reduction made on the voluntary market and passing up an opportunity for carbon markets to strengthen mitigation ambition.

Countries can therefore facilitate the continuation and growth of the voluntary market, and the consequent raising of mitigation ambition, through collaborating with crediting programmes active in the voluntary market to create these conditions. The following measures may be taken by host countries:

- Early confirmation to the voluntary market of the sectors and activities in which they may generate emission reductions for international transfer
- Commitment to account appropriately for notified reductions made through the voluntary market
- Incentives to create new voluntary market demand from private and public sector entities, such as tax incentives and public recognition campaigns
- Undertaking to report on emission reductions made through the voluntary market to the UNFCCC as an over-achievement of the NDC.

Participants in the voluntary market may also turn to the provision of climate finance, for which no emission reductions would be sought in return, as a means to satisfy their CSR or other offsetting commitments. Entities would be able to report that they had helped enable host countries to make emission reductions, which can also contribute to a raising of global mitigation ambition.

4.3 BILATERAL COOPERATION IN EXPANDING FUTURE NDCS

Bilateral cooperation among governments may target new mitigation activities that lie outside the scope of existing NDCs by bringing them inside the monitoring and control

.....
28 Voluntary market activities will reduce the emission inventory of the host country. If this occurs in a sector for which NDC accounting is being undertaken, the emission reductions will need to be added back to the emissions shown in the host country's inventory in order for double counting with the CSR commitment to be avoided.

29 If emission reductions are issued as credits and transferred to the home country of the voluntary market actor, they will need to be kept separate from other credits used towards ETS or tax obligations at the entity-level and the NDC at the country level. This may be best achieved through ensuring such incoming credits are cancelled upon arrival.

of mitigation policies and establishing a commitment with host countries to include them in their future NDCs. This can help overcome concerns raised with operating international carbon markets outside the scope of NDCs.

As discussed in section 3.4, allowing internationally-transferred emission reductions from outside the scope of NDCs to be used towards NDCs presents a two-fold difficulty: it allows carbon markets to operate outside the inherent incentive of NDCs to ensure environmental integrity and may disincentivize bringing new mitigation areas into the scope of NDCs over time.

Where countries do not have economy-wide targets, long-term bilateral (or multilateral) cooperation among governments could be aimed at implementing new mitigation activities and including them within the host country's next NDC submission. This would be consistent with calls in the Paris Agreement for the highest possible ambition in NDCs and a progression in successive NDCs, as well as for developing countries to continue enhancing their mitigation efforts and move in time towards economy-wide targets³⁰.

Cooperation agreements between the involved countries could cover different forms of support:

- **Kick-start new mitigation activities on the basis of transfers.** Mitigation activities could receive international support by transferring emission reductions during the first one or two NDC cycles, with transfers ceasing thereafter. Such support is likely to be provided primarily through bilateral government cooperation but could also involve private sector entities³¹. After this initial support to get off the ground, the mitigation activity would continue in subsequent NDC periods ideally as an unconditional contribution of the host country, although there may also be value in it continuing on a conditional basis³².
- **Risk-reduction measures.** Support provided through bilateral government cooperation, including possibly in combination with wider climate finance, can help establish institutions and capacity needed for mitigation activities to run effectively and be subjected to robust MRV. Public finance can also be used to provide upfront funding and share risk, setting better conditions on which to leverage private finance. As it does not seek to accrue emission reductions for use against NDCs, publicly-sourced climate finance can also contribute to the overall mitigation of the activities (see section 4.4).

.....
30 Article 4.3 and 4.4.

31 Private sector entities may need a longer-term stream of credits (including potentially into the second NDC cycle) or support from other measures (such as the risk reduction measures described here) as incentive to participate.

32 For example, a longer phasing out of kick-start finance could be envisaged, including through longer-term private finance, on condition that the mitigation activity eventually becomes part of the country's unconditional NDC.



