

Ensuring transparency of Article 6 cooperation – designing robust and feasible reporting and review processes and building capacities

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Discussion Paper

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<https://www.carbon-mechanisms.de/en/news-details/poa-working-group-1>

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Key messages

- As international oversight on Article 6.2 cooperative approaches depends on transparency, a robust reporting and review system is a precondition for ensuring environmental integrity. High transparency will thus be crucial to build trust in Article 6 action.
 - Currently envisioned reporting and review processes in Article 6 draft negotiation texts should be further optimised to increase efficiency and ensure that relevant qualitative and quantitative information is made available early on through the initial report.
 - Article 6 review processes need a clear and strong mandate addressing substantive issues beyond mere procedural issues.
 - Reporting and review processes under Articles 6 and 13 must be synchronised and linked in a way that leads to reinforcement of strengths and avoids time lags, inconsistencies and duplications. COP26 negotiations should keep these links in mind.
 - Capacity building should focus on the key challenges, such as institutionalising and ensuring regular updates of GHG inventories, calculation of NDC-related emission balances and understanding the impacts of corresponding adjustments.
 - Governments should align the institutional structures underpinning their reporting to the level of engagement in Article 6. Countries with a high level of engagement should invest sufficient resources into reporting. The UNFCCC Secretariat should harness sufficient financial and expert resources to ensure high-quality reviews.
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Abbreviations

A6.4ERs	Article 6.4 Emission Reductions
A6.4M	Article 6.4 Mechanism
A6.4SB	Article 6.4 Supervisory Body
BTR	Biennial Transparency Report
CA	Corresponding Adjustment
CARP	Centralized Accounting and Recording Platform
CDM	Clean Development Mechanism
CDM EB	Cdm Executive Board
CER	Certified Emission Reduction
CMA	Conference of the Parties Serving as the Meeting of the Parties to the Paris Agreement
CMP	Conference of the Parties Serving as The Meeting of the Parties to the KP
COP	Conference of the Parties to the UNFCCC
CP	Commitment Period
CRT	Common Reporting Tables
CTF	Common Tabular Formats
ETF	Enhanced Transparency Framework
GHG	Greenhouse Gas
ITL	International Transaction Log
ITMO	Internationally Transferred Mitigation Outcome
JI	Joint Implementation
KP	Kyoto Protocol
MPG	Modalities, Procedures and Guidelines
NDC	Nationally Determined Contribution
NIR	National Inventory Report
OMGE	Overall Mitigation of Global Emissions
PA	Paris Agreement
SB	Subsidiary Body
SBSTA	Subsidiary Body for Scientific and Technological Advice
SoP	Share of Proceeds
TER	Technical Expert Review

1. Introduction

Enhanced transparency of greenhouse gas mitigation action is pivotal for accountability in the bottom-up Paris Agreement (PA) regime, with its ambitious target of limiting global warming to 1.5°C-2°C. Voluntary cooperation through market-based instruments is enshrined in Article 6 of the PA. Transparency will be key for ensuring the environmental integrity of internationally transferred mitigation outcomes (ITMOs), especially as cooperative approaches under Article 6.2 are not subject to international oversight by a regulatory body. Reporting and expert review fulfils an early warning function regarding risks generated by international carbon markets that could jeopardise achievement of the PA targets.

Transparency on market-based cooperation relates to:

- Availability of information on the mitigation activities generating ITMOs that is complete, comparable and robust, showing the environmental integrity of the activity and its promotion of sustainable development.
- Tracking and reporting of authorisations and transfers of ITMOs, considering different purposes of ITMO use.
- Availability of information on accounting for authorisations and transfers that shows how double counting was avoided.

Under the PA, transparency on market-based cooperation is closely linked with transparency of achievement of Parties' Nationally Determined Contributions (NDCs) and decarbonisation targets, outlined in the so-called long-term low emission development strategies (LT-LEDS). The rules for the enhanced transparency framework for action and support (ETF) under the PA (Article 13) require Parties to report on:

- Sectors and gases where they pursue Article 6 cooperation in their national inventory reports (decision 18/CMA.1, paragraph 49); and
- Methodologies and assumptions in cooperative approaches (*ibid.*, paragraph 64), and on environmental integrity and avoidance of double counting within their structured summary on NDC implementation (*ibid.*, paragraph 77d) in their biennial transparency reports (BTRs).

As the rules for the ETF were adopted prior to the Article 6 rulebook, Article 6 reporting requirements will be extended by the Article 6.2 guidance and Article 6.4 rules, modalities and procedures (RMPs). At the upcoming 26th Conference of the Parties to the UNFCCC (COP26) and the third Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA3), Parties will be negotiating both the exact reporting formats and templates for the ETF, as well as the guidance for Article 6.2 cooperative approaches and the RMPs of the Article 6.4 mechanism (A6.4M). Transparency is to be achieved through Party reporting, the technical expert review of Party reports and the UNFCCC Secretariat providing public information in the Article 6 database and the A6.4M registry through the Centralised Accounting and Recording Platform (CARP). Robustness of outcomes requires coherence and consistency of any decision taken regarding the ETF and Article 6 reporting and review processes.

In the last round of informal discussions under the Subsidiary Body for Scientific and Technological Advice (SBSTA) in June and September 2021, Parties recognised the need for further technical work ahead of and at COP26 to refine the provisions in the negotiation text regarding

the reporting and review process. Many Parties recognised the need to clarify the upfront information requirements on cooperative approaches, define the format for annual information, clarify the interlinkages of reporting on cooperative approaches and the A6.4M and develop the modalities, procedures and guidelines for the review process (SBSTA 2021a). Parties also recognised the need for capacity building to enable Parties to take on the participation responsibilities and facilitate reporting (SBSTA 2021b). Additionally, Parties recognised the linkages with transparency negotiations, and some suggested to organise a joint consultation on reporting with Article 13 experts before COP26 (SBSTA 2021b). In addition, Parties recognised the need for cross-references in the Article 6.2 guidance to paragraph 77(d) of decision 18/CMA.1 on the ETF (SBSTA 2021c). Discussions went into greater detail about timing, content and form of reports, with different options identified. Some Parties suggest to already develop the format of the initial report at CMA3, and many Parties expect the reporting cycle to be operationalised by CMA4 (SBSTA 2021c).

This paper provides an overview on envisaged accounting, reporting and review processes for participating Parties under Article 6.2 and for host Parties under the A6.4M. It focuses on baseline-and-credit approaches. Next to discussing the technical aspects of activities, methodologies and characteristics of ITMOs that will need to be reported by countries, the paper will show how synergies between the different reporting and review processes can be harnessed, when they could be coupled or decoupled and how reporting processes could be further optimised. We use results of a survey on transparency provisions in the context of Article 6 cooperation conducted from July until mid-September 2021 in the context of the Carbon Market Mechanism Working Group (CMM-WG). In total, 16 people took part in the survey. Two thirds of the survey respondents indicated that they have a high level of expertise on carbon markets. The largest group of respondents work in the public sector, closely followed by consultants.

