CLIMATE CHANGE
41/2020

Considerations for Article 6 engagement:

The host country perspective

German Environment Agency

Umwelt Bundesamt

CLIMATE CHANGE 41/2020

Ressortforschungsplan of the Federal Ministry for the

Environment, Nature Conservation and Nuclear Safety

Project No (FKZ) 3715 42 506 0

Report No. FB000309/ENG,ANH

Considerations for Article 6 engagement:

The host country perspective

by

Aki Kachi, Carsten Warnecke, Ritika Tewari, Silke Mooldijk
NewClimate Institute gGmbH, Cologne

With contributions from Jakob Graichen
Oeko-Institut e.V., Freiburg

On behalf of the German Environment Agency

Imprint

Publisher
Umweltbundesamt
Wörlitzer Platz 1
06844 Dessau-Roßlau
Tel: +49 340-2103-0
Fax: +49 340-2103-2285
buergerservice@uba.de
Internet: www.umweltbundesamt.de

/umweltbundesamt.de
/umweltbundesamt

Report performed by:
NewClimate - Institute for Climate Policy and Global Sustainability gGmbH
Clever Straße 13-15
50668 Köln

Report completed in:
April 2020

Edited by:
Section V 2.6 Emissions Reduction Projects - Designated National Authority (CDM)/
Designated Focal Point (JI)
Marcel Kruse

Publication als pdf:
http://www.umweltbundesamt.de/publikationen

ISSN 1862-4359

Dessau-Roßlau, November 2020

Abstract: Considerations for Article 6 engagement: the host country perspective

The Paris Agreement sets out the framework for global efforts to address climate change after 2020. Article 6 of the agreement provides for international cooperation through carbon markets to achieve targets jointly on a voluntary basis. The new context of the Paris Agreement - particularly the universal commitment to regularly make increasingly ambitious contributions towards the global effort - present new challenges for carbon markets, especially for host countries. At the time of writing, the exact guidance, rules, modalities, and procedures for engagement through Article 6 remain the subject of ongoing negotiations. However, the three principles of allowing for higher mitigation ambition, promoting sustainable development, and ensuring environmental integrity are already solidly anchored in the Paris text. This guide proposes a number of considerations which countries hosting emission reduction activities should take into account when engaging in carbon markets under the Paris Agreement. It looks especially at how carbon market engagement relates to other aspects of national climate policy making and the fulfilment of commitments under the Paris regime.

In addition to rationales to engage in Article 6, aspects relevant for the oversight and implementation of Article 6 are explored from the host country perspective. These include evaluating proposals, potential partners, and further suggestions on how to implement projects on the ground. The guide supports decision making for considerations to achieve overall mitigation in global emissions and the choice between engagement through Article 6.4 and Article 6.2, before sketching out interlinkages between Article 6 participation and other obligations under the Paris Agreement. A conclusion then includes a brief outlook for carbon markets.

Kurzbeschreibung: Überlegungen zum Engagement nach Artikel 6: Die Perspektive des Gastlandes

Das Übereinkommen von Paris legt den Rahmen für weltweite Anstrengungen zur Bekämpfung des Klimawandels nach 2020 fest. Artikel 6 des Abkommens ermöglicht freiwillige internationale Zusammenarbeit über Kohlenstoffmärkte zur gemeinsamen Zielerreichung. Der neue Kontext des Pariser Abkommens - insbesondere die universelle Verpflichtung, regelmäßig immer ehrgeizigere Beiträge zu den globalen Anstrengungen zu leisten - stellt die Kohlenstoffmärkte, insbesondere die Gastländer, vor neue Herausforderungen. Bei Erstellung dieses Leitfadens sind die genauen Leitlinien, Regeln, Modalitäten und Verfahren für das Engagement unter Artikel 6 weiterhin Gegenstand laufender Verhandlungen. Die drei Grundsätze, eine immer höhere Ambition bei Minderungsmaßnahmen zu berücksichtigen, eine nachhaltige Entwicklung zu fördern und Umweltintegrität zu gewährleisten, sind jedoch bereits fest im Pariser Text verankert. Dieser Leitfaden schlägt eine Reihe von Überlegungen vor, die Länder, in denen Emissionsminderungsmaßnahmen durchgeführt werden sollen, berücksichtigen sollten, wenn sie sich im Rahmen des Pariser Übereinkommens an Kohlenstoffmärkten beteiligen. Es wird insbesondere betrachtet, wie sich das Engagement im Kohlenstoffmarkt auf andere Aspekte der nationalen Klimapolitik und die Erfüllung von Verpflichtungen im Rahmen des Pariser Regimes auswirkt.

Neben rationalen Überlegungen für die Anwendung von Artikel 6 werden Aspekte betrachtet, die für die Überwachung und Umsetzung von Artikel 6 aus Sicht des Gastlandes relevant sind, einschließlich der Bewertung von Vorschlägen, potenziellen Partnern und weiterer Vorschläge zur Umsetzung von Projekten vor Ort. Der Leitfaden unterstützt die Entscheidungsfindung bezüglich Überlegungen zur Erreichung von globalen Gesamtemissionsminderungen und für die Wahl zwischen einer Nutzung von Artikel 6.4 und Artikel 6.2, bevor Zusammenhänge zwischen der Beteiligung gemäß Artikel 6 und anderen Verpflichtungen im Rahmen des Pariser Übereinkommens skizziert werden. Zum Abschluss wird ein kurzer Ausblick auf die Kohlenstoffmärkte gegeben.

Table of contents

List of figures

List of tables

List of abbreviations

BAT	Best Available Technology
BAU	Business As Usual
BR	Biennial Report
BTR	Biennial Transparency Report
BUR	Biennial Update Report
CDM	Clean Development Mechanism
CMA	Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
DNA	Designated National Authority
EIA	Environmental Impact Assessment
ETS	Emission Trading Scheme
FMPCP	Facilitative, Multilateral Consideration of Progress
FPIC	Free, Prior, and Informed Consent
GHG	Greenhouse Gas
ILO	International Labour Organization
ITL	International Transaction Log
ITMO	Internationally Transferred Mitigation Outcome
JI	Joint Implementation
LTS	Long-Term Strategy
MDB	Multilateral Development Bank
MRV	Monitoring, Reporting, and Verification
NC	National Communication
NDC	Nationally Determined Contribution
ODA	Official Development Assistance
QELRO	Quantified Emission Limitation and Reduction Objective
OMGE	Overall Mitigation in Global Emissions
SDG	Sustainable Development Goal
SOP	Share of Proceeds
TCAF	Transformative Carbon Asset Facility
TER	Technical Expert Review
UNDRIP	United Nations Declaration of the Rights of Indigenous Peoples
UNFCCC	United Nations Framework Convention on Climate Change

Summary

Article 6 of the Paris Agreement provides countries with a framework for cooperation in their efforts to limit climate change, including through the use of internationally transferred mitigation outcomes (ITMOs) towards achieving their Nationally Determined Contributions (NDCs). This includes Article 6.2 which allows Parties to engage in cooperative approaches based on bilateral agreements consistent with guidance adopted by the Conference of the Parties and Article 6.4 which established a mechanism to contribute to the mitigation of greenhouse gas emissions and support sustainable development under the authority and guidance of the Conference of the Parties. Article 6.4 mechanism activities will be supervised by a body designated by the Conference of the Parties. An important difference between Article 6 approaches and market mechanisms under the Kyoto Protocol is that under the Paris Agreement, *all* countries have emission reduction targets in the form of NDCs. These contributions are supposed to reflect countries' highest possible ambition (Article 4.3), and countries are to update and ratchet up the ambition of their contributions at least every five years (Article 4.9). Accordingly, every emission reduction sold and transferred to another country, makes it harder for host countries to meet both their current NDC and future NDCs. Therefore, before engaging in Article 6, a host country should carefully assess its own situation to ensure that the export of an ITMO undermines neither the achievement of the current NDC nor future NDC ambition (NewClimate Institute, 2018).

Although at the time of writing, the exact guidance, rules, modalities, and procedures for engagement through Article 6 remain the subject of ongoing negotiations, host countries should understand their overall rationale for engaging in Article 6 activities prior to any engagement regardless of what the exact rules may be in the end. Reasons to engage in Article 6 include revenue generation, technology transfer, capacity building, financing high-cost measures, and generating sustainable development co-benefits. Engagement also means making corresponding adjustments which will require reductions elsewhere to achieve the host country's NDC. In order to have a solid basis on which to make an informed decision regarding individual projects, countries should ideally have:

1. A recent and accurate GHG inventory;
2. A clearly formulated NDC that can be compared to inventory levels and accounted for;
3. A long-term strategy outlining the country's plan for decarbonisation towards 2050; and
4. The institutional framework for overseeing Article 6 activities.

Despite several years of negotiations, countries have not yet been able to agree on rules for Article 6. Although the general Paris Agreement rulebook was agreed at COP 24 in Katowice in 2018, rules for Article 6 were a notable exception. The 2019 COP 25 Madrid negotiations also concluded with no agreement on rules but refers to draft decision texts to continue discussions in Bonn and Glasgow in 2020. There is also significant uncertainty with regard to a number of issues that will have important influence on future carbon markets including eligibility of pre-2020 emission reduction units particularly with regard to the Clean Development Mechanism (CDM), as well as of the treatment of existing active projects. Further, future demand for Article 6 units is unclear. Both host and acquiring countries should consider these issues when deciding how to engage in Article 6. Despite these uncertainties, ambitious buying countries or voluntary market players may be willing to pay higher prices for emission reduction units that are more likely to ensure environmental integrity, be associated with sustainable development co-benefits, and promote ambition though support to otherwise inaccessible mitigation opportunities. Potential host countries should carefully weigh the potential costs and benefits of engagement to

make sure that Article 6 lives up to its purported goals of ensuring environmental integrity, promoting ambition and sustainable development.

Designing, approving and implementing Article 6 activities should involves a number of different actors from government agencies, the private sector, and civil society. When assessing proposals important aspects to consider include the environmental integrity of the proposed project; whether the project is compatible with current and future climate policy ambition; and how the project contributes to – or undermines – sustainable development goals.

Further, host countries have an important role in overseeing Article 6 activities, including:

1. Compliance **with local, national, and international law**. This includes securing human rights such as the right to information and participation in decision making processes.
2. **Robust and accurate environmental impact assessment** (EIA) is important to inform decision-makers on the possible environmental impacts of a project, thereby helping them determining whether or not to approve the project to proceed.
3. **Consultation of local stakeholders** is important to inform relevant stakeholders about the proposed activity and to learn about potential risks, impacts, opportunities, and mitigation measures the stakeholders identify. Consultation should continue throughout the implementation phase.
4. **Monitoring, Reporting, and Verification of GHG reductions and claimed sustainable development co-benefits**. Whereas under the CDM, the host country had nothing to lose if emission reductions were overestimated, under the Paris Agreement, any over crediting and export of emission reductions makes it harder for the host country to reach its NDC target. Therefore, robust monitoring is in the interest of the host country. Moreover, reported sustainable development co-benefits should be monitored to ensure the activity does indeed promote sustainable development – as required by Article 6.