- **Independent oversight over the quality of reductions.** In the absence of inherent incentives for environmental integrity from stringent unconditional NDCs, guidance can be set for the use of independent standards and MRV. This could be achieved by, for example, requiring crediting activities to operate under the Article 6.4 mechanism or to at least use technical methods or infrastructure, such as baseline methodologies and accredited third-party verifiers, from the Article 6.4 mechanism or another independent, internationally-recognized crediting system.
- **Emission inventory development and accounting adjustments.** Government support could help ensure sectors in which new mitigation activities are developed are included in the country’s emission inventory³³. This would also provide a basis for applying accounting adjustments for transfers. Although this is not technically necessary for transfers from outside the NDC scope, applying adjustments would provide for more transparency and experience with the accounting system. Treating all transfers in the same way would also reduce any disincentive to expand NDCs over time³⁴.

The support arrangements would need to be agreed upfront between the host and partner countries, including in relation to host country commitments to include the new mitigation activities within subsequent NDCs. This commitment could be formalized by communicating it to

33 This would be consistent with wider support to developing countries in implementing the transparency framework, in line with Articles 13.14-15.

34 These adjustments would not impact on the achievement of the host country’s NDC if the new mitigation activities are not included within it.

the UNFCCC through the country’s reporting on progress in implementing and achieving NDCs under Article 13.7.

The commitment to incorporate the new mitigation activities within subsequent NDC periods represents an increase in ambition concerning future emissions. An increase in ambition during the current NDC period can also be gained by the partner countries reserving acquired emission reductions for the purpose of over-achieving their NDCs and reporting them as such to the UNFCCC, in order that they are not compensated by relaxing other actions under their NDCs.

4.4 ENSURE CARBON MARKETS DELIVER “OVERALL MITIGATION”

Carbon markets can deliver an “overall mitigation” in global emissions if the volume of emissions offset in acquiring countries is lower than the emissions reduced in transferring countries. Integrating measures that oblige a lower use for offset purposes can ensure that using markets automatically contributes to achieving higher mitigation ambition. However, care needs to be taken regarding impacts on the economic feasibility of mitigation activities.

Overall mitigation is often described as going “beyond offsetting” because carbon markets reduce the aggregate emissions entering the atmosphere in addition to reducing the costs of achieving a given level of mitigation. The lower the ratio of offsetting to the actual reduction in emissions, the greater the overall mitigation effect that carbon markets achieve.

Article 6.4 requires overall mitigation to be applied to the mechanism under that article. Overall mitigation

could also be implemented for cooperative approaches established by countries in the context of Article 6.2, as it would result in these also contributing higher mitigation ambition and treat the use of markets under these provisions consistently³⁵. Such overall mitigation could be required under the rules for Article 6, or could alternatively be implemented by countries on a voluntary basis.

Overall mitigation can be delivered in different ways:

- On the “supply side” of a crediting system, the level of credits issued can be constrained below the level of actual emission reductions made, through for example (a) applying short crediting periods which do not capture the later years of a mitigation activity’s lifespan, (b) using conservative estimates of reductions with high-performance reference levels or conservative default variables or (c) discounting the reduction estimates by a set percentage.
- An alternative on the “demand side” could be applicable to both trading and crediting systems in that acquiring countries receive emission reductions commensurate with the actual level of mitigation occurring, but discount this volume by a percentage so that the credits used as offsets are less than the credits issued for the emission reductions.
- A variant of this demand side approach is that entities acquiring emission reductions from abroad may surrender them in their full value against their ETS or tax obligations, but the country discounts these volumes at the point of counting them towards the achievement of their NDCs. In this manner, the economic feasibility of the mitigation activities for entities remains unchanged. To still achieve its NDC, the country may need to strengthen its ETS targets or other domestic mitigation policies, such that the impact of the discounting would be shared across a wide set of emitters.

The third option has several advantages. First, by bearing the burden of the non-offset emission reductions, the government of the acquiring country increases its demand for emission reductions. This is akin to strengthening an unconditional NDC and has a positive impact on international markets by increasing the support it provides to countries with conditional NDCs. Second, it leaves the economic feasibility of mitigation activities unaffected.