2. Strengthening reporting obligations of Parties

This chapter discusses accounting and reporting obligations of Parties according to the current Article 6.2 and 6.4 draft negotiation texts and suggests improvements in terms of scope, timing and the coupling and decoupling of reports.

2.1. Article 6.2 guidance

International oversight on cooperative approaches will be exercised through a reporting and review cycle, embedded in the ETF. The modalities, procedures and guidelines (MPGs) established by Decision 18/CMA.1 already stipulate a number of reporting obligations with respect to cooperation under Article 6 (see Box 1). The required information on Article 6 cooperation will be subject to the Article 13 technical expert review (TER) and the facilitative sharing of views among Parties that also forms part of the Article 13 review process.

Box 1: Reporting requirements on Article 6 cooperation under Decision 18/CMA.1 (UNFCCC 2018, Annex)

- Para. 48: “Each Party **shall report seven gases** (CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃)); those developing country Parties that need flexibility in the light of their capacities with respect to this provision have the flexibility to instead report at least three gases (CO₂, CH₄

and N₂O) as well as any of the additional four gases (HFCs, PFCs, SF₆ and NF₃) that are included in the Party's NDC under Article 4 of the Paris Agreement, are covered by an activity under Article 6 of the Paris Agreement, or have been previously reported."

- Para. 75f: "**Methodologies associated with any cooperative approaches** that involve the use of internationally transferred mitigation outcomes towards its NDC under Article 4, **consistent with CMA guidance on cooperative approaches under Article 6.**
- Para. 76d: "Each Party shall also: **Describe how double counting of net GHG emission reductions has been avoided**, including in accordance with guidance developed in relation to Article 6, if relevant."
- Para 77d: "**Each Party that participates in cooperative approaches** that involve the use of internationally transferred mitigation outcomes towards an NDC under Article 4, or authorizes the use of mitigation outcomes for international mitigation purposes other than achievement of its NDC, **shall also provide the following information in the structured summary** consistently with relevant decisions adopted by the CMA on Article 6:
 - (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, consistent with decisions adopted by the CMA on Article 6;
 - (iii) **Any other information consistent with decisions adopted by the CMA on reporting under Article 6:**
 - (iv) **Information on how each cooperative approach promotes sustainable development; and ensures environmental integrity and transparency, including in governance; and applies robust accounting to ensure inter alia the avoidance of double counting**, consistent with decisions adopted by the CMA on Article 6."
- Para. 121m(iii): "**How double counting was avoided between the resources reported as provided or mobilized**, and the resources used under Article 6 of the Paris Agreement by the acquiring Party for use towards the achievement of its NDC;"

2.1.1. Defining cooperative approaches and ITMOs

The Article 6.2 guidance is restricted to cooperative approaches and the avoidance of double counting. However, the scope is currently unclear, as it will depend on the definition of a cooperative approach and an ITMO generated therein. It is not clear yet whether an ITMO has the character of a unit traded – as has generally been the case under previous and existing compliance and voluntary carbon markets – or whether it represents a pure accounting unit (or both). Against the background that an ITMO must be real, verified and additional (UNFCCC 2019a, Annex, para. 1) and tracked according to unique identifiers (such as the vintage year and respective cooperative approach) (UNFCCC 2019a, Annex, para. 29), the first definition is broadly supported.

According to the Article 6.2 guidance (UNFCCC 2019a, para. 1 d,f), ITMOs from a cooperative approach cover mitigation outcomes authorised for use towards an NDC, as well as mitigation outcomes authorised for 'international mitigation purposes other than NDC achievement' or for 'other purposes'. Thereby, we understand that a cooperative approach can take place among two countries or a country and a non-Party buyer (e.g., airline for use under CORSIA, which is an 'international mitigation purpose other than NDC achievement', or a voluntary

carbon market actor). These different use cases underline the importance of the act of authorisation by the host country.

At the May-June 2021 session of the Subsidiary Bodies (SBs), some Parties suggested to clearly state that international mitigation purposes relate to international aviation and international shipping. Other Parties, however, argued in favour of keeping the definition broad to ensure the avoidance of double counting for a wide range of other uses (SBSTA 2021b).

2.1.2. Detailing reporting requirements and identifying issues

The draft Article 6.2 guidance specifies three reporting processes for cooperative approaches. Box 2 provides an overview of the scope, format and submission platform of the respective reports.

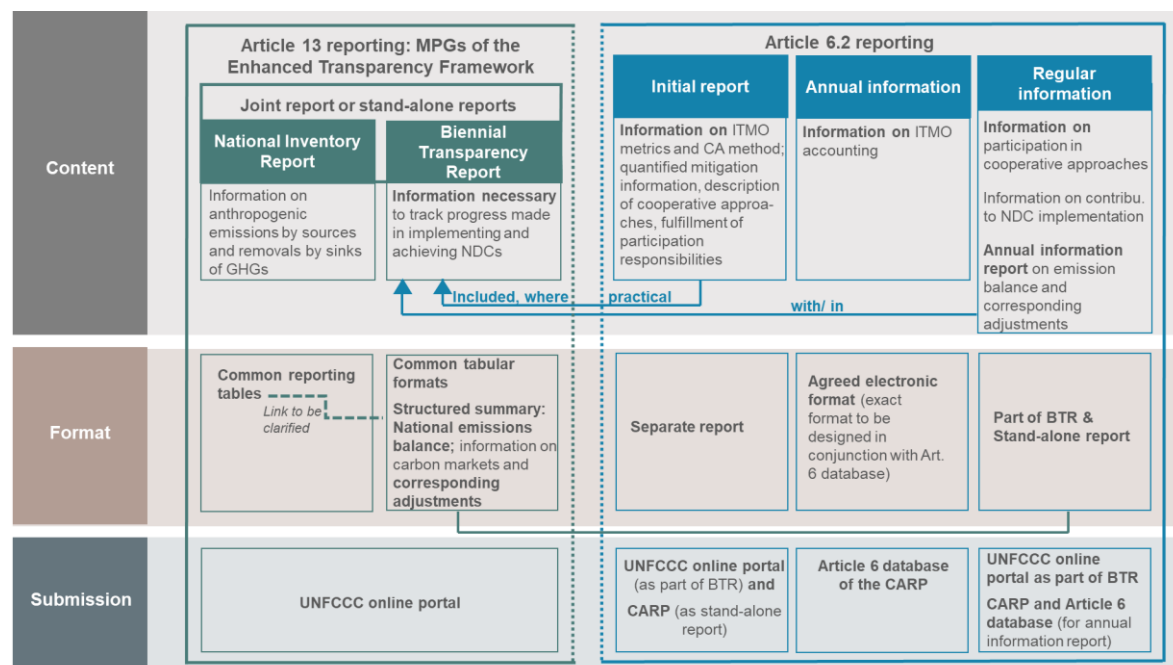
Box 2: Reporting processes according to the draft Article 6.2 guidance

As per the current draft text, the initial report must be submitted at the latest at the time of providing or receiving authorisation or initial transfer of ITMOs from a cooperative approach– if practical, in conjunction with the next due BTR. The annual information must be submitted on an annual basis in an agreed electronic format. The regular information is to be submitted with or in the BTR.