In addition to considerations related to designing and implementing Article 6 activities, host countries should consider whether they want to implement projects under Article 6.2 or Article 6.4. Whereas Article 6.2 provides for decentralised cooperative approaches between countries, Article 6.4 establishes a mechanism overseen by an international supervisory body. Thus, when making use of Article 6.2, countries need to establish a bilateral contract, including rules to avoid double claiming and double counting. This cooperative approach offers potentially more flexibility to countries but is likely to be less transparent than activities under Article 6.4. The main advantage of using Article 6.4 is that credits generated are internationally recognised and rules regarding methodologies are likely more detailed and pre-approved through the UNFCCC.

Furthermore, host countries must comply with obligations laid down by the Paris Agreement, including Biennial Transparency Reports (BTR), the Global Stocktake, and GHG inventories. NDC outcomes will be assessed by a Technical Expert Review (TER). While methodologies to assess economy wide NDCs with absolute reduction targets are well established, this is not the case for other types of mitigation commitments (e.g. intensity targets or relative mitigation commitments compared to a Business As Usual scenario). Accordingly, for other types of mitigation commitments consistent accounting and comparing different NDC outcomes as well as required adjustments for Article 6 use is likely to be challenging.

Moreover, in the absence of detailed guidelines for the trade in emission reduction units/ITMOs, it is unclear whether or not information that host countries provide to TER teams will be sufficient to demonstrate achievement of targets when taking ITMO transfers into account. Whether a country has reached or overachieved its mitigation goals can only be determined after NDC outcomes, including a GHG inventory for the target year, have been reviewed. There are

currently no rules on the validity of sold ITMOs if the transferring country does not meet its own NDC target.

1 Introduction

The overall ambition of the United Nations Framework Convention on Climate Change (UNFCCC) is the 'stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system' (UNFCCC, 2015). Parties to the Paris Agreement have expanded on this objective by committing to "holding the increase in the global average temperature to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels" (UNFCCC, 2015). Article 6 of the Paris Agreement provides a framework for countries to voluntarily cooperate in their efforts to address climate change. Article 6.1 introduces the overall purpose of the cooperation: to allow for higher mitigation and adaptation ambition and to promote sustainable development and environmental integrity. Article 6.2 on cooperative approaches provides for the transfer of 'internationally transferred mitigation obligations' (ITMOs) for raising (mitigation) ambition and sustainable development. Article 6.4 establishes a multilateral mechanism under the supervision of the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA). This mechanism is likely to resemble the Clean Development Mechanism (CDM) and Joint Implementation (JI) of the Kyoto Protocol. Article 6.8 provides a framework for non-market approaches, such as technology transfers, capacity building and finance provision.

Considering the ambition reference in Article 6.1, international transfers under the Paris Agreement should not only count towards the achievement of Nationally Determined Contributions (NDCs), but also set incentives and build capacity to support increased NDC ambition. Although the exact rules governing Article 6 remain unclear, one important element is that all countries under the Paris Agreement must contribute – and ratchet up their contributions in the future. Because such contributions cannot be counted towards two (or more) countries' efforts, ambitious host countries will have to carefully consider the kind of mitigation outcomes they will approve for export and under what circumstances.

This guide proposes a number of considerations for countries to explore in their deliberations on engagement with Article 6. They can use it as a basis for approaching key questions and decision-making steps regarding participation in Article 6 activities even as negotiations on the details continue in the UNFCCC. This study explores these considerations within the context of the agreed objectives of Article 6 – allowing for higher mitigation ambition, promoting sustainable development and ensuring environmental integrity. These considerations are of particular relevance for policy makers from countries interested in hosting activities under Article 6, as well as other carbon market stakeholders.

The guide first explores potential rationales to engage in Article 6 of the Paris Agreement. It then discusses potential elements that host countries can use to gauge their readiness to engage. A number of further aspects relevant for the oversight and implementation of Article 6 are then explored from the host country perspective including evaluating proposals, potential partners, and further suggestions on how to implement projects on the ground. The document further explores considerations such as potential export criteria, a possible overall mitigation in global emissions, and choosing between engagement through Article 6.4 and Article 6.2 – before sketching out interlinkages between Article 6 participation and other obligations under the Paris Agreement.

2 Considerations for Article 6 engagement

Although any country can host projects under Article 6, for developing countries interested in hosting Article 6 activities, the main reference point for Article 6 will likely be the CDM from the Kyoto Protocol. While some elements of transferring mitigation outcomes under Article 6 may build on carbon markets of the past, the Paris Agreement represents a fundamental context change in comparison to the Kyoto Protocol.

For developing countries, participating in the CDM was generally a win-win situation. Hosting a CDM project ideally meant generating revenues from selling emission reduction units, as well as some form of transfer of technology, capacity, know-how and practices into the country, and ideally other co-benefits, such as improved air quality and employment. Unless the host country had to bear some part of the project risk, it had little to lose. On the whole, the CDM focussed on the low-hanging fruit: the most successful project types in terms of emission reduction units generated were low-cost emission reductions - initially mostly from large point sources, and later from projects like wind power where technology and cost trends changed rapidly.

Although the CDM serves as the main reference point in terms of experience with market mechanisms for developing countries, the Kyoto Protocol's JI is likely a better point of reference for understanding Article 6 transfers under the Paris Agreement. JI represented a project-based transfer between two countries with 'Quantified Emission Limitation and Reduction Objective' (QELRO) targets under the Kyoto Protocol, so-called Annex I countries. Emission reductions resulting from JI projects could not both be transferred and counted towards the QELRO targets of the country hosting the project.

While under the Kyoto Protocol, only Annex I countries had emission reduction or limitation targets, under the Paris Agreement, *all* Parties have to contribute to the global climate effort in the form of an NDC. These contributions are supposed to reflect countries' highest possible ambition (Article 4.3) and to be updated to be more ambitious at least every five years (Article 4.9). The IPCC finds that 'model pathways with no or limited overshoot of 1.5°C, global net anthropogenic CO_2 emissions decline by about 45% from 2010 levels by 2030, reaching net zero around 2050' (IPCC, 2018b). While many aspects of the Article 6 mechanisms are still under development, the Paris Agreement is very clear that double counting is not permitted: if a host country sells emission reductions internationally, it cannot use that emission reduction towards achieving its own NDC. This is outlined in Article 6.2 with regard to the ITMOs: 'Parties (...) shall apply robust accounting to ensure, inter alia, the avoidance of double counting' and in Article 6.5 with regard to the Article 6.4 mechanism: 'Emission reductions resulting from the mechanism referred to in paragraph 4 of this Article 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'. Article 4.13 calls for Parties to 'promote environmental integrity, transparency, accuracy, completeness, comparability and consistency, and ensure the avoidance of double counting, in accordance with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement' (UNFCCC, 2015).

The requirement to avoid double counting means that a county must always weigh the potential benefit of transferring an emission reduction unit against the option of using that reduction for the country's own ambitious efforts to reduce emissions as part of its NDC or future ratcheted NDCs. In other words, with every emission reduction sold, host countries will theoretically find it harder to meet both their current NDC and future NDCs. Therefore, before engaging in Article 6, a host country should carefully assess its own situation to ensure that the export of an ITMO is in its national interest and undermines neither achievement of the current NDC, nor future NDC ambition. In all cases, it is preferable for the host country to find alternative sources of

(non-Article 6) finance for emission reduction activities, and thereby avoid exporting emission reductions to instead count them towards their own commitments.

Indeed, it is in countries' best interest to prioritise meeting their own NDC targets before looking to sell mitigation options, which may endanger the achievement of its NDC. The first avenue of international support for NDC implementation that a country cannot achieve on its own should generally be international climate finance. This can come from a number of bilateral sources, the Green Climate Fund, the Nationally Appropriate Mitigation Actions Facility, the Nationally Determined Contribution Facility, the Global Environment Facility, and many others. If low-cost mitigation options still exist after reaching the NDC target, the county may have room to ratchet its NDC to make sure that it reflects the 'highest ambition possible' principle in Article 4.3. Thus, any cheap and accessible mitigation options should be used for national purposes. Before engaging in Article 6 therefore, host countries should consider the array of mitigation opportunities that they achieve themselves for their own targets and ambition.

2.1 Potential roles and benefits for Article 6

Host countries may have several reasons to engage in international market mechanisms if alternative sources of finance, for example international climate finance are not available. These include revenue generation and any potential sustainable development co-benefits that projects might bring. Further reasons for a potential host country to engage in Article 6, however, are technology transfer and capacity building, which support countries in bringing about novel higher cost mitigation measures.

Revenue generation: Article 6 cooperation can potentially boost the local economy of host countries as a vehicle for foreign investment into the country for emission reducing interventions. Based on previous experience, however, depending on Article 6 for revenue generation is associated with various risks notably associated with unpredictable revenue streams due to market volatility and changes in demand.

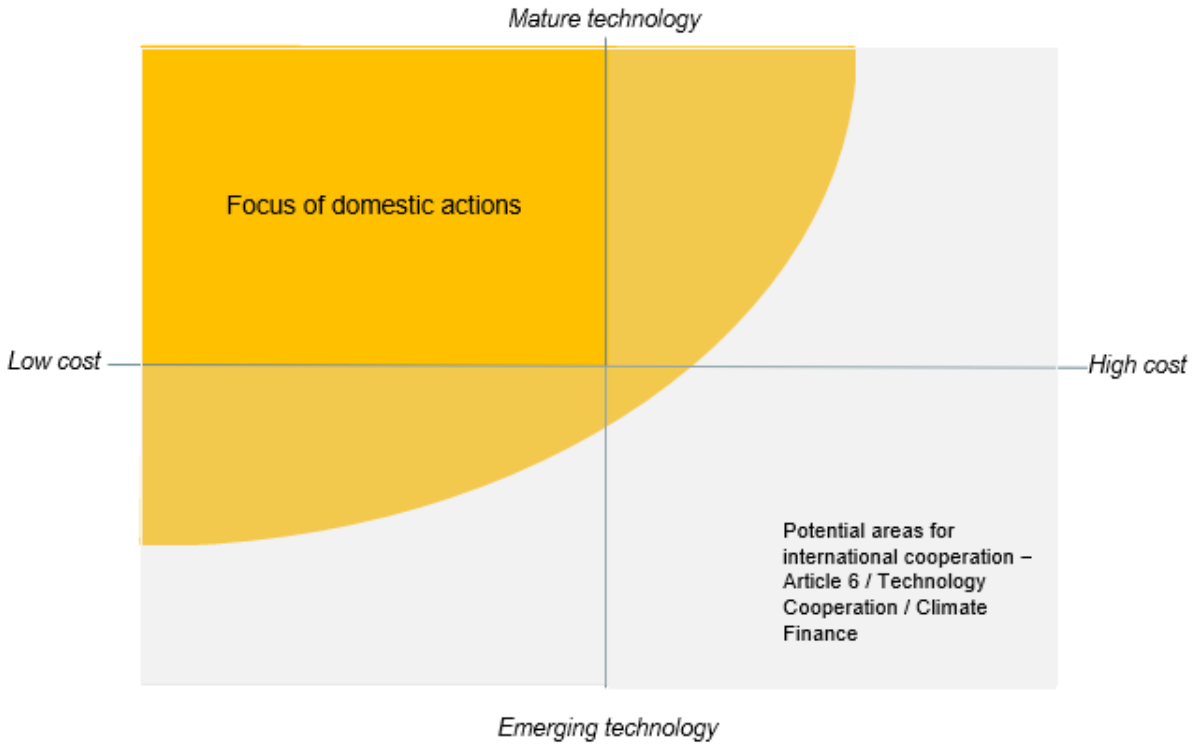
Sustainable development co-benefits: Many climate change mitigation measures are associated with sustainable development co-benefits, such as lower air pollution, increased energy security, and job creation, which may also provide an incentive to develop a given project. At the same time, these benefits would also be realised if the same measures were taken without the transfer of emissions, for example through domestic policy.