This third approach also avoids accounting complications to address supply side approaches to overall mitigation. The portion of emission reductions not transferred and used by others as offsets will nevertheless be reflected in the host country’s emission inventory. If the sector concerned is covered by an NDC, this portion of the reductions needs to be quantified and added back to the emissions shown in the inventory, otherwise its presence will counteract the pressure to further reduce emissions

35 AOSIS (2017) and LDCs (2017).

initially created by the policy of overall mitigation³⁶.

4.5 DISALLOW REDUCTIONS FROM OUTSIDE THE SCOPE OF NDCS

Allowing reductions from sectors and activities outside the scope of NDCs to be transferred and used for NDCs may disincentivize countries from bringing new mitigation areas inside the scope of future NDCs. Disallowing such use, on its own, may however not create the opposite incentive.

Prohibiting emission reductions from outside the scope of NDCs from being transferred and used towards NDCs may encourage countries to bring such out-of-scope emission sources into the coverage of NDCs. If reductions from these sources are allowed, on the other hand, there may be little incentive to expand NDCs over time, as countries could continue receiving support from markets without having to retain reductions for their own NDC purposes.

However, the extent to which such a prohibition would create a real incentive for countries to add new contributions may be limited. It is unlikely that unconditional contributions would be added, as these would not receive international support. Conditional contributions may be added, although countries would need to retain sufficient emission reductions to cover their own NDC needs, lessening the extent to which they can attract support from international markets³⁷.

However, such a prohibition could be combined with a more proactive and facilitative encouragement to expand NDCs, such as the bilateral cooperation discussed in section 4.3. The use of emission reductions generated outside NDCs could then be allowed only in the context of a commitment to include these new mitigation areas in the country’s next NDC. This also holds the possibility of bringing new mitigation areas within the scope of unconditional NDCs rather than only conditional NDCs.

36 For example, a conservative baseline on the supply side could lead to 80 tCO₂e being transferred to another country for use in offsetting a target. The actual reductions reflected in the transferring country’s emission inventory would however be greater. If these were in practice 100 tCO₂e, the extra 20 tCO₂e of reduction shown in the inventory would still count towards NDC achievement, making 20 tCO₂e worth of mitigation policy elsewhere in the NDC unnecessary and cancelling out the attempt to raise ambition. In practice, the overall mitigation from conservative baselines and short crediting periods would not be estimated or associated with the initial emission reduction, making any accounting adjustments difficult to apply. They could however be made for discounting applied on the supply side, as the level of overall mitigation would be quantified.

37 There may also be stronger incentives for environmental integrity with this prohibition, to the extent that countries are accountable for their conditional NDCs (see section 3.4).

4.6 LIMIT TRANSFERS TO REDUCTIONS BEYOND NDC LEVELS

A further suggestion from the negotiations on the Article 6 rules is that transfers should only be allowed if NDCs have been over-achieved³⁸. This builds on a model in which all NDCs would be converted into emission budgets for full NDC periods³⁹ and that all transfers in the context of Article 6.2 would be made on this basis.

The consistent emission budgets created via this approach, it is argued, would establish an international governance framework which would guarantee integrity while still providing flexibility to match countries' requirements and evolve with them over time. It would also establish parity in the treatment of Articles 6.2 and 6.4.

The ability of each country to make transfers would be linked to its demonstrated progress in achieving its NDC target. Countries may only transfer reductions to the extent they demonstrate, at the end of the NDC period, over-achievement of their NDC through reported emissions being below its emissions budget. This promise of being able to transfer, it is argued, creates an incentive for countries to over-achieve their NDCs, and in doing so raise their mitigation ambition.