While it is not a requirement to have submitted the first BTR before engaging in a cooperative approach, some NDC-related information is to be included in the initial report. This refers to the quantification of the Party’s mitigation information in its NDC, including sectors, reference levels of emissions, etc.

The overall interrelationships between the Article 6 and Article 13 reports are shown in Figure 1 below.

Figure 1: Interrelationships between Article 6 and 13 reports



Source: Authors based on Michaelowa et al. (2020), UNFCCC (2019a)

When asked what robust reporting processes mean, the four answers that ranked highest among survey respondents were:

- “Information on cooperative approaches is aligned with information provided in the biennial transparency report and the national inventory report (NIR),”
- “Submitted information on cooperative approaches specifies how the environmental integrity of the market-based cooperation is ensured,”
- “Reporting on cooperative approaches is standardised and quantifiable to the extent possible,” and
- “There are clear international guidelines for reporting on environmental integrity and key related concepts (additionality, conservativeness, baseline-setting, verification) in place.”

We now discuss optimisation options for reporting under Article 6.

Strengthening the initial report

A debate has emerged in the negotiations whether more information should be moved from the regular information and requested upfront in the initial report, specifically on the type of cooperative approach and how environmental integrity is ensured. This option was also retained by the SBSTA Chair from the last round of informal discussions (SBSTA 2021c). The rationale is that by the time a government grants authorisation for an ITMO transfer, the information on ensuring environmental integrity is available anyway (see Table 1 for an overview of environmental integrity-related reporting requirements). Further options were outlined at the SB session in May and June 2021 (see Figure 2 below).

In addition, the reporting burden from extensive regular reports might be reduced if the relevant information is to be included from the outset and only updates to such data included thereafter. Michaelowa et al. (2020) also propose to include further information in the initial report:

- Information on environmental integrity, including additionality and consistency with SD objectives,
- Information on domestic processes for eligibility and authorisation of activities, and
- Information on the intended use of the Article 6 cooperation to increase NDC ambition (e.g., targeted sector, technologies and abatement costs incurred by the cooperative approach).

Including more information on the environmental integrity of cooperative approaches in the initial report scored highest among survey respondents when asked about different design options of reporting processes.

Figure 2: Options for including more information in the initial report



Source: SBSTA (2021b)

As outlined above, the initial report contains some accounting information that will remain the same throughout the NDC implementation period. The initial report also refers to qualitative information that is directly related to a specific cooperative approach. Parties thus have proposed to split the initial report into two parts: an initial report on “NDC accounting” and one initial report for each cooperative approach that the Party engages in. SBSTA (2021b) outlines the option that one initial report is to be submitted which is subsequently updated for each new cooperative approach. SBSTA (2021c) also includes the option of having a stand-alone report for any subsequent cooperative approach. This report should be submitted upon authorisation and not at the time of the first ITMO transfer or at the time of the next BTR.

Table 1: Reporting elements on environmental integrity

Reporting requirement paragraph 22(b)	Related pieces of information
No net increase in global emissions	<ul style="list-style-type: none"> - Representativeness of the method of corresponding adjustment applied - NDC scope - NDC ambition - Metrics applied - Time frame of NDC implementation
Robust, transparent governance	<ul style="list-style-type: none"> - Approval and authorisation processes and criteria - Information on design and operation of activity - Monitoring procedure - Verification procedure
Quality of mitigation outcomes	<ul style="list-style-type: none"> - Activity type - Activity scope / boundary - Attribution - Additionality of the activity

Reporting requirement paragraph 22(b)	Related pieces of information
	<ul style="list-style-type: none"> - Monitoring methodology - Approaches for verification
Stringent reference levels	<ul style="list-style-type: none"> - Methods applied to determine reference level
Baselines set in a conservative way and below BAU (including existing policies and addressing potential leakage)	<ul style="list-style-type: none"> - Methodologies applied (to assess additionality and calculate baselines) - Credits issued, including actual vs. expected performance, and reasons for deviations - Methodologies applied to assess and calculate leakage - Account in accordance with methodologies and common metrics assessed by the IPCC
Minimising the risk of non-permanence	<ul style="list-style-type: none"> - Methodology applied to assess non-permanence risk - Discount rates applied, if relevant - Approach for replacement of units if non-permanent, if relevant
Addressing reversals (if relevant)	<ul style="list-style-type: none"> - Methodology applied to assess and calculate reversals

Source: Michaelowa et al. 2020

Such strengthening of the initial report only makes sense if the submission trigger of the initial report is understood as being the provision or receipt of authorisation of the initial transfers of ITMOs under a cooperative approach. Some Parties do, however, prefer to report this information in the context of the BTR. Different options are captured in this regard in the SBSTA Chair Summary (2021c).

Detailing annual information requirements

The annual information focuses on quantitative information, as outlined in Figure 1. From the draft guidance, it is not clear when exactly the annual information must be submitted. Therefore, some Parties suggested to set a clear date for the submission of the annual information (SBSTA 2021b). On the question of what a justifiable period for the availability of the annual information would be, the majority of survey participants were in favour of the annual information being available after a period of 3 years. A period of 1 year was supported by some, while a period of 5 years was supported by very few people.

Also, information on cancellation of ITMOs for OMGE, SoP and other purposes could be included. Here, some important lessons from voluntary cancellations under the Kyoto Protocol (KP) need to be considered, when deciding on reporting outlines and formats including electronic formats.

Box 3: Problematic definition of voluntary cancellation under the Kyoto Protocol

Countries with binding reduction targets under the KP (Annex B countries) must report on the cancellation of Kyoto units on an annual basis and in a standardised electronic format. The same information is also published for the CDM registry (Michaelowa 2021b). Voluntary cancellation refers to the placement of units in a cancellation account to prevent their use for Annex B compliance purposes. The term is related to vastly different use cases which can include domestic compliance uses and re-issuance of units for use on voluntary carbon markets.