Technology transfer, capacity building or financing for higher cost mitigation measures: Article 6 could be used to kick-start and move otherwise inaccessible technologies towards mainstream adoption and include them in domestic efforts for more ambition.

Host countries will have an interest in the use and implementation of globally best available technologies (BAT) through Article 6 in order to facilitate a leapfrogging to the global forefront of technology in that sector. NewClimate Institute (2018) identified potential options to mitigate emissions along two axes: costs and technology maturity (Figure 1). Mature low-cost technologies – in the upper left corner – are those that a country should be able to address with its own resources. International cooperation through climate finance or Article 6 can then be used to introduce otherwise 'inaccessible' technologies that are emerging and/or which have high costs (to the bottom/right). Technologies that fall in the high-cost, mature technologies and low-cost, emerging technologies quadrants, are harder to classify as 'inaccessibile' because their market maturity in a specific country may encounter barriers beyond or in addition to technology maturity and costs.

Host countries should be careful to use Article 6 only to support emission reduction activities from currently inaccessible technologies.

Figure 1: Two-dimensional technology mapping related to Article 6



(Source: NewClimate Institute, 2018)

To avoid exporting emission reductions that a host country needs to fulfil its own ambitious contribution toward global GHG mitigation, host countries may limit use of Article 6 to support technologies that are 'inaccessible'. However, once the adoption of the technology in the country begins to mature and is no longer "inaccessible", it is in a country's best interest to enact domestic support policies to reduce emissions without further international support through Article 6.

2.2 Outlook on the potential use of Article 6

Around half of all countries mention the use of international carbon markets in their intended NDCs; but these were submitted prior to COP 21 in Paris, so when developing, countries did not know the Paris Agreement's ambition level, the rules, or the implications of using Article 6. Indeed, many intended NDCs referred to the CDM situation where countries selling emission reduction units had nothing to lose. However, for the next round of NDCs, countries know that they should collectively limit global temperature increase to 1.5°C from pre-industrial levels, which requires net-zero emissions around 2050 (IPCC, 2018a). This knowledge should influence country's willingness to acquire or transfer ITMOs and is likely to result in reduced potential ITMO supply than in the first round of NDCs indicated.

Based on current NDCs and likely revisions, most major emitting countries are not likely to represent large sources of demand. The Chinese NDC does not signal that it will acquire units, and China is likely to overachieve its NDC domestically (Climate Action Tracker, 2019) . The European Union, which was responsible for the major share of demand for emission reduction credits under the Kyoto Protocol, intended to achieve its NDC through domestic action alone, i.e.

without the use of international carbon markets. The EU 2050 long-term strategy equally does not mention international offsets (European Commission, 2018). There may however be new debates in the context of the implementation of the New Green Deal announced recently by the EU. The US did not foresee the use of international mechanisms to meet the target and has announced its intention to leave the Paris Agreement. Japan is the only Party out of the group of Annex I countries with a substantial demand for emission reduction units generated under Article 6 set out in its NDC. Some other Parties such as New Zealand, Liechtenstein, and Switzerland also intend to or might use the provision as a buyer but represent in aggregate only a very limited absolute demand. Other countries such as Norway and Sweden have set targets for carbon neutrality that include use of international offsets but are not among the world's largest emitters and are also taking measures to significantly reduce emissions domestically. There have also been some changes in country's policies since the formulation of their NDC's. For instance, the New Zealand Environment Minister Shaw was quoted as saying that 'countries should prioritise domestic emissions reductions over international credits' (Kouchakji, 2018). This suggests that New Zealand may acquire fewer ITMOs than it might have under previous governments.

Additional demand for credits may come from the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) and the voluntary market. Estimated demand coming from CORSIA ranges from 1.6 to 3.7 Gt in the period 2021 to 2035 (Healy, 2017), but it is unclear whether CORSIA will use existing CDM credits, private standard units, Article 6 units, cap-and-trade allowances, all of the above or some mix of these. Warnecke et al. (2019) have, however, shown that the supply potential from the CDM for the period 2013–2020 from already implemented projects alone is able to meet the CORSIA demand for the complete duration of the scheme. The bulk of the CORSIA demand is likely to come after 2027 as the first two phases from 2021-2023 and from 2024-2026 are voluntary and participation is uncertain.

In addition to uncertainty on the exact rules governing markets going forward, there is significant uncertainty with regard to the outlook on the use of international carbon markets and the potential demand for units generated under Article 6. Potential host countries should therefore be conservative in their expectations and weigh opportunities and benefits carefully against the risks.

3 Readiness elements for Article 6

The next question to address before engaging in Article 6 is whether a country is ready to do so. In this section we discuss different aspects that constitute readiness building blocks to engage in international carbon markets. These building blocks build an important foundation to be able to demonstrate NDC achievement both for the host country itself, as well as for UNFCCC transparency and compliance purposes, and represent international best practice. They include:

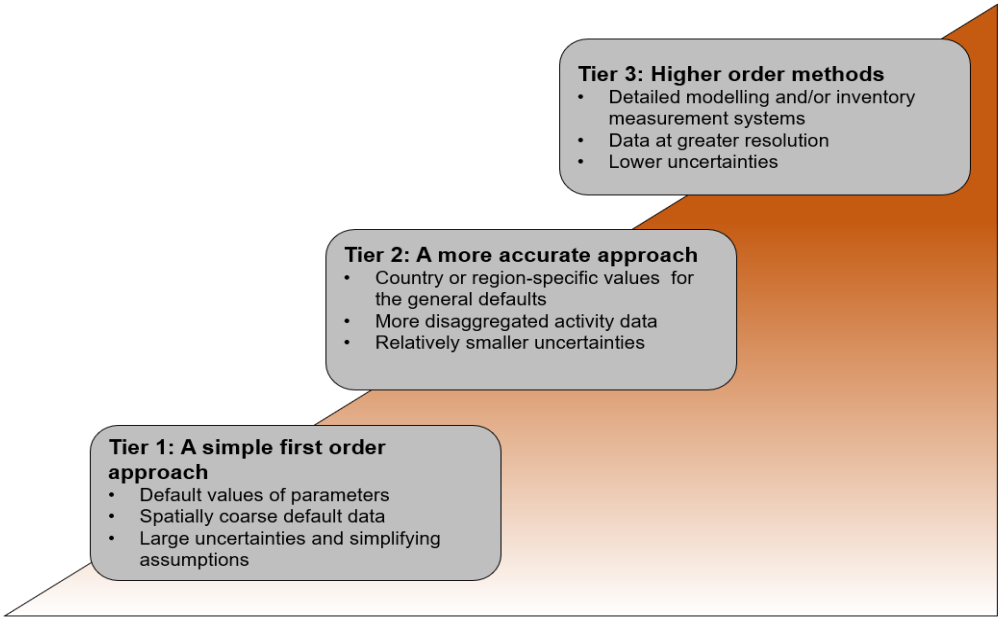
- A granular national greenhouse gas (GHG) inventory;
- A quantified NDC target;
- Long-term climate strategy and national development goals; and
- A clear institutional framework for markets and a registry.

3.1 National GHG inventory

A national GHG inventory plays a key role in understanding the current status of emitting sectors in a country, identifying trends that can aid in baseline determination, and tracking progress towards NDC achievement.

With sufficient accuracy and detail, an inventory can help identify relevant sectors and sources where policy makers can take action. The better the quality and the higher the granularity of the inventory, the more useful an inventory will be to accurately understand not only of the current situation, but also to project future trends, especially when the exercise is repeated over a number of years. Higher methodological tiers can provide insights into the parameters that affect the emission levels in each sub-sector as set out in Figure 2. Preparing and updating the national inventory on a regular basis generates knowledge and capacities, which will also be useful for participation in international market mechanisms. Specifically, a series of successive inventories can help identify future trends to help guide the determination of emission baselines in different sectors as well as highlight potential priority areas for further policy action and best practices.

Figure 2: GHG Inventory Methodological Tiers adapted from Eggleston *et al.* (2006)



The preparation of clear, robust, granular inventories covering all six Kyoto GHGs, prepared according to the IPCC's most recent guidelines, constitutes a central pillar of the transparency framework under Article 13 of the Paris Agreement, which is needed to track NDC achievement. Further, Decision 18/CMA.1 para. 77 d (i) calls for Parties engaging in cooperative approaches that involve the use of ITMOs to report 'the annual level of anthropogenic emissions by sources and removals by sinks covered by the NDC on an annual basis reported biennially' (UNFCCC, 2018).

3.2 NDC target and accounting

Another essential building block for Article 6 is a clear NDC target that can be compared to inventory levels and be accounted for[1]. The original NDC formulation process conducted before the Paris Agreement allowed for a wide variety of targets, leading to differences between NDCs in target type (i.e. GHG-based target, non-GHG target, actions-based target, or combinations thereof), coverage of sectors and GHGs (i.e. economy-wide coverage, or focussed on specific sectors), the target year (i.e. up to 2025 or 2030) or target period (i.e. a single target year, or multiple years), and methodologies to estimate targets.

The variety of NDC formulations creates accounting difficulties for engagement in Article 6, especially if the seller and buyer have very different NDCs and different metrics (Barata and Kachi, 2016; Hood and Soo, 2017). Accounting for transfers across dissimilar NDCs presents a number of challenges, requires multiple assumptions that may or may not support climate change mitigation, and entails important risks for environmental integrity. To ensure robust accounting and environmental integrity, the COP24 decision text calls for 'corresponding adjustment by Parties for both anthropogenic emissions by sources and removals by sinks covered by their nationally determined contributions' (UNFCCC, 2015).

Corresponding adjustments have been described as the Paris Agreement's an equivalent to double entry bookkeeping for Article 6 where 'the country selling emission reductions makes an addition to its emission level, and the country acquiring the emission reductions makes a subtraction. Both countries prepare an emissions balance in which the country's target level is compared with its emissions, adjusted for any international transfers of emission reductions' (Winkler *et al.*, 2018; Schneider *et al.*, 2019).

Because CDM projects were developed in countries and sectors not covered by GHG emission targets no corresponding adjustments were required. This was different for JI where host countries had their own targets under the Kyoto Protocol and had to cancel Assigned Amount Units for JI units generated. Since the Paris Agreement calls for *all* countries to move towards economy-wide emission reduction or limitation targets over time (Article 4.4), targets should expand to cover all emission reduction opportunities ultimately leaving none uncovered. Allowing for crediting from outside the scope of an NDC in the interim would give countries a perverse incentive to not further expand their NDCs in the future. This would represent a real challenge to ensuring the environmental integrity of Article 6.