It is worth bearing in mind that the creation of emission budgets for NDC periods as the basis for emissions trading has more to do with other objectives – in particular, ensuring the integrity of carbon markets and avoiding the trading of hot air – than it does with incentivizing the raising of ambition. Ultimately, any frameworks at the international level need to take account of more factors than ambition raising on its own, which suggests more exploration may be needed to find ways of meeting multiple needs.

The implication of this approach is however that transfers cannot be confirmed until after the NDC period has ended and the level of NDC over-achievement has been determined. This is unlikely to be conducive of market transactions and would limit the extent to which this approach could increase mitigation ambition. It may be possible for transfers to be allowed on a provisional basis during the NDC period, but there would be risk that the transfer may not ultimately be possible.

Furthermore, as this approach only specifies a constraint on transfers on the side of the transferor, it remains unclear how those potentially acquiring emission reductions are incentivized to go beyond existing NDC plans and increase their demand for emission reductions.

.....
38 Brazil (2016).

39 It is not clear whether this refers to unconditional or conditional contributions.

5. CONCLUSIONS

This paper has focused on the meaning of raising mitigation ambition in the context of international carbon markets and the Paris Agreement, as well as on practical approaches countries may take when seeking to use carbon markets to realize increases in ambition. Using markets to reduce the costs of mitigation gives a basis for countries to take on greater ambition, but it does not guarantee that either a country's mitigation effort or the total global effort will in fact grow.

Six criteria have been identified that can be reasonably expected to be met, to varying degrees, when countries formulate their market-related policy instruments in a manner that strives to increase mitigation ambition over time. While ambition is complex and difficult to assess, countries can strive to promote these criteria when designing and implementing their carbon market policies.

The table below compares the approaches to carbon markets considered in this paper against the six identified criteria and a further criterion of technical and political feasibility. A scale of -2 to 2 is given for each criterion, showing the criterion being strongly-not-met to strongly-met, and with "0" signalling that the approach is neutral with regard to the criterion or could go either way. These scores may of course differ to some extent with differences

in the way the approaches are implemented.

The first four approaches involve the generation of new demand for emission reductions, which is key in truly raising ambition. Some approaches also involve a broadening of mitigation action and support for more comprehensive emission inventories, and some serve to strengthen the assurance of environmental integrity. Overall, however, no single approach covers all the criteria in full and the approaches lend themselves well to supplementing each other.

These first four approaches, individually or in combination with others, appear to have promise in being able to realize tangible increases in mitigation ambition:

- **Approach 1: Create demand by raising domestic compliance obligations.** This is the most immediate form of raising ambition via carbon markets as it would deliver a direct and unconditional increase in demand to the market, thus supporting an increased volume of conditional contributions from other countries. It would also raise the stringency of emission targets and strengthen environmental integrity incentives. The approach is technically feasible, with required elements already in place, although may be politically difficult.

ASSESSMENT OF APPROACHES FOR USING MARKETS TO RAISE MITIGATION AMBITION

Approach	Targets are set (well) below BAU emissions	New demand for emission reductions is created	Mitigation action is broadened	Environmental quality is ensured	Coverage of emission inventories is expanded	Communication of goals and policies is clear	Technical and political feasibility
1. Create demand by raising compliance obligations	2	2	0	1	0	2	1
2. Facilitate demand through the voluntary market	0	2	1	0	0	2	2
3. Bilateral cooperation in expanding future NDCs	0	2	2	2	2	1	1
4. Ensure carbon markets deliver "overall mitigation"	1	2	0	2	0	0	1
5. Disallow reductions from outside the scope of NDCs	0	0	-1	1	0	0	1
6. Limit transfers to reductions beyond NDC levels	0	-2	0	1	0	0	-2

Note: Scores indicate criteria is strongly not met (-2) or strongly met (2).