Since the lines between the voluntary and compliance markets are increasingly blurred and distinctions are made between “offsetting” and “finance” (non-offsetting) uses of units, it will be important to adopt a more granular reporting on accounting and particularly cancellation of ITMOs under the PA.

Box 4: Transparency in Kyoto registries undermined by governments

In 2005, far-reaching transparency provisions regarding Kyoto unit transactions in the national and CDM registries were agreed (UNFCCC 2005a; UNFCCC 2005b). Information was to be shared on unit quantities held, acquired, transferred, retired and cancelled per year as well as on units carried over and current holdings of units in each account. However, the confidentiality regulations in different Annex B countries prevented the implementation of this requirement. The UNFCCC therefore concluded that aggregated information on Kyoto units published annually in the standardised electronic format including a reference to the confidentiality regulation would be sufficient (UNFCCC ITL Administrator 2015). The same approach was applied by the CDM registry (CDM EB 2016). This lack of transparency renders public scrutiny of Kyoto mechanisms transactions difficult. A core lesson learned for the PA is that (anonymised) disclosure of information on ITMO holdings, transfers and carry-overs will be pivotal to ensure carbon market integrity. Confidentiality needs could be satisfied through a 'cool-down period' of 3 years before publication (Michaelowa et al. 2021b).

When asked whether Parties should be able to evoke confidentiality on certain elements referring to the example that instead of reporting serial numbers of traded ITMOs, only aggregated information is reported, 72.5% of survey respondents agreed while 15% disagreed and 12.5% strongly disagreed. Being directly asked which elements Parties should be able to evoke confidentiality on, the answer that ranked highest among survey respondents was private sector data used to calculate reference levels, crediting baselines and emission caps. 61.5% of respondents agreed that there must be international guidance in place that specifies what options are allowed to reflect flexibility in the electronic format of the annual information. Besides, 64.3% of respondents agreed and 35.7% disagreed that confidentiality must be time bound and information fully disclosed after a certain period of time.

Decoupling regular information from BTR submissions

The regular information including the annual information report is to be submitted in conjunction with the BTR (UNFCCC 2019a, para. 21) first due in 2024. However, submission of national communications (NCs) and biennial update reports (BURs) under the UNFCCC has seen large delays (Michaelowa et al. 2020; Murun et al. 2020). If this happens again with BTRs, tracking of applied CAs in the structured summary on NDC implementation (UNFCCC 2018, Annex, para. 77d) will become challenging. We therefore propose that the regular information is decoupled from the submission of the BTR in case the country cannot provide it on time.

Detailing regular information requirements

Michaelowa et al. (2020) noted several unclear reporting obligations and further specification needs as well as missing information in the context of the regular information. The guidance

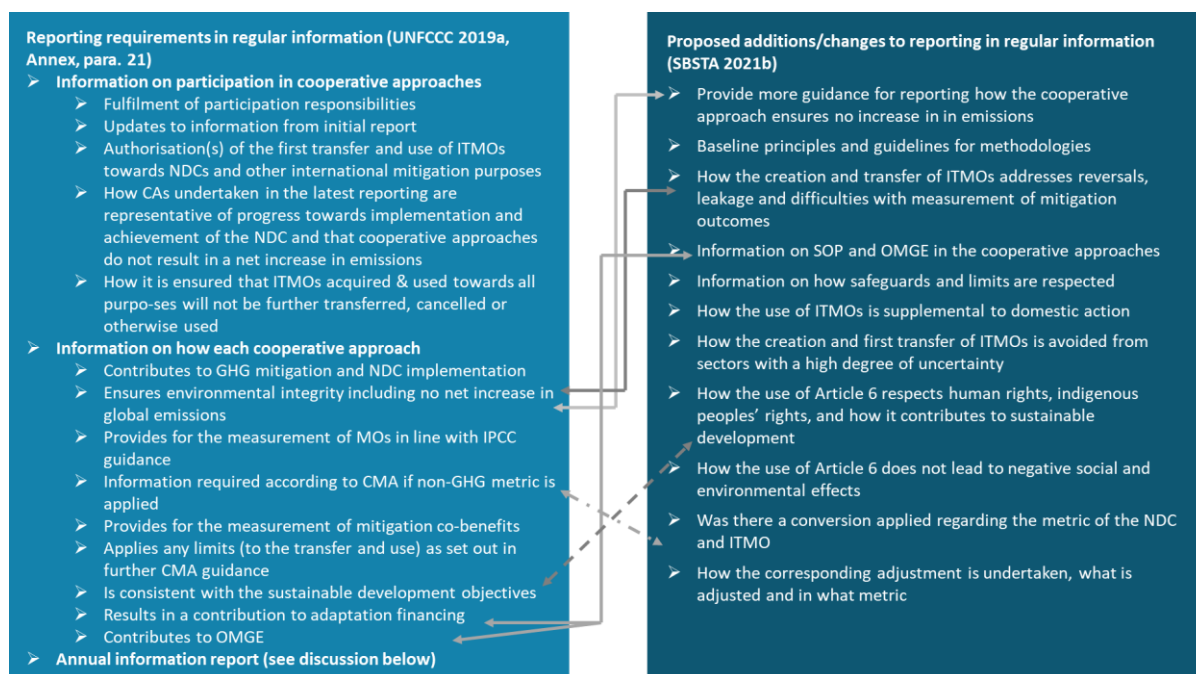
- often refers to “how” reporting requirements, e.g., how to ensure that the cooperative approach does not result in a net increase in emissions in the context of ensuring environmental integrity (UNFCCC 2019a, Annex, para. 22b). It should specify the level of detail or the specific piece of information required in this regard.
- should ask Parties to also provide information on how it ensures the additionality of generated mitigation outcomes and on the monitoring procedures and methodologies used. Here, alignment with provisions in the BTR should be ensured.
- should specify the type of information required on how the cooperative approach is consistent with the host country’s sustainable development objectives.

- should clarify how special circumstances of LDCs and SIDS and flexibility granted to those Parties that need it under the ETF relates to and is considered in Article 6 reporting requirements.

Furthermore, the provisions on regular information can be enhanced:

- As outlined above, we propose the reporting requirements to be streamlined by including further information on environmental integrity and the nature of the cooperative approach in the initial report and restricting the regular information to an update on information initially reported and new information on cooperative approaches, thus rendering it less comprehensive. Cross-referencing of information could further alleviate the reporting burden. It has to be noted though that at the May-June 2021 SB session, a discussion on including further information on environmental integrity and related safeguards in (regular) reporting requirements has resurfaced in Article 6.2 negotiations (Figure 3) (SBSTA 2021b).

Figure 3: Current regular reporting requirements and proposed additions/changes



Source: Authors

- Regarding the format of the annual information report to be submitted as part of the regular information, it needs to be aligned with the one of the annual information. The annual information report should include annual and cumulative information on for example quantity of ITMOs first transferred and quantity of mitigation outcomes authorised for use (UNFCCC 2019a, para. 23). The same reporting formats should be used for the annual information (separate) and the biennially submitted annual information report (in regular information).

Besides, there are some data gaps or lack of clarity that need to be focused upon in the upcoming negotiations:

- The information requirements as per paragraph 77d of decision 18/CMA.1 do not foresee accounting for NDC targets or ITMOs expressed in non-GHG metrics (SBSTA 2021b). Some Parties stress that developing rules in this regard is important to ensure inclusivity of rules

for NDC types (SBSTA 2021b). However, accounting for non-GHG metrics without conversion could lead to transfers of units that lead to an increase in emissions. A key safeguard that was discussed is to keep track of the mitigation (GHG) impact of cooperation to ensure there is no increase in net emissions. Several Parties suggested some technical expert review or international oversight on the conversions undertaken (SBSTA 2021b).

- It is currently unclear how accounting for conditional versus unconditional NDC targets should take place. Neither the guidelines for the common reporting tables and the structured summary (BTR) currently specify how Parties should report on achievements towards conditional and unconditional targets (Greiner et al. 2021).
- Further clarification is needed on the triggers for CAs. This has also been brought forward by Parties at the May-June SB sessions. The following options were discussed (SBSTA 2021b):
 - Introduce a time limit by when a CA must occur
 - Set a time limit to by when accounting for an NDC implementation period needs to be finalised. This will be pivotal to prevent the circulation of so-called ‘zombie units’ under the KP (see Box 4). Also see Box 5 for a detailed description of how transparency was ensured under JI and IET.
 - Specify to what annual emission balance the CA is made to: Year in which mitigation occurs (vintage year) or year of authorisation. The authors argue that transferring Parties (host Parties) should undertake the CA for the vintage year; the using Party for the year of use.

Box 5: Lessons learned from the KP on avoiding ‘zombie units’

Kyoto units can be transacted in the commitment period (CP) they were created in. After the end of the CP, these units can partly be carried over (within certain limits). The remainder of the units must be mandatorily cancelled (SBSTA 2005; UNFCCC 2005a). When being carried over in a subsequent CP, units’ serial numbers are updated to reflect their future eligibility. In theory, this sounds reasonable, in practice, however, there has not been a deadline in place for finalising the carry-over process. Consequently, no Party has finalised the carry-over process and Kyoto units from the first CP (CP1) ending in 2012 have continued to be reported until now in the standardised electronic formats. Hence, Parties continue to hold Kyoto units from CP1 in their national registries even after the accounting for that CP has been done. A potential reason for this might also be the effort required for the cancelling of units belonging to private entities. Thus, there are still CP1 units in national registries in 2021 which cannot be transferred out of the registry and must be considered ‘zombie units’. However, these units can be cancelled, meaning also used for non-Kyoto Protocol purposes. CERs in the CDM registry do not have to be automatically cancelled like the ones held in Annex I registries. Transactions within the CDM registry including voluntary cancellations can thus also take place after the end of the true-up period of a CP (CDM 2021). A key goal under the PA carbon markets should thus be that the generation of ‘zombie units’ and their use in some carbon market segments is avoided. A lesson learned is that the enforcement of mandatory cancellation of units at the end of an NDC implementation period will be difficult.

Timely application of corresponding adjustments (CAs)

Since the Article 6.2 draft guidance does not specify any time limits or expiry dates for the use of ITMOs, it is very likely that time lags between the authorisation of the first transfer, the transfer of ITMOs and the use of these emerge (Falduto et al. 2021). This, in turn, might hamper the timely application of CAs as ITMOs generated during an NDC period might only be

used in the next NDC period, also referred to as banking. In practice this could imply that the transferring Party needs to apply CAs once ITMOs have been transferred, calculating the emission balance based on a GHG inventory from an earlier NDC period than the buyer Party that uses the ITMOs, building on the GHG inventory submitted during a subsequent NDC period. Consequently, it might become difficult to track the applied CAs for transfer and use as they might occur based on different GHG inventories. This is why Falduto et al. (2021) propose the introduction of time limits or expiry dates for the use of ITMOs. The SBSTA Chair noted different options from expert discussions among Parties on the timing of corresponding adjustments including allowing or not allowing banking and/or deciding on a work programme for “true up period accounting” (SBSAT 2021c).

Clear presentation of Article 6 information in CARP

Over 90% of survey respondents agreed that all information provided by Parties under Article 6.2 must be made publicly accessible. In the case of the annual information, 73% of respondents agreed that the information on unique identifiers of ITMOs should even be publicly accessible in real time. This reinforces the need for a comprehensive but transparent tracking platform. The CARP comprises the Article 6 database and the UNFCCC international registry and links to national registries and the Article 6.4 mechanism registry. In order to ensure transparency of data, more attention needs to be paid to the clear presentation of Article 6 data in the CARP (Merrill 2021).

2.2. Article 6.4 mechanism’s link with Article 6.2 processes

Under Article 6.4, mitigation activities will be overseen by the Article 6.4 Supervisory Body (A6.4SB) which will also approve issuance of Article 6.4 emission reductions (A6.4ERs), which includes mitigation action from removals. Most reporting requirements will thus reside with the mechanism and stakeholders authorised by Parties to take part in it. Reporting by Parties under the A6.4M relates to approval and authorisation processes (activities, non-state participation) and authorisations of transfer.

Once A6.4ERs are transferred, the Article 6.2 guidance must be followed by Parties. The Article 6.4 RMPs foresee the establishment of an Article 6.4 registry that contains pending, holding, retirement and cancellation accounts (UNFCCC 2019b, para. 60). There is a clear link needed between accounting report processes and registries, e.g., an automatic link between the Article 6.4 registry and the Article 6 database as soon as ITMO transfers are taking place. The Article 6 database forms part of the CARP and stores information related to cooperative approaches in accordance with agreed electronic format tables. It is currently unclear whether there will be a direct link from the Article 6 database to the A6.4 registry. It is likely that the A6.4M will be relatively similar to the CDM registry with some additional functions (e.g., tracking if A6.4ERs have been authorised for transfer and/or have been correspondingly adjusted for). For further information on the CDM registry, see Box 6.

At the informal technical discussions in June 2021, Parties recognised the importance of developing the reporting and review requirements under the A6.4M in relation to Article 6.2 for rapid operationalisation (SBSTA 2021a).

Box 6: The CDM registry

The CDM registry was implemented by the UNFCCC Secretariat under the authority of the CDM Executive Board. The CDM registry issues CERs and distributes them to the respective national registries, thus not representing a trading registry (Michaelowa et al. 2021b). After CER issuance, CERs are stored in the pending account and once the SOPs have been paid, CERs can be transferred to national registries or to permanent holding accounts within the CDM registry. Other accounts to which CERs can be transferred within the registry are the cancellation accounts. CERs can either be placed there for administrative cancellation (e.g., erroneous issuance) or voluntary cancellation, as discussed above.



Lesson learned from the CDM: A more detailed reporting on different types of cancellation is recommended in the PA context to fully understand the use of A6.4ERs and ITMOs towards a Party's NDC or towards other international mitigation purposes and the links to authorisations and avoidance of double counting.

The current RMPs state that unnecessary duplication of reporting information by host Parties under the A6.4M shall be avoided (UNFCCC 2019b, para. 8a). However, there is a lack of clarity on what information will be made publicly available by the mechanism and how the reporting burden can be reduced. This must be considered by the A6.4SB once it develops its rules of procedures and details reporting requirements and publicly available information.

3. Designing efficient review processes under Article 6

The TER of reports carried out by qualified experts is essential for the efficient functioning of the ETF (Hanle et al. 2019). It is to be undertaken in a “facilitative, non-intrusive, non-punitive manner, respectful of national sovereignty” (UNFCCC 2018, Annex, para. 148) and will thus not involve any judgements of the respective country's climate actions, e.g., with regard to its ambition. The focus of the TER is on the consistency of the information submitted by Parties and there will be no option to “sanction” Parties that do not conform with their reporting requirements. Hanle et al. (2019) suggest the following for achieving effective TERs under the ETF:

- To increase the number of experts in the Roster of Experts administered by the UNFCCC Secretariat and providing them with the required financial means
- To develop and provide improved tools and materials for a smoother review process
- To start piloting aspects for the MPGs rather sooner than later
- To initiate discussions among current experts in GHG inventory, NC/BR and BUR processes
- To encourage Parties to accelerate their BTR submission and to do so well in advance of the 2024 deadline

Below we discuss specific aspects and challenges for the Article 6 TER.

3.1. Technical expert review under Article 6.2

As per the current draft Article 6.2 guidance, the Secretariat shall undertake consistency checks in the Article 6 database and notify both Parties and expert reviewers of any such inconsistencies (UNFCCC 2019a, para. 33). This would be simple if registries will be connected to the database and an international institution/process would take up the function of the International Transaction Log established under the KP. Subsequently, a TER team reviews the

consistency of the information submitted in the initial report and the regular information and prepares a report which highlights inconsistencies and provides recommendations to the participating Parties on how to address these (UNFCCC 2019a, para. 18-24).

For survey respondents, a robust review process is given if the review is made publicly accessible (34.8%), if the review processes under Article 6.2 go beyond procedural aspects and reviewers have a mandate to check the compliance with guidance and substantive standards (33.3%), and if reviewers are able to forward the report to the Article 15 Compliance Committee in case of non-compliance.

In the following, these and further aspects that determine a robust review process are discussed.

Giving a clear mandate to the reviewers

The robustness of the review will depend on the mandate that is given to the expert reviewers. Recently, some Parties proposed that the review should not only check the consistency of information but also whether the cooperative approach as such is consistent with the guidance. Adjustments should be required if the latter was not the case (SBSTA 2021b). The current text only foresees that the UNFCCC Secretariat prepares periodic synthesis reports of the results for the Article 6 TER including the identification of recurring themes and lessons learned (UNFCCC 2019a, para. 5). The forwarding of information to the Article 15 (i.e., compliance) Committee would strengthen the robustness of the process but is contested (SBSTA 2021b).

Specifying the review formats and managing costs

There are different TER formats available under the ETF (see Box 7) but it is not clear yet whether the Article 6 TER takes the same format(s) and if so, which one exactly. Other remaining questions that should be clarified are whether there are any membership overlaps between the Article 6 and 13 review teams, whether one team looks at clusters of cooperative approaches and whether specific skills are required for the Article 6 review (e.g., metric conversions and CA methods) (Merrill 2021).

The review's format also has relevant implications for costs. Under the pre-Paris rules, about 150 working days are required for an in-country review and 80 working days for a centralised review (Pulles 2016). Michaelowa et al. (2020) estimate the need for ~1500 experts for technical review of more than 190 BTRs every two years, as well as a simplified review of NIRs in the interim years. The costs could be covered through an administrative fee for engagement in cooperative approaches like under JI track 1 and 2. Rather than the costs, the main constraining factor is currently the number of available review experts (Simeonova 2021). The current number of experts is about 1000 and further capacities would need to be built to increase the number of reviewers (Simeonova 2021).

Box 7: Technical expert review formats under the ETF (UNFCCC 2018, Annex, para. 150)

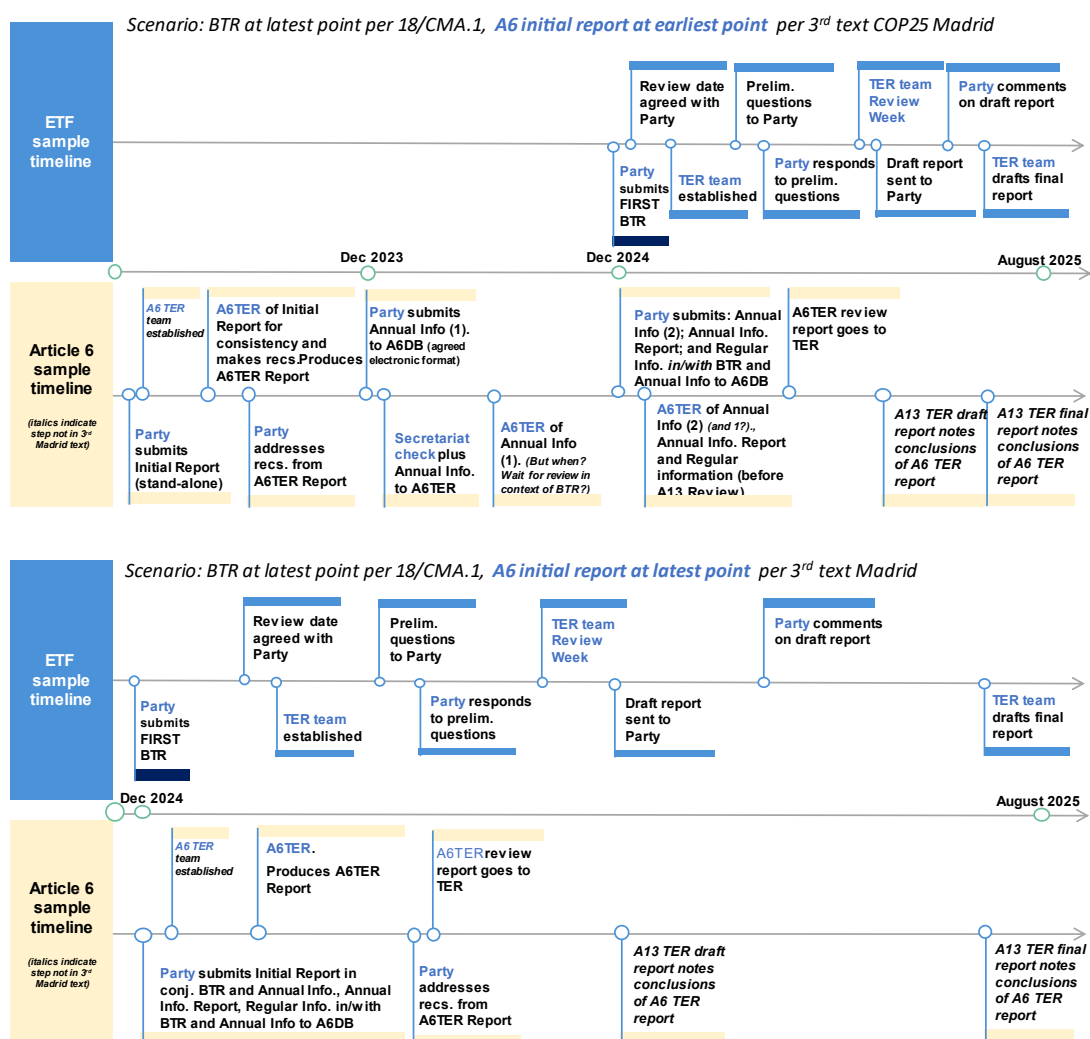
- **Centralised review:** The technical expert review team conducts a review from the same location. Here, an expert review team can review several Parties.
- **In-country review:** The technical expert review team makes an in-country visit in the Party subject to review.
- **Desk Review:** The technical expert review team conducts a review remotely.
- **Simplified review:** Takes place under the lead of the UNFCCC Secretariat, which makes an initial assessment of completeness and consistency with the MPGs.

Synchronising Article 6 and Article 13 review processes

The Article 6 TER is embedded in the Article 13 TER as the resulting report on the Article 6 review is to be forwarded for consideration to the Article 13 TER. The efficient linking of Article 6 TER followed by the Article 13 TER was also strongly supported by survey participants and is reflected in the latest Chair Summary Note (SBSTA 2021c). This has implications for the timing, sequencing, and process of the Article 6 review (SBSTA 2021a) and duplication of work needs to be avoided (SBSTA 2021b). Especially, there should be a simultaneous review of information submitted by Parties performing under the same cooperative approach. In this case, a centralised review is considered the most efficient approach (Falduto et al. 2021). In informal discussions, many Parties noted that the reviews should take the form of desk reviews (SBSTA 2021c).

In general, it should be noted that in case the initial report comes in before the first BTR (latest submission date per 18/CMA.1), the review process will be relatively crowded compared to the situation where the initial report comes in around the same date as the BTR (see Figure 4). This will also hold true for subsequent submissions of initial reports. There is thus a need to determine review dates. Also, there is a risk that a delayed Article 6 review due to synchronisation with BTR reviews jeopardises environmental integrity.

Figure 4: Early and late initial report submissions and resulting processes



Source: Merrill (2021)

3.2. Review under the Article 6.4 mechanism

The A6.4SB oversees the mechanism and enforces the A6.4M RMPs (UNFCCC 2019b, para. 24), to ensure environmental integrity and respect of further safeguards regarding activities implemented and mitigation outcomes credited. This includes approving of methodologies and accreditation of designated operational entities (DOEs) (UNFCCC 2019b, para. 24) that undertake independent review of emission reductions achieved (UNFCCC 2019b, para. 48).

An automatic link to the Article 6 database should be made as soon as an A6.4ER becomes an ITMO. The link should be traceable in the Article 6 database upon the first transfer and should reveal the underlying information on the Article 6.4 activity (Michaelowa et al. 2020).

4. Article 6 reporting and tracking processes at the national level

To oversee, track and account for market-based cooperation under Article 6, Parties will have to develop national processes and tools to facilitate their compliance with reporting requirements under Article 6.2 and in the context of the A6.4M.

4.1. National processes and infrastructure for reporting and tracking under Article 6.2

Parties that plan to participate in a cooperative approach will have to designate a national authority that is responsible for the authorisation of ITMO transfers. They will either need to implement a national registry able to keep track of all authorisations, transfers and acquisitions (see Box 8 for further information on national registries under the KP) or alternatively ensure access to a relevant registry (e.g., UNFCCC registry). Ideally, the national registry is linked to the electronic format of the annual information and the Article 6 database, so that the annual information and potentially the annual information report of the regular information can be automatically generated.

Besides, survey participants considered the following Article 6 infrastructure design needs almost equally important for the transparency of market-based cooperation: Ability to automatically detect quantitative inconsistencies, ability to automatically extract information and fill in agreed electronic reporting templates, ability to sort information by different parameters and to link the available information in different reports and storage places.

The World Bank (2020) suggests that the tasks of maintaining the registry and reporting on cooperation should be assumed by an administrative body in the host country governance under Article 6, consisting of a technical committee in charge of analysis and oversight of methodologies, an executive body for rulemaking and a decision body for policy coordination and oversight. However, the governance structure established should be designed in the context of the host countries' scope and intensity in market-based cooperation. If a host country is only hosting few activities, or even only authorising single activities implemented by private sector actors, a fully fledged governance system of four committees may be overly heavy (Michaelowa et al. 2021c). In these cases, existing authorities (e.g., for the CDM) could be designated to also provide oversight on Article 6 engagement. In the same vein, ADB (2020) wonders whether a simple Excel sheet ('register' instead of 'registry') may be enough in the beginning.

Box 8: National registries under the KP

Under the KP, Annex B countries established and operated national registries. Accounts in the national registry comprise Party accounts that belong to government entities and entity accounts belonging to companies or non-governmental organisations that have been authorised by the government. Reporting by Annex B Parties focuses on holdings and transactions within the registry and with other registries. Besides, the annual retirement or cancellation of units is reported to the UNFCCC through the standardised electronic formats.

One of the most discussed issues in the international context currently is the introduction of corresponding adjustment (CA) processes. Transferring and using Parties will need to calculate the national emission balance of sources and sinks covered by their NDC based on the national GHG inventory. Kachi et al. (2020) argue that having an accurate and updated GHG inventory as well as an NDC that can be compared to inventory levels and accounted for are key readiness elements for Article 6. Box 9 summarises the provisions on reporting of specific gases and highlights some core considerations.

Box 9: Link between the NIR and Article 6, as established by Decision 18/CMA.1, para. 47-49

Paragraph 47 stipulates that Parties need to report estimates of emissions and removals for all categories, gases and carbon pools considered in the GHG inventory at the most disaggregated level and following IPCC guidance. This comprises reporting on CO₂, methane (CH₄) and nitrous oxide (N₂O), and potentially also on hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride and nitrogen trifluoride for countries that have not invoked flexibility.



This implies that all gases that are either covered by the NDC, have been previously covered by the NDC or are covered by an activity under Article 6 of the PA must be reported. So, even if a sector or gas is not covered by the NDC, it must be reported in the NIR if any Article 6 activity is pursued therein.

In the structured summary on NDC implementation, (host) countries must identify relevant indicators to track progress against their NDC targets and report reference values and observed levels on these indicators for the reporting period (x-2, or x-3 for countries that need it, due to their capacities) (UNFCCC 2018, para. 65-68). In addition, under paragraph 77d (UNFCCC 2018), countries must report a national emission balance of sources and sinks covered by the NDC if they engage in cooperative approaches against which CAs are then undertaken.



This is inconsistent with the provision that countries must report on gases if they are covered by Article 6 (in these paragraphs, only covered by NDC). Besides, it is difficult to reconcile this with crediting outside the NDC (if the national emission balance is then restricted to NDC covered gases and sectors) and difficult to reconcile if the CMA decides to allow for trading and accounting in non-GHG metrics.

An unresolved issue regarding the application of CAs is the case of ITMOs or NDC targets measured in non-GHG metrics. ITMOs in non-GHG metrics could be accounted for against non-GHG NDC targets and CAs undertaken against a national balance of the relevant metric. A conversion will be required to relate non-GHG NDC targets to GHG targets. In the May-June 2021 negotiations (SBSTA 2021b), some Parties suggested that scientific committees or technical experts should develop guidance and oversee conversion processes.

Article 6 tracking tools should be integrated into or strongly linked to the NDC tracking systems so that a country is able to monitor progress in NDC implementation while keeping accounting implications of CAs in mind. If host countries find the establishment of such national processes

and infrastructure for reporting and tracking overly demanding and expensive, they could rely on the reporting that needs to be undertaken anyway under international crediting mechanisms (e.g., the A6.4M) or voluntary standards. It becomes clear, though, that capacity building is required to ensure that Parties can comply with the requirements. When being asked on which aspects capacity building should focus on, two aspects ranked highest. First, respondents indicated that the introduction of host country authorisation processes should be promoted. A second aspect mentioned was the development of guidance for robust reporting in host countries. It was specified that it would be particularly important to give guidance on 'how' requirements in the annual information would be filled in (e.g., how environmental integrity is safeguarded), followed by guidance on providing quantitative information on ITMOs in an electronic format (as part of the annual information and guidance on converting ITMOs expressed in non-GHG metrics to CO₂ equivalent).

4.2. Reporting and tracking under Article 6.4

In the context of the A6.4M, host Parties will have to designate a national authority, communicate how participation in the mechanism contributes to sustainable development, what activities it would consider approving and how these contribute to NDC achievement. The national authority must then authorise public or private entities to participate in an activity, approve activities and authorise resulting transfers.

The infrastructure of the A6.4M replaces the need for host Parties to establish their own national registry. However, the host Party will need some tool for tracking authorisations and transfers of A6.4 mitigation outcomes to comply with the Article 6.2 guidance. Once held and transferred between national registries, they must be reported upon by Parties as any other ITMO under the Article 6.2 guidance. The design option of an automatic link between the A6.4M and the Article 6 database once Article 6.4 mitigation outcomes are transferred ranked highly among survey respondents. The need for public accessibility of the Article 6.4 registry, project documentation and accounting information regarding Article 6.4 activities (including mitigation outcomes' serial numbers) ranked even higher among survey participants.

5. Recommendations for the operationalisation of the reporting and review process

The Article 6.2 draft negotiation texts can still be adjusted and refined at COP26 to optimise the envisioned reporting and review processes. We outline the following recommendations for an improved reporting process under Article 6.2:

- Strengthen the initial report by including further qualitative information on how cooperative approaches ensure environmental integrity, promote sustainable development and include social and environmental safeguards. In addition, the report should include information on domestic processes for activity eligibility and authorisation.
- Requirements regarding qualitative information in initial and regular reporting need further details and should be expanded to cover information on how to ensure additionality, monitoring procedures and methodologies and consistency with the host country's sustainable development objectives.
- Clarify how special circumstances and flexibility apply for LDCs and SIDS in the context of reporting and review. The decoupling of the initial report and regular information

from the BTR needs to be specified in case BTR submission is delayed. This ensures that oversight on environmental integrity of Article 6 cooperation is still possible.

- Clarify the timing of CAs, especially with respect to the calendar year in which they must be undertaken on the side of the transferring and receiving Party. Implications for potential banking of ITMOs from one NDC period to the next and for NDC accounting periods needs to be carefully assessed. We note that there are valid reasons for allowing banking of ITMOs, but that there needs to be full transparency about how this can be done and whether limitations would be required. The question of ITMO banking would deserve a separate detailed study.
- Pay more attention to the processing of submitted Article 6 information in the CARP and its publication, developing principles and guardrails for the availability of public information to a level of detail that allows for meaningful oversight by observers and non-Party stakeholders.

Concerning Article 6.4, we recommend to set up a clearly defined link between the Article 6.4 registry and the Article 6 database as soon as ITMO transfers are taking place.

Regarding review processes under Article 6, we note that the current Article 6.2 draft negotiation texts do not yet go into detail on the specific format of the review. We see the following optimisation options for the TER under Article 6.2 and its link to the Article 13 TER:

- A clear mandate needs to be provided to the reviewers regarding review scope (e.g., checking for substantive issues of the information provided, not just doing consistency checks of whether numbers match and all cells are filled) to strengthen the process's robustness.
- The review format (centralised, in-country, desk or simplified review) needs to be specified, as well as the skills required by Article 6 reviewers and their involvement in Article 13 reviews.
- The organisation of the review process in terms of the incurred costs and the required number of additional experts needs to be addressed and mandated.
- Timing of Article 6 and 13 review processes should be synchronised, allowing coordination in case of a timely submission of BTRs, while decoupling the reviews in case the BTR is delayed.

Regarding the above recommendation of an automatic link