A host country only has an incentive to ensure the environmental integrity of any transferred units if they originate from within the scope of its NDC and if its NDC represents a sizeable reduction from a robust BAU scenario (Schneider *et al.*, 2017). This incentive comes from the fact that for every ITMO transfer made – and therefore every corresponding adjustment – a host country must increase its domestic efforts to reduce emissions elsewhere. If a country's NDC target is not significantly more stringent than a BAU emissions projection, or transfers were to

[1] See further discussion in section 4.3 Reconciling Article 6 participation with other Paris Agreement obligations.

come from outside the scope of the target, countries could transfer units that would not represent an actual reduction and still achieve their targets with no change in the effort required. Without an incentive to ensure quality, host countries might find themselves in a situation where they are criticized for selling 'hot air', which would lead to a global increase of GHG emissions. The assumptions, baselines, and approaches used to set the NDC are crucial elements to assess the level of ambition and need to be explained transparently in the communication of the NDC. Other complications arise from differences between target years, used methodologies, and global warming potentials[2]. From the host country perspective, setting unambitious NDC targets or crediting from outside the scope of an NDC may be financially attractive but comes at the cost of undermining principles of Articles 2 (pursuing efforts to limited temperature increase to 1.5˚C), 3 (ambitious NDCs, progressing over time) , and 4 (peaking and rapid reductions towards a balance of GHG emissions and sinks) of the Paris Agreement.

Moving towards economy-wide targets and global harmonisation of NDC formulations would greatly facilitate robust accounting and better allow for the functioning of Article 6. When this is not the case, any transfer might be limited to countries with compatible conditions in terms of NDC targets, inventories, and Monitoring, Reporting and Verification (MRV) procedures. Such limitations may come from provisions adopted by the UNFCCC or through requirements from buyers who seek to cooperate with countries that they deem to have sufficiently similar targets.

3.3 Long-term climate strategy

According to the IPCC, model pathways with no or limited overshoot of 1.5°C call for unprecedented systems' transitions to bring about deep emissions reductions in all sectors. (IPCC, 2018b). In addition to NDCs, countries are encouraged to formulate and communicate long-term strategies (LTS) mindful of the temperature limit (Article 4.19). The COP has invited Parties to submit their LTS by 2020 (UNFCCC, 2015). For potential transferring countries, the development of an LTS is important to chart sectoral decarbonisation pathways to net-zero on the way to net-negative emissions and inform future NDC updates (NewClimate Institute, forthcoming). As such, these strategies have an important role to play in short-term policy and investment planning (Roeser, 2018). Strategies can play a key role in sketching out emitting sectors that countries can address through domestic action as per ratcheted NDCs, as well as to highlight inaccessible sectors and technologies where countries could benefit from international support, for example, through Article 6.

3.4 Institutional framework and registry

Further, countries will need to establish some kind of institutional framework to oversee Article 6 activities. Previous experience with the CDM, JI, or other mechanisms may help form a basis for Article 6 readiness but will likely not necessarily be sufficient for Article 6.

The ability to trade mitigation outcomes introduces flexibility for acquiring countries, but also an element of complication in the demonstration of NDC achievement, particularly for host countries. For countries that do not participate in markets, depending on the how the NDC target is expressed, the comparison of inventory levels with NDC targets to see whether an NDC target has been achieved is potentially relatively easy. In contrast, for countries that engage in Article 6 a more elaborate institutional framework and capacity will be required to be able to evaluate and approve / reject proposals, keep track of how many emission reductions have been transferred in a registry, and to reconcile transfers with the inventory and NDC target in order to demonstrate NDC achievement.

[2] For a discussion of these issues see Schneider, Füssler, *et al.* (2017).

An important function of a host country's institutional framework under Article 6 will be the ability to manage, organise, and deliberate between a large number of stakeholders and government bodies that are responsible for various aspects of Article 6 participation and NDC achievement. These would include at least the following set of stakeholders:

1. Agencies responsible for oversight and coordination of NDC implementation. If a coordination body does not exist yet, interactions with key ministries will be needed to arrive at a better understanding of sectoral activities planned towards the NDC, priorities for types of activities, and where support is needed.
2. Agencies coordinating submissions to the UNFCCC processes such as Biennial Transparency Reports[3] (BTRs) and the Global Stocktake, to ensure transparent reporting and stocktaking;
3. Finance ministries and agencies responsible for coordination of climate finance and Official Development Assistance (ODA) to check against overlaps;
4. Expert groups that can provide concrete technical inputs. These could include universities, industry, and civil society;
5. Actors/entities potentially affected by the intervention, including local populations; and
6. Civil society groups and indigenous peoples with various interests.

Especially for non-Annex I countries, the role of the Designated National Authority (DNA) will go far beyond issuing a host country letter of approval and will importantly entail reconciling sold (and possibly acquired) units with inventories to gauge NDC achievement. Since under the CDM this was not necessary, this is a key change from the Kyoto to the Paris regime.

The exact modalities and procedures that will govern Article 6 are still to be further elaborated and adopted; the points below may therefore not be comprehensive. In addition to the national GHG inventory discussed above, this implies a new role for DNAs and a registry or transaction log.

Designated National Authority 2.0

Parties to the Kyoto Protocol established a DNA to issue letters of approval for CDM and/or JI projects. CDM host countries issued approval letters to allow project development and unit transfers from their territories. The Paris Agreement also requires authorisation from the participating Parties. A critical future government function in countries interested in participating in Article 6 is the ability to evaluate and decide on project proposals and to elaborate comprehensive bookkeeping of ITMO transfers to prevent double counting. It is critical for the host country's own NDC achievement as well as for future increases in ambition that DNAs, or their equivalent under the Paris Agreement, make sure that the mechanisms only address mitigation opportunities that cannot be addressed domestically. The DNA is thus a guardian of a host country's ability to achieve its NDC and plays a much more important role compared to the situation under the Kyoto Protocol.

[3] Under the enhanced transparency framework of the Paris Agreement, the last Biennial Reports of developed countries should be submitted by 1 January 2022, the final Biennial Update Reports of developing countries should be submitted by 31 December 2024. Afterwards, all countries are to submit Biennial Transparency Reports. For more information, see: https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-paris-agreement/reporting-and-review-under-the-paris-agreement

Registry

Tracking mitigation outcomes in a registry is necessary to comply with the requirements for robust accounting and avoidance of double counting. If a country transfers a unit to another party, the transferring country will not be able to use the same reduction unit towards its own NDC. It will be necessary for both parties involved to track the units to ensure robust accounting, i.e. to be able to compare the quantity of units used by the buyer with the quantity of units deducted by the seller. It is still unclear if there will be an International Transaction Log (ITL) under the Paris Agreement, to serve as an international registry as there was under the Kyoto Protocol. In the absence of such international registry infrastructure, national accounting becomes all the more important.

4 Overseeing and implementing Article 6

4.1 Identification of mitigation opportunities

Based on the considerations above a country should only use Article 6 for inaccessible, carefully selected mitigation opportunities. The country will therefore need the capacities and resources to evaluate options and identify suitable opportunities. Proposals for activities are likely to come from the bottom up, where the innovative capacities of the private sector including companies, academia or civil society may play a useful role.

Ideally, such proposals would make use of innovative ideas to target emission sources that are otherwise particularly hard to address due to, for example, significant barriers preventing implementation through domestic action. Such emission sources may already be highlighted during the development of the LTS, the NDC, and other relevant documents such as national climate programmes or sectoral action plans. It may, however, not be immediately clear how best to address such sources, which is potentially where the private sector can play a role. This work could be complemented with studies, stakeholder processes, and other assessments.

4.2 Evaluating proposals

Because of the breadth and diversity of options to reduce emissions, ideas may come from a number of different sources, including various government line ministries / agencies, private sector actors, civil society, academia, or international partners. These actors may help identify new ways to address barriers to mitigation action. Proposals may emerge on the basis of an existing methodology that has already been demonstrated elsewhere, or out of a new approach to reduce emissions. Most (or all) existing compliance and voluntary standards provide the option for interested parties to propose new methodologies. Specific project proposals, whether they rely on an existing methodology or not, will require further evaluation with regard to the specific circumstances of the project.

Based on the various proposals, the responsible institution will have to evaluate and come to a decision regarding whether to approve the project or not. During such an evaluation process, there are several aspects to consider. Environmental integrity is a fundamental consideration in that the use of the mechanism must not lead to a situation with higher emissions, than would otherwise occur. Further considerations in evaluating proposals include determining if the activity is compatible with the country's decarbonisation pathway, if the country could achieve the same result without the transfer of the mitigation outcome to others, if the project upholds human rights including local and international laws, the extent to which it is compatible with current and future climate policy ambition, and whether or not it is associated with sustainable development co-benefits. These considerations are discussed in the following subsections.

In the following a number of considerations are discussed that a project should meet in order to be given approval. An overall checklist is provided in Table 1 in Section 4.2.5.

4.2.1 Environmental integrity

Environmental integrity is a basic tenet of Article 6 but is not yet clearly defined in the Paris Agreement. Ensuring environmental integrity requires that mitigation outcomes must fulfil a number of criteria. Many of these criteria are likely to be developed at the international level through rules, modalities, and procedures for Article 6.4, and possibly to a certain extent under guidance for Article 6.2. A potential host country, however, would be well advised to also form its own opinion on a number of environmental integrity issues in their evaluation of proposals.

Especially if international criteria for cooperative approaches under Article 6.2 are less clear, much more capacity on behalf of both the host and acquiring country governments will be required to ensure that their cooperation does not undermine environmental integrity and the Paris Agreement.

Different jurisdictions have defined various criteria to take into consideration when evaluating environmental integrity. These criteria almost always include demonstration that a project or activity is additional, based on a realistic baseline, accurately measured and reported, independently verified, avoids double counting, is permanent and does not result in the leakage of emissions (Offset Quality Initiative, 2008; ICAO, 2017; ICROA, 2018). These criteria are further discussed below:

1. A mitigation activity that is **additional** would not have taken place in the absence of the incentives and support provided by the mechanism.
2. Reductions accredited to the mitigation activity are **based on a reduction from a realistic and conservative baseline** and avoid exporting an overestimation of mitigation outcomes.
3. Accurate **measurement and reporting** according to established best practice standards should enhance transparency for public scrutiny.
4. Measured and reported mitigation outcomes should be independently **verified** through an accredited third party without conflicts of interest.
5. Claims to the use of the mitigation outcomes should be unique and are not used towards multiple targets or uses in order to **avoid double counting**.
6. Project activities are **permanent and not at risk of reversal** where emissions are rereleased into the atmosphere at a later point of time.
7. Project activities should **not cause leakage** or a displacement of emissions elsewhere.

Among these criteria, the determination of **additionality and baseline setting** are particularly challenging. Under the Paris Agreement, the baseline must take into account what trends may develop in the sector in general due to technological progression or behavioural change, what the government is likely to do in the future, as well as what else international donors may do through international climate finance or overseas development assistance. A conservative baseline estimation approach would be to assume successful implementation of policy measures and international initiatives.

It is important that the ability to credit emission reduction activities does not provide a perverse incentive against implementing ambitious climate policies (E-) or a perverse incentive to implement policies that lead to an increase in emissions (E+) in a certain sector, on the national, regional or local level. Therefore, careful proposal evaluation and selection of potential market interventions to avoid such perverse incentives is essential.

Conservative baselines that account for future policy action can result in emission reductions to the benefit of the host country in addition to any exported ITMOs. This is in the interest of the host country but is not shared by project developers who have an incentive to overestimate reductions by using less conservative baselines.

Both host countries' efforts towards their NDCs and environmental integrity in general would benefit from shorter crediting periods because longer crediting periods increase uncertainty of assumptions for baselines. A review of crediting periods every five years in line with NDC ambition cycles and sectoral trends would provide a useful interval for a regular review cycle.

Benchmarks can help objectively define baselines below the NDC levels in post-Paris carbon markets. A benchmark is derived by dividing a 'climate impact' indicator for a certain activity (e.g. energy used, emissions generated) with an indicator of the 'function' provided by this activity (e.g. the production of certain goods, or provision of a service).

A frequently cited benchmark is the 'grid emission factor', which represents the average emissions generated by each unit of electricity provided by a power system. They have been used to define the baseline emissions from activities that lead to avoidance of grid power use. Benchmarks can also be derived for other sectors. For instance, in the building sector, benchmarks set as energy performance standards in a country's regulation can be used as a benchmark for energy use in individual buildings in the baseline. For Article 6 activities, benchmarks should be set at a level that is better than the average sectoral performance, to provide conservative baseline levels, and be revised over time.

For sectors where it is common practice and/or relatively easy in terms of effort and data to derive benchmarks (e.g. in the case of the electricity sector); or where sectoral benchmarking makes sense from a policy context (e.g. buildings), setting benchmark-based baselines can be a useful approach to calculate emission reductions. Sectoral benchmarking based on sectoral policies, can play an important role in showing how Article 6 activities go beyond domestic efforts towards achieving the NDC. For instance, in the Colombian building sector, the Resolution 0549's Sustainable Construction Guide sets out the mandatory minimum building energy performance requirements (kWh/m^2/annum) for new housing in different categories (except for social housing) (Minvivienda, 2015). These benchmarks are part of Colombia's NDC implementation plan for reducing emissions from the housing sector. Benchmarks that go beyond domestic regulations (where they exist and are appropriately defined), and/or explicit sectoral targets set for the NDC (e.g. renewable energy targets), can serve as useful baselines for mitigation activities.

The complexity of setting benchmarks is a critical element and the largest constraint in their widespread application. Benchmarking is a data-intensive exercise and requires a detailed understanding of the sector under assessment. Depending on the sector, benchmarking can require significant upfront financial, technical, and human resources. Among others, the cost and feasibility of defining benchmarks also depend on the extent to which different entities within the sector are similar enough to be clubbed together. While it is typical to aggregate activities that generate similar products, more heterogeneous goods and services will by definition vary more widely in terms their fuel mix, process emissions, and efficiency of manufacturing equipment (e.g. plant age). Where activities in a sector have a large variation in their environmental impact, developing benchmarks becomes technically and economically challenging. Benchmarks are mostly context specific. But for certain technologies and sectors, global benchmarks or best available technologies can play a useful role in setting baseline benchmarks for specific activities (Füssler *et al.*, 2019).

Article 6 governing agencies will need to have a detailed understanding of sectoral NDC implementation plans for evaluating the conservativeness of baselines in Article 6 proposals.

4.2.2 Paris alignment

Article 2.1c of the Paris Agreement calls for making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development. Carbon finance is a type of financial flow and it is important to ensure that mitigation actions are in line with a decarbonisation scenario. Investments in mitigation actions should neither lead to future fossil fuel lock-in, nor potential future stranded assets. Although some technologies may reduce emissions,

any project or activity that includes continued reliance on fossil fuels will lock-in future emissions and may be at risk of becoming a stranded asset in the near future as the country moves towards decarbonisation. The objectives of the Paris Agreement require rapid decarbonisation, which must lead to a sharp decline in the emissions of an economy. Mitigation actions that lead to some efficiency increases and emission reduction but still lock-in emissions over their lifetime, are not compatible with decarbonisation pathways consistent with the 1.5 – 2 °C target and are therefore themselves not Paris compatible. The building sector serves as good example since new buildings have very long lifetimes of e.g. 50-100 years. A building that is built today and reduces its emissions by e.g. 50% compared to BAU still directly or indirectly emits significant amounts of GHGs over a very long timeline. Compared to this, in a Paris compatible scenario, the building sector's emissions as a whole must be below 50% of today's emissions in 10 or 20 years calling for vast improvements in newly built buildings and rapid retrofitting efforts. In this scenario, investments in new buildings that do not target a zero emissions balance will inevitably become a barrier to achieving the Paris Agreement's temperature goal over time.

4.2.3 Inaccessibility and lack of alternative support

The more ambitious a current NDC and future NDCs are, the more the host country needs its own mitigation opportunities to reach its goals. Conversely, unambitious targets mean lots of opportunities to transfer mitigation outcomes. A number of countries, especially economies in transition, had large surpluses in their emission budgets in the first commitment period of the Kyoto Protocol - this colloquially came to be known as 'hot air' as these budgets did not require mitigation or reduction efforts to meet countries' emission targets. The practical ability of a country to be ambitious is, however, limited by its resources.

When faced with proposals for emission reduction activities, it is important that responsible government authorities impartially identify the sectors and types of activities that need international support and determine how much of that support can be through Official Development Assistance (ODA), climate finance, or Article 6. In this regard, we also suggest some safeguards that may support a policy maker's decision making. If a proposed activity falls within the scope of government action (or possible future government action) to contribute towards an NDC, it is important that there is a clear understanding of how the proposed activity goes beyond not only what the host country government would do to achieve the NDC – but also that it goes beyond what the government would do under the most ambitious realistic NDC scenario given domestic resources. GHG abatement options that are otherwise inaccessible based on cost, technology maturity, or other barriers and that promote a transformational change in the sector may represent an option for a host country if other sources of finance or support cannot be found.

4.2.4 Sustainable development priorities and human rights

Article 6 makes repeated references regarding the promotion of sustainable development. Article 6.1 requires any international cooperation towards the implementation of NDCs 'to promote sustainable development'. Articles 6.2 and 6.4 also reiterate this requirement. Promoting sustainable development is, therefore, a key objective of future market mechanisms. Indeed, Decision 18/CMA.1 para. 77 d (iv) calls for countries engaging in cooperative approaches to provide 'information on how each cooperative approach promotes sustainable development' (UNFCCC, 2018).

Previous experience with carbon markets and sustainable development has been ambiguous. CDM project claims on supporting sustainable development priorities of host countries were sometimes unsubstantial because of a range of challenges – difficulties in operationalising what sustainable development meant for countries, unspecific requirements for identifying and

reporting benefits and risks, little monitoring of claimed sustainable development benefits, and no ex-post checks to verify claims. Moreover, negative impacts of CDM projects, including human rights infractions, have been reported for some projects in the absence of any specific language on avoiding or minimising harms from projects in its modalities and procedures (Schade and Obergassel, 2014).

In 2015, the member states of the United Nations universally agreed on 17 objectives to shift all economies and societies toward a sustainable and decarbonised development pathway with the adoption of the Agenda 2030 on Sustainable Development Goals (SDGs). The SDGs provide a common, internationally agreed template for operationalising contributions to sustainable development and have the potential to serve as a major step forward in operationalising sustainable development under Article 6 and other future market mechanisms. However, for this purpose, these macro-level targets need to be converted into actionable and monitorable indicators.

For overseeing implementation of Article 6, host country DNAs could provide the following clarifications to project developers:

1. **Host countries' requirements for establishing a project's sustainable development contributions to SDGs:** Governments can set mandatory requirements for project developers to prove how the co-benefits they claim contribute towards achievement of SDGs. As defining clear causal links between project level indicators and a national level SDG target is not straightforward, without a clear mandate (from host countries and/or Article 6 rules), there is a risk that project developers make vague claims of SDG contributions. To avoid this, governments could set out guidelines on acceptable indicators of claiming SDG contributions from reported co-benefits. For instance, if a project developer claims to contribute to SDG 8 (decent work and economic growth) through their Article 6 activity, countries could elaborate what an acceptable definition of 'decent work' is.
2. **Clear articulation of safeguards against potential risks/negative impacts of market-activities:** Although host country regulations set out the legal precedents in case of negative impacts, articulating these principles as a part of the host country requirements for Article 6 project evaluation sends a strong signal of host country commitment towards stakeholders and environmental systems which could be affected by a project. Countries can define and publish clear safeguards many of which are already agreed under the SDGs and international obligations and specified under national law.
3. **Procedural requirements for ex-ante assessment of SDG contributions and safeguards**: Procedurally, at a minimum, evaluations based on the guidelines discussed above could be a mandatory requirement for approving project proposals.

4.2.5 Other export restrictions

In addition to the issues and criteria discussed in Section 4.2, potential host countries may consider further restrictions or stipulations for the export of mitigation outcomes. Such restrictions could include a price floor for mitigation outcomes, or a stipulation of a host country benefit.

A **price floor** for the export of mitigation outcomes would not necessarily prevent the cheapest mitigation options from being exported – if approved for export, cheap mitigation outcomes could simply be sold for a higher price. However, such a floor price could provide an incentive for more expensive mitigation options.

Host countries could also stipulate a **host country benefit** as a share of any project activities whose emission reductions are exported as ITMOs. Such a host country benefit could be the

result of, for example, an explicit baseline adjustment. Precedence for such a host country benefit stipulation was set by the French government. For JI projects in France, the French government applied a '90% rule', where only 9 credits were issued and sold for every 10 tons of CO_2e abated (Shishlov and Cochran, 2015). Thus, France gained a host country benefit of 1 credit for every 9 credits sold.

4.2.6 Summary consideration check list

In summary, a potential non-exhaustive summary check list along the lines of the one below could be considered to guide an evaluation process with regard to approval and a decision to apply a corresponding adjustment towards NDC achievement.

Table 1: Checklist for proposal approval

Prerequisite	Yes	No
The project meets criteria for **environmental integrity** (additional, based on a realistic baseline, have provisions and detailed plans for MRV, avoid double counting, permanent and not leak)		
The proposed project falls within the **scope** of the country's NDC		
The project is **Paris aligned** in that it contributes to and is in line with the country's decarbonisation pathway		
The project is **inaccessible** in that it is beyond the scope of government planning and ability that is needed for NDC implementation now or in the future and **alternative sources** of (climate) finance are not available		
The project is in line with the country's **sustainable development priorities**		
The project promotes, upholds, and protects **human rights** and complies with international legal obligations		
The project meets country determined **export restriction** requirements		

4.3 Choosing between Article 6.2 and Article 6.4

Depending on the final rules and scopes, countries may be able to choose to engage in activities either under Article 6.2 or under Article 6.4. Whereas Article 6.2 provides for decentralised cooperative approaches between countries, Article 6.4 establishes a mechanism with centralised oversight. Thus, when making use of Article 6.2, countries need to establish a bilateral agreement contract, including rules to avoid double claiming and double counting. This cooperative approach offers potentially more flexibility to countries but is likely to be less efficient and less transparent than activities under Article 6.4 and provides less fungibility of mitigation outcomes. Though still unclear, for countries that have called for a share of proceeds (SOP) for adaptation, Article 6.2 may not include such a provision and therefore not generate further finance for adaptation in that country or elsewhere. The main advantage of using Article 6.4 is that credits generated are internationally recognised and rules regarding methodologies and processes are likely more detailed. Table 2 gives an overview of the advantages and disadvantages of both options.

Table 2: Advantages and disadvantages of Article 6.2 and Article 6.4

	Article 6.2 Cooperative Approaches	Article 6.4 Mechanism
Fungibility and standardisation	• Potential for a more tailored to meet local needs, context but less standardised • Possibly closer bilateral cooperation with partner country • Potentially leads to a fragmented market that does not have universal recognition, is less fungible, with multiple standards	• International standardisation and recognition, thus less competencies required by host parties • Centralized proceedings with clear responsibilities und support from UNFCCC secretary • more likely to be fungible
Transparency and oversight	• Potentially less international oversight beyond corresponding adjustments • Possibly no centralised registry	• Likely more detailed uniform established rules regarding methodologies, process, MRV, cancellation, etc. • More international oversight through multilateral body • Centralised registry
Overall Mitigation of Global GHG Emissions (OMGE) and Share of Proceeds (SOP)	• Less clear mandate for OMGE, and a SOP for adaptation	• Clear mandate for OMGE, and a SOP for adaptation

4.4 Engaging and finding support

Potential host countries interested in engaging in international transfers through Article 6 can find a number of international partners and initiatives that can help navigate the various intricacies of carbon markets after 2020. Although many project developers that worked on CDM projects in the past have now left the market, there are still a wide number of actors active in project development and climate policy support. These include: Multilateral Development Banks (MDBs), donor countries, and international initiatives. Blending carbon finance with other finance sources may also increasingly become more relevant.

4.4.1 MDBs, donor countries, and international initiatives

Multilateral Development Banks are important investors in developing countries' infrastructure and can mobilise additional private sector finance in low-carbon technologies. Indeed, MDBs have announced their ambition to align investments with the Paris Agreement temperature goals (Germanwatch & NewClimate Institute, 2018). In 2017, MDBs committed USD 35,219 million to climate mitigation and climate adaptation projects in developing and emerging economies (AfDB et al., 2017). MDBs are also engaged in exploring and promoting Article 6 activities, both through capacity building and through various financial products for projects.[4]

4.4.2 Blending finance

For potential projects and activities that are a high priority for a host country, 'blending' carbon finance with other finance sources is increasingly an option and will become more of an issue as

[4] Examples of such engagement include the Asian Development Banks's Support Facility for Article 6 readiness. More information can be found here: https://www.adb.org/projects/documents/reg-50404-001-tar.

international climate finance is scaled up and as countries 'align financial flows' with the Paris Agreement. 'Blending finance' in the context of Article 6 is the combining of carbon finance with another finance source and could possibly be used to leverage other climate finance options to have a larger impact. Other sources could include (non-carbon market) climate finance or ODA with private and/or public resources. In the 2010 Copenhagen Accord, developing countries committed to 'mobilizing jointly USD 100 billion dollars a year by 2020 to address the needs of developing countries' (UNFCCC, 2009). While accounting for this commitment is an issue of continuing discussion, it is clear that the number of donors and international financial institutions engaged in climate mitigation in developing countries has expanded greatly. There are a growing number of actors working on implementing Article 2.1c of the Paris Agreement which commits parties to 'making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development'. This makes the climate finance landscape more dynamic with more options available for innovative climate action, but also more complicated.

Under former carbon market mechanisms, a project was deemed additional if carbon finance was absolutely necessary to bring about the project and the activity would not have occurred in the absence of said finance. However, with the upscaling and mainstreaming of financial flows, it is increasingly complicated to judge whether an action in a certain sector would not have taken place or that there would be no possibilities for alternative financing such as through international climate finance. We are increasingly entering a world where domestic resources, ODA, climate finance, and carbon finance will likely blend. Therefore, accurate apportioning of what reductions are directly attributable to carbon finance will become an important question – and challenge – for assessing additionality and environmental integrity. At the same time, blending may also offer opportunities for prospective host countries to leverage carbon finance on top of climate finance to leapfrog towards decarbonisation.

Mapping different sources of finance for developing emission reduction activities and analysing if and how an Article 6 activity overlaps with other forms of international finance may also have the potential to optimise the use of climate finance. Undertaking this exercise can also be an accounting good practice as it can help host countries and donors to clearly elaborate the 'role of carbon finance' in driving mitigation action and attribute mitigation outcomes to relevant financing sources.

4.5 Implementing on the ground

Article 6 host countries also have an important role in ensuring that mitigation activities comply with national and international laws, how project developers conduct environmental impact assessments (EIA), in identifying and mapping stakeholders, stakeholder consultation, project implementation monitoring, and providing avenues for grievances. If projects violate national law or international obligations - or are not implemented in a way that they were proposed - host countries have an important role in identifying measures to address problems. Such measures can range from policing and addressing minor infractions, to withdrawing approval from the project for the purposes of Article 6, to stopping the project entirely. Precedence for the withdrawal of host country approval for example was set in November 2016 when the Panamanian government found that the project implementers of the CDM Barro Blanco hydroelectric dam project had failed to carry out an accurate EIA, and deregistered the project from the UNFCCC CDM registry (Sempris, 2016).

4.5.1 Compliance with local, national, and international law

Activities under Article 6 should comply with local, national, and international law. Project developers together with host country governments are the primary entities responsible for

ensuring human rights protection. Most notably, the public's rights to information, to participation in decision making processes, and access to justice, as well as Free Prior and Informed Consent (FPIC) are recognised in various international legal instruments.

Access to information and public participation

The importance of access to information and public participation in environmental decision making is widely recognised, including in the Rio Declaration on Environment and Development (UNCED, 1992), the Aarhus Convention (UNECE, 1998) and the Escazu Convention (UN, 2018).

The Rio Declaration provides for the participation of citizens in environmental decision-making, stating that environmental issues are best handled when all concerned citizens participate (Principle 10). While the Rio Declaration is not legally binding, it is recognised as an important soft law instrument. Thus far, two conventions have translated the principle of public participation into a legally binding provision: the Aarhus Convention, whose participants include EU member states and most former Soviet states, and the Escazu Convention for Latin America and the Caribbean. Both conventions stipulate that Parties shall guarantee the public's right to access to information and public participation in decision-making. Notably, the Aarhus Convention does not restrict these rights to individuals or groups who are personally affected or have an interest in the issue at stake (Article 2.4), or to nationals or residents of the Party (Article 3.9). Thus, if a country that ratified the Aarhus Convention engages in Article 6 activities in a country that did not ratify, nationals of the latter country are still entitled to access to information and public participation. In addition, many countries have included the right to access to governmental information in their constitution (McDonagh, 2013).

Free Prior and Informed Consent

The principle of FPIC is reflected in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) (UN General Assembly, 2007) and the International Labour Organization (ILO) Convention 169 (ILO, 1989). Both instruments contain provisions stipulating that indigenous peoples shall not be forcibly removed from their lands and that no relocation shall take place without the FPIC of the indigenous communities. In addition, ILO Convention 169 also recognises the collective right to land ownership and provides for the safeguarding of this right. While UNDRIP is a declaration and thus not legally binding, it is an important soft law instrument (Barelli, 2009). Indeed, there is a strong expectation that states adhere to the Declaration demonstrated by the recommitment of states and the UN to UNDRIP in 2014 (Centre for International Governance Innovation, 2017). The ILO Convention 169 is legally binding on all states that ratified the convention – currently only 23, although another 17 states ratified the Convention's predecessor Convention 107 (ILO, 1957).[5]

Thus, if Article 6 activities are likely to affect local communities, project implementers must always seek the free, prior, and informed consent of these communities. If this does not occur, or if improperly implemented, host countries will have an important role in stopping the Article 6 project activity.

Access to justice

Finally, in order to comply with international law and to attract public support for Article 6 activities, it is important the public has access to justice when it considers its rights to be violated. The right to justice is provided for by various legal instruments, including the Universal Declaration of Human Rights (UDHR) (UN General Assembly, 1948), the International Covenant on Civil

[5] The ratification status of ILO Conventions 107 and 169 can be found on the ILO website: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11300:0::NO:11300:P11300_INSTRUMENT_ID:312252:NO (C107) and https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11300:0::NO:11300:P11300_INSTRUMENT_ID:312314:NO (C169).

and Political Rights (ICCPR) (UN General Assembly, 1966), the Aarhus Convention, and the Escazu Convention.

Under the legal instruments mentioned above, states and not individual entities such as project developers are accountable for any violations, i.e. citizens can bring states to court, but not project developers. Under national laws, however, it is generally possible that citizens sue a project developer for violation of national laws. Section 4.5.5 further discusses avenues for grievance.

4.5.2 Environmental Impact Assessment

Prior to the start of Article 6 activities, the host country should ensure that the project developer conducts a rigorous EIA. The goal of an EIA is to evaluate the likely impacts of a proposed project on the environment. It provides a summary of the analysis of the environmental impacts of the project activity, including transboundary impacts, and provides references for all related documentation. As such, an EIA informs decision-makers with information on the possible environmental effects of a certain project, thereby helping them in determining whether or not to approve the project to proceed (Jay *et al.*, 2007a).

The EIA was first enshrined in US national law in 1969 and has since become an important tool in many other countries around the world (Jay *et al.*, 2007b).

In addition to undertaking an EIA, it is also important to monitor projects after they have begun operations. The main purpose of monitoring is to check whether and to what extent the assumptions and forecasts of the EIA are correct, as well as to provide information on which further measures are necessary to avoid environmental harm.

4.5.3 Consultation

For certain interventions, addressing vested interests that resist change may make implementation difficult. Depending on the type, nature, and scale of the mitigation intervention, an Article 6 activity may affect or fall into the realm of a wide number of legal requirements and may have several environmental and social impacts. Successful anticipation of the various dimensions that an intervention may have in the local, national, and regional context can help guide if a specific intervention is appropriate, and if so, streamline implementation as well as maximise positive co-benefits.

Winning support through active engagement and robust consultation with affected stakeholders greatly increases the likelihood that Article 6 activities, and mitigation efforts in general, will turn out to be a success. Consultation prior to the intervention provides an opportunity to learn which potential risks, impacts, opportunities, and mitigation measures the stakeholders see (World Bank, 2012). Successful consultation starts with the identification and mapping of relevant stakeholders, including marginalised groups within the affected community. The project developers should inform the stakeholders of their project and actively seek comments. Based on these comments, the project may be adjusted, revised, or changed to better suit local needs and interests.

Throughout the intervention, engagement and consultation should continue as a dialogue between project implementers and stakeholders. According to the World Bank, such consultation helps to 'avoid adverse impacts and protect vulnerable populations; identify context specific challenges to improve project design and outcomes: identify and control for external risks; and can help […] avoid resistance and costly delays or the need to cease or reverse the intervention' (World Bank, 2012).

4.5.4 Monitoring, Reporting and Verification

Oversight of Monitoring, Reporting and Verification (MRV) of GHG reductions and purported sustainable development co-benefits is also an important function of a host country. While under the CDM, the host country was not negatively affected if emission reductions were overestimated, under the Paris Agreement, any over crediting and export of emission reductions can make it harder for the host country to reach its NDC target. Therefore, robust monitoring is in the interest of the host country.

The system for verification and certification of emission reductions under the Article 6.4 mechanism may resemble the rules and established system of third party Designated Operational Entities (DOEs) under the CDM to verify project developers' purported data, but this is dependent on the rules to be determined. Importantly, host party governments may also have an important new role in this regard. Cooperative approaches may allow for more flexibility between the partner countries in how interventions are governed. Under JI track one this led to a number of emissions transfers that did not represent additional emission reductions (Kollmuss, Schneider and Zhezherin, 2015). Civil society observers have, however, called for independent and neutral audits of emission reductions, whereby DOEs are assigned and paid by a body independent of a project developer (Kachi and Voigt, 2016). Such an arrangement could also be organised by a host country to avoid the export of emission reductions that lack environmental integrity.

Another important issue to consider in activity monitoring is to what extent the activity delivers on purported contributions to sustainable development. The CDM had no formal requirements for monitoring, reporting and verifying sustainable development contributions. This should change under Article 6, which sets a more precise mandate of promoting sustainable development. While project developers will primarily be responsible for monitoring the developmental benefits of their Article 6 activity, host countries can influence the quality of these assessments with specific requirements and checks. Ex-post checks by host countries could be defined, for instance, as requirements for monitoring of SDG contributions, requiring project developers to submit reports on the SDG contributions made at each issuance, or annually, with the aim of defining circumstances under which it would revoke a host country letter of approval for a project or activity if certain purported sustainable benefits are not delivered. This may vary for different sustainable development benefits from, for example, gender equality (SDG 5) to life below water (SDG 14).

4.5.5 Avenues for grievance

Even the best ideas may be poorly executed. Seemingly small complaints from local populations can become major problems if left unmanaged. Therefore, they should be addressed in a timely manner (World Bank, 2018). Moreover, as discussed above, various legal instruments provide the public with the right to access to justice. Access to justice is likely to increase support for Article 6 activities by providing affected populations with the option of redress.

Thus, host countries should provide grievance mechanisms that respect the customs and institutions of local populations, which allow citizens to voice their grievances and offer project implementers the opportunity to defend their projects (Filzmoser *et al.*, 2015). Grievance mechanisms could take the form of courts, but can also be non-judicial, for instance through an ombudsman or mediation. However, in cases of (perceived) human rights abuses, host countries should make sure that it is possible to bring cases to court.

5 Reconciling Article 6 participation with other Paris Agreement obligations

In order to engage in Article 6, ensure robust accounting, and define the clear role of Article 6 in the context of NDC achievement – a number of aspects must come together to ensure clarity, transparency and understanding. The Paris Agreement lays down a various obligations that Parties must comply with, including Biennial Transparency Reports, national inventories, NDC updates, the Global Stocktake (GST), technical expert review, and multilateral reviews (see Table 3). Biennial Transparency Reports essentially take the place of Biennial Update Reports (BUR) for developing countries and Biennial Reports (BR) for developed countries after 2022/2023. This new transparency framework will supersede existing transparency arrangements, laid down by the UNFCCC and the Kyoto Protocol (Gupta and van Asselt, 2017).

Table 3: Transparency Processes under the Paris Agreement

Process	Explanation	Timing	
		Developed countries	Developing countries
Biennial Transparency Reports (BTR)	BTRs shall include (18/CMA.1, Annex para I.E.10) 1) A national inventory report of anthropogenic emissions by removals and sinks of GHGs; 2) The information necessary to track progress in NDC implementation and achievement; 3) Information on climate change impacts and adaptation under Article 7 of the Paris Agreement; 4) Information on financial, technology transfer and capacity-building support provided to developing country Parties (developed countries) or needed and received (developing countries)	First BTR due at the latest by 31 December 2024 (Decision 18/CMA.1, para 3), every two years after that.	
National inventories	The national inventory report can either be submitted as part of the BTR or as a stand-alone report (18/CMA.1, Annex para I.E.10). Countries that engage in Article 6 activities shall provide annual GHG levels in their national inventories report (18/CMA.1, Annex para III.C.77(d)).	Conduct an inventory every year. Submit every year (under the UNFCCC), but every other year can be submitted with the BTR (under the Paris Agreement).	Conduct an inventory every year, submit it as part of BTR every two years.
NDC update		Every five years (Paris Agreement), at least 9-12 months prior to the relevant COP (Decision 1/CP.21)	
Global Stocktake (GST)	The GST will be used to monitor collective progress towards the long-term	Every five years starting in 2023 (Paris Agreement)	

Process	Explanation	Timing	
		Developed countries	Developing countries
	temperature goal and inform succeeding NDC updates.		
Technical Expert Review (TER)	The TER is meant to assess GHG Inventories and information on progress towards NDCs. The TER will also review information provided by developed countries on assistance provided to developing countries. Moreover, the TER can assist developing countries in identifying capacity-building needs.	Regular rotating basis	
Multilateral Review	Each Party shall participate in a facilitative, multilateral consideration of efforts under Article 9 of the Paris Agreement (support for developing countries) and the implementation and achievement of NDCs	Regular rotating basis	

The Paris Agreement requires all parties to regularly provide a national GHG inventory report and information necessary to track the progress in implementing and achieving NDCs (Article 13.7). This information takes the form of Biennial Transparency Reports (BTRs) and National Communications (NCs). In addition, developed country parties must submit information on the financial and technical support given to developing country parties (Article 13.9). The GHG inventory reports, BTRs and National Communications, as well as information on provided support, will undergo a Technical Expert Review (TER). In addition, countries are to take part in a 'facilitative, multilateral consideration of progress' (Article 13.11). In addition to the review of individual contributions, parties will also participate in the GST, which is to take place every five years, starting in 2023. The GST is meant to regularly monitor collective progress towards the long-term temperature goal and inform succeeding NDC updates that are due every five or ten years.

How exactly the GST will influence the preparation of NDC updates is, however, unclear (Doelle, 2019). Further issues arise with regards to assessing NDC outcomes. Article 13(7) of the Paris Agreement requires Parties to report on their mitigation efforts. Technical Expert Review (TER) teams review these efforts against the content of the NDCs (Article 13.12) and countries discuss their efforts in the Facilitative, Multilateral Consideration of Progress (FMCP) (Article 13.11). Methodologies to assess economy-wide NDCs with absolute reduction targets are well established, but this is not the case for other types of mitigation commitments (e.g. intensity targets or mitigation commitments compared to a BAU scenario) (Doelle, 2019). Accordingly, consistent accounting and comparing different NDCs outcomes is likely to be challenging.

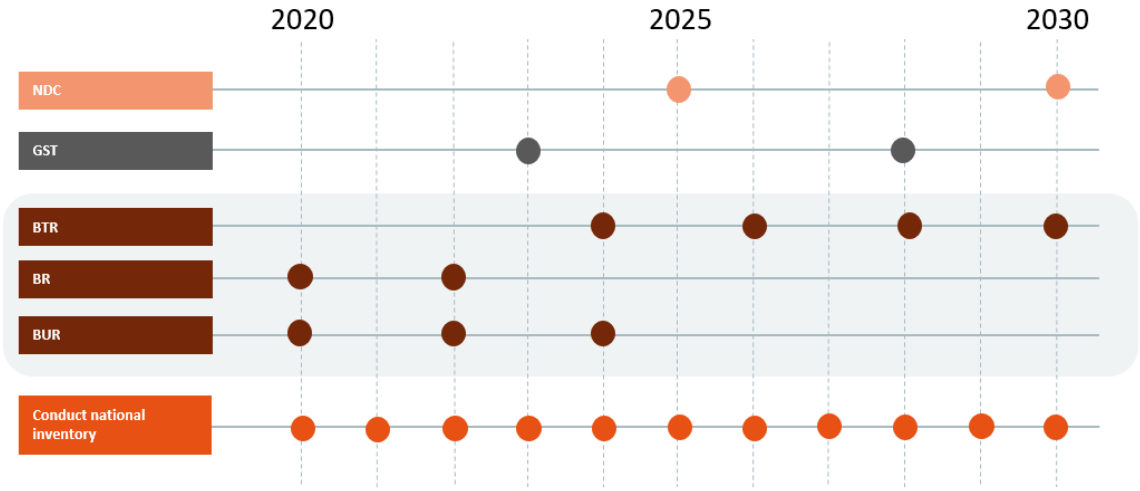
Furthermore, in the absence of detailed guidelines for the trade in emission reduction units/ITMOs, it is unclear how TER teams will consider the evidence provided by parties on the trade in emission reduction credits under Article 6 (Doelle, 2019). Also, although Article 14.3 requires countries to avoid double counting, detailed instructions for corresponding adjustments are lacking beyond decision 18/CMA.1 para. 77 d which calls for:

(i) The annual level of anthropogenic emissions by sources and removals by sinks covered by the NDC on an annual basis reported biennially;

(ii) An emissions balance reflecting the level of anthropogenic emissions by sources and removals by sinks covered by its NDC adjusted on the basis of corresponding adjustments undertaken by effecting an addition for internationally transferred mitigation outcomes first-transferred/transferred and a subtraction for internationally transferred mitigation outcomes used/acquired (…)

Therefore, regardless of the other transparency and reporting requirements of the Paris Agreement, countries that transfer ITMOs must conduct annual inventories and consider how the transfer of ITMOs affects NDC achievement. This is challenging in part because of the timing of these reporting and updating requirements (Figure 3). When transferring ITMOs, countries must be confident that they will have overachieved their NDC already, and that their emissions will not increase in the future.

Figure 3: Timeline showing NDC target years, when the Global Stocktake is to take place, and when BTRs and national inventories are to be submitted



6 Conclusion

Article 6 of the Paris Agreement allows countries to cooperate in their efforts to limit climate change, including through the use of ITMOs. Although the exact rules for Article 6 are still to be agreed upon, it is advisable for potential host countries to make an effort to understand the implications of engaging in Article 6 activities for their future NDCs and decarbonisation efforts, in the context of the Paris Agreement temperature limit of 1.5˚C, and to start elaborating on the relevant regulatory framework. The issues discussed in this paper represent current knowledge at the time of writing.

Countries can choose to engage in Article 6 for a number of reasons, which include revenue generation; sustainable development co-benefits; and technology transfer, capacity building, and financing expensive mitigation measures. While these are positive impacts of Article 6 activities, countries should be careful to export emission reductions they need for their current and future NDC targets. In order to engage in Article 6, host countries should consider the array of mitigation opportunities that they achieve themselves for their own targets and ambition and limit use of Article 6 to support technologies that are otherwise 'inaccessible'.

Further, for potential host countries, the key question in deciding to engage in Article 6 activities concerns whether significant demand will emerge for international emission reduction units. and what price they will command in an international marketplace. This is directly related to a number of factors including emission trends, ambition of other countries and equally who and what other countries want to sell and how much. Thus far, only few countries have indicated that they intend to purchase ITMOs to complement national action.

On a bilateral basis, however, ambitious buying countries or voluntary market players may be willing to pay higher prices for emission reduction units that are more likely to ensure environmental integrity, be associated with sustainable development co-benefits, and promote ambition through engagement to enable access to otherwise inaccessible mitigation opportunities. A number of building blocks can help countries to prepare for engagement in Article 6, many make sense whether the country ends up transferring ITMOs or not. These include:

1) The country should have a robust national GHG inventory;
2) A clear NDC target that can be compared to inventory levels and accounted for;
3) A long-term strategy, outlining sectoral decarbonisation pathways to net-zero on the way to net-negative emissions. These strategies should help countries transition to net-zero economies and inform future NDC updates; and
4) An institutional framework, including a registry, to oversee Article 6 activities.

These elements are important to demonstrate NDC achievement both for the host country itself, as well as for UNFCCC transparency and compliance purposes, and represent international best practice.

Important aspects that a host country should take into consideration when evaluating proposals for Article 6 activities include: environmental integrity; whether the project falls within the NDC's scope; whether the project is Paris aligned; whether alternative sources have been sought and found; sustainable development priorities and human rights; and export restrictions. While environmental integrity is a crucial element of Article 6, it is not clearly defined in the Paris Agreement. However, criteria for environmental integrity generally include demonstration that a project or activity is additional, based on a realistic baseline, accurately measured and reported, independently verified, avoids double counting, is permanent and does not result in the

leakage of. Further, to stay below the 1.5˚C temperature limit and avoid stranded assets, Article 6 finance should only be used for technologies that contribute to net-zero emissions by 2050.

While Article 6 projects should first and foremost lead to climate change mitigation, there is also substantial scope for such activities to contribute to the Sustainable Development Goals. Indeed, Article 6 emphasises the importance of sustainable development and provides that activities within its scope should promote sustainable development.

It is also important for host countries to have an active role in monitoring project implementation on the ground to ensure that desired benefits realised. This includes the host countries comply with national and international laws and make sure EIAs are undertaken and taken into consideration. Moreover, local stakeholders should be actively involved in the decision-making process. Such consultation can help anticipate and avoid or minimise negative impacts of the Article 6 intervention. To adequately address any grievances that may arise, the host country government must ensure that affected stakeholders have access to grievance mechanisms. Furthermore, the host country government should keep track of approved transfer in order to apply corresponding adjustments and gauge what these transfers mean for NDC achievement.

All of these considerations should be considered and in line with other obligations under the Paris Agreement: NDC updates, the Global Stocktake, and BTRs. These processes take place at varying temporal intervals, which makes it difficult to assess for potential host countries whether they can transfer ITMOs and still achieve their NDC target. Therefore, when transferring ITMOs, countries must be confident that they will have overachieved their NDC already, and that their emissions will not increase in the future.

Carbon markets in the context of the Paris of Agreement represent a significant departure from the past with an important new role and responsibilities for the host country government. This may be a challenge for some countries, but developing such preparedness is a good investment and likely a win-win situation regardless of the level of engagement with Article 6 in the short, medium, and long term.

References

AfDB *et al.* (2017) 'Joint Report on Multilateral Development Banks' Climate Finance (2016)'.

Barata, P. M. and Kachi, A. (2016) 'Study on Approaches to Incorporation of Mitigation Contributions in International Market Mechanisms, Including through Development Standards for Setting Emissions Reference Levels'. Available at: http://get2c.pt/get2c/wp-content/uploads/2016/09/Parisian-Market-Accounting-FINAL_PMB_clean3.pdf (Accessed: 13 June 2018).

Barelli, M. (2009) 'The Role of Soft Law in the International Legal System: the case of the United Nations Declaration on the Rights of Indigenous Peoples', *International and Comparative Law Quarterly*, 58(4), pp. 957–983. doi: 10.1017/S0020589309001559.

Centre for International Governance Innovation (2017) *UNDRIP Implementation: Braiding International, Domestic and Indigenous Laws*. Waterloo; Ontario; Canada. Available at: https://www.cigionline.org/sites/default/files/documents/UNDRIP Implementation Special Report WEB.pdf.

Climate Action Tracker (2019) 'Country assessment: China. Update 2 December 2019'. Available at: https://climateactiontracker.org/countries/china/.

Doelle, M. (2019) 'The Heart of the Paris Rulebook: Communicating NDCs and Accounting for Their Implementation', *Climate Law*, forthcomin. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3332792.

Eggleston, S. *et al.* (2006) *2006 IPCC Guidelines for National Greenhouse Gas Inventories*. Edited by S. Eggleston et al. Hayama. Available at: http://www.ipcc-nggip.iges.or.jp/public/2006gl/.

European Commission (2018) *A Clean Planet for all. A European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy. COM(2018) 773 final*. Brussels, Belgium: European Commission.

Filzmoser, E. *et al.* (2015) *The Need for a Rights-Based Approach to the Clean Development Mechanism*. Montreal.

Füssler, J. *et al.* (2019) *Benchmarks to determine baselines for mitigation action under the Article 6.4 mechanism*. Available at: www.dehst.de/EN (Accessed: 7 July 2019).

Germanwatch & NewClimate Institute (2018) *Aligning investments with the Paris Agreement temperature goal - Challenges and opportunities for Multilateral Development Banks*. Cologne/ Bonn/Berlin. Available at: https://newclimate.org/wp-content/uploads/2018/09/MDB_WorkingPaper_2018-09.pdf.

Gupta, A. and van Asselt, H. (2017) 'Transparency in multilateral climate politics: Furthering (or distracting from) accountability?', *Regulation & Governance*, (December). doi: 10.1111/rego.12159.

Healy, S. (2017) 'CORSIA: Quantification of the Offset Demand'. Berlin: Öko-Institut e.V. Available at: www.oeko.de (Accessed: 28 March 2019).

Hood, C. and Soo, C. (2017) *Accounting for mitigation targets in Nationally Determined Contributions under the Paris Agreement*. 2017(5). Paris, France. doi: 10.1787/63937a2b-en.

ICAO (2017) *Subject: Proposal for the First Edition of Annex 16, Volume IV, concerning Standards and Recommended Practices relating to the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)*. Montreal. Available at: https://www.transportenvironment.org/sites/te/files/publications/2018_01_ICAO_CORSIA_draft_ SARP.pdf.

ICROA (2018) *Code of Best Practices for Carbon Management Services*.

ILO (1957) *Indigenous and Tribal Populations Convention C107*.

ILO (1989) *Indigenous and Tribal Peoples Convention C169*.

IPCC (2018a) *An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development,*. Geneva, Switzerland: Intergovernmental Panel on Climate Change. Available at: https://www.ipcc.ch/sr15/ (Accessed: 15 January 2019).

IPCC (2018b) *Global Warming of 1.5°C - an IPCC special report on the impacts of global*. Geneva, Switzerland: Intergovernmental Panel on Climate Change. Available at: https://www.ipcc.ch/sr15/ (Accessed: 15 January 2019).

Jay, S. *et al.* (2007a) 'Environmental impact assessment: Retrospect and prospect', *Environmental Impact Assessment Review*, 27, pp. 287–300. Available at: https://www-sciencedirect-com.ezproxy.library.wur.nl/science/article/pii/S0195925506001338.

Jay, S. *et al.* (2007b) 'Environmental impact assessment: Retrospect and prospect', *Environmental Impact Assessment Review*, 27, pp. 287–300.

Kachi, A. and Voigt, J. (2016) *Recommendations for the review of the modalities and procedures for the Clean Development Mechanism*. Available at: http://carbonmarketwatch.org/wp-content/uploads/2015/10/Concept-note_improving-stakeholder- (Accessed: 9 April 2019).

Kollmuss, A., Schneider, L. and Zhezherin, V. (2015) *Has Joint Implementation reduced GHG emissions? Lessons learned for the design of carbon market mechanisms*. 2015–07. Stockholm. Available at: https://www.sei.org/publications/has-joint-implementation-reduced-ghg-emissions-lessons-learned-for-the-design-of-carbon-market-mechanisms/.

Kouchakji, K. (2018) 'INTERVIEW : NZ minister wants focus on domestic emission cuts, not international credits', *Carbon Pulse*, pp. 1–3.

McDonagh, M. (2013) 'The Right to Information in International Human Rights Law', *Human Rights Law Review*, 13(1), pp. 25–55.

Minvivienda (2015) 'Res 0549 - Por la cual se reglamenta el Capitulo 1 del Titulo 7 de la parte 2 del Libro 2 del Decreto 1077 de 2015 en cuanto a los parametros y lineamientos de construcction sostenible y se adopta la Guia para el ahorro de agua y energia en edificaciones'. Bogota . Available at: http://www.minvivienda.gov.co/ResolucionesVivienda/0549 - 2015.pdf (Accessed: 20 June 2018).

NewClimate Institute (2018) 'Opportunities and safeguards for ambition raising through Article 6 The perspective of countries transferring mitigation outcomes'. Berlin: NewClimate Institute. Available at: https://newclimate.org/wp-content/uploads/2018/05/180508_AmbitionRaising-Article6Paper.pdf (Accessed: 18 May 2018).

NewClimate Institute (no date) 'The role of international carbon markets in a decarbonising world: Aligning Article 6 with long-term strategies'.

Offset Quality Initiative (2008) *Ensuring Offset Quality*. Available at: http://ghginstitute.org/wp-content/uploads/2015/04/OQI_Ensuring_Offset_Quality_Jul08.pdf (Accessed: 7 July 2019).

Roeser, F. (2018) 'The Role of Long-Term Strategies in Aligning Near- and Midterm Plans with the Paris Agreement Goals'. WRI. Available at: https://www.wri.org/climate/expert-perspective/role-long-term-strategies-aligning-near-and-midterm-plans-paris-agreement.

Schade, J. and Obergassel, W. (2014) 'Human Rights and the Clean Development Mechanism', *Cambridge Review of International Affairs*, 27(4717–735).

Schneider, L. *et al.* (2017) *Discussion Paper: Environmental Integrity under Article 6 of the Paris Agreement*. Available at: https://www.dehst.de/SharedDocs/downloads/EN/project-mechanisms/Discussion-Paper_Environmental_integrity.pdf?__blob=publicationFile&v=2.

Schneider, L. *et al.* (2019) 'Double counting and the Paris Agreement rulebook - Poor emissions accounting could undermine carbon markets', *Science*, 366(6462), pp. 180–183. Available at: http://science.sciencemag.org/ (Accessed: 30 October 2019).

Sempris, E. (2016) 'Letter to the CDM Executive Board'. Balboa. Available at: https://cdm.unfccc.int/filestorage/Q/T/X/QTXEKMWNOC6SLB48JU513VFGA70PRZ/Untitled %28uploaded 04 Nov 16 12%3A38%3A46%29.pdf?t=UGt8cHVhM2s2fDD9W87uyHIN_uOmE_5aoWFA (Accessed: 7 July 2019).

Shishlov, I. and Cochran, I. (2015) 'Joint Implementation: the good, the bad and how to avoid the ugly', *Tendances Carbone*, September. Available at: https://www.i4ce.org/download/joint-implementation-the-good-the-bad-and-how/?wpdmdl=10011.

UN (2018) *Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (Escazu Convention)*.

UN General Assembly (1948) *Universal Declaration of Human Rights*.

UN General Assembly (1966) *International Covenant on Civil and Political Rights*.

UN General Assembly (2007) *United Nations Declaration on the Rights of Indigenous Peoples*.

UNCED (1992) *Rio Declaration on Environment and Development*.

UNECE (1998) *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention)*.

UNFCCC (2009) *Copenhagen Accord*. Copenhagen: COP 15. Available at: UNFCCC 2009 - Copenhagen Accord.pdf.

UNFCCC (2015) *Paris Agreement - Decision 1/CP.21*. Paris.

UNFCCC (2018) *Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on the third part of its first session, held in Katowice from 2 to 15 December 2018*. Katowice. Available at: https://unfccc.int/sites/default/files/resource/cma2018_3_add2_new_advance.pdf (Accessed: 7 July 2019).

Warnecke, C. *et al.* (2019) 'Robust eligibility criteria essential for new global scheme to offset aviation emissions', *Nature Climate Change*. Nature Publishing Group, pp. 218–221. doi: 10.1038/s41558-019-0415-y.

Winkler, H. *et al.* (2018) 'The balance sheet summary: An essential tool for transparency and robust accounting in mitigation and markets '.

World Bank (2012) *Getting to Green - A Sourcebook of Pollution Management Policy Tools for Growth and Competitiveness*. Washington DC. Available at: www.worldbank.org/environment/pomasourcebook (Accessed: 19 November 2018).

World Bank (2018) *Grievance Redress. Responsible Agricultural Investment (RAI) Knowledge Into Action Note*. 19. Washington D.C. Available at: http://documents.worldbank.org/curated/en/145491521090890782/Grievance-redress-mechanisms.