- **Approach 2: Facilitate demand through the voluntary market.** This also focuses on creating new demand, albeit from the voluntary market so it does not change the stringency of NDCs. Voluntary market demand can be facilitated by confirming what emission activities are safe ground for the voluntary market to be active in, which is positive for the communication of policy, is technically feasible and is likely to be welcomed politically.
- **Approach 3: Bilateral cooperation in expanding future NDCs.** This approach scores most highly across the range of criteria, although the significance in volume of emission reductions is likely to be smaller than for approach 1. The approach would support new mitigation activities from outside the scope of NDCs being initiated and incorporated in the next round of NDCs. It could make use of new government demand that could be reported to the UNFCCC as an NDC over-achievement. The bilateral cooperation would broaden mitigation action in developing countries, ensure adequate environmental integrity, include the new mitigation areas within emission inventories if they were not already reflected, and potentially make accounting adjustments on a voluntary basis. This approach could be combined with a UNFCCC rule that allows reductions from outside NDCs to be used for NDCs in the context of a host country commitment to include these new mitigation areas in the country's next NDC. Although the technical and political challenges would often be significant, they should be feasible to overcome.
- **Approach 4: Ensure carbon markets deliver "overall mitigation".** Under this approach, acquiring country governments could apply a discount factor to all acquired emission reductions, including from cooperative approaches under Article 6.2, when they count them towards the achievement of NDCs. The cancellation by the government of a portion of acquired emission reductions may necessitate greater acquisitions, in turn creating new market demand, making emission targets more stringent and strengthening the assurance of environmental integrity for the reductions. While this approach is technically very feasible, it may not be politically popular among countries with unconditional NDCs already delivering demand into the market.

Approaches 5 and 6 scored less well individually, although they could be integral to some accounting approaches and may be driven by concerns other than ambition raising. In particular, these approaches do not work to create new market demand or enhance the ambition of NDCs. These approaches may also be difficult to reach agreement on through the negotiation of rules for Article 6.

The key opportunities and responsibilities for raising ambition via international markets lie with countries and how they choose to implement their carbon market

policies. The UNFCCC process, in particular its current development of the ruleset for implementing the Paris Agreement, has an essential role in putting in place basic conditions, infrastructure and key safeguards to facilitate countries in making transfers and raising ambition.

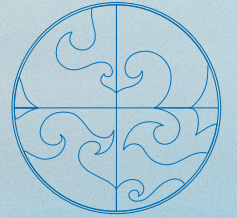
The Article 6 rules for the accounting of transfers, in particular to ensure that no double counting of emission reductions to multiple NDCs occurs, are a crucial element of the basic conditions, infrastructure and safeguards that the UNFCCC can put in place. Further initiatives at the UNFCCC level would also be useful:

- Independent, international oversight to provide assurance of environmental integrity when emission reductions are generated outside the scope of NDCs. This could make use of the Article 6.4 mechanism or at least apply specific standards, systems and/or processes from that mechanism.
- An exclusion of emission reductions generated outside the scope of NDCs from being used towards the achievement of NDCs, unless accompanied by a host country commitment to incorporate these new mitigation activities into subsequent NDCs and, if not already included, emission inventories.
- Guidelines or best practices under work programmes from decision 1/CP.21 regarding the clarity, transparency and understandability of NDCs. These could relate in particular to countries' estimation of BAU emissions and planned mitigation actions and goals, including a clarification of unconditional and conditional NDC components and their expected impacts on emission trajectories over time, as well as some form of peer review among countries to facilitate transparency and help improve the quality of NDCs over time.
- Use of the reporting under Article 13.7 to share information on increased mitigation ambition, including new or strengthened mitigation policies and targets and specific recognition of over-achievement against NDCs, as a means of encouraging greater mitigation effort beyond what is specified in NDCs.

These elements can sit alongside the UNFCCC's key role in gathering political momentum for raising mitigation ambition. The "Talanoa Dialogue", given its immediate timing this year, will be key for countries in providing further clarity on the mitigation aspects of their NDCs, in particular their goals, actions and intentions for receiving support. Countries have an opportunity to renew their goals and BAU emission projections, ensuring they ambitiously reduce emissions, minimize any risk of hot air being present and make real and substantial progress towards the temperature goals set in the Paris Agreement.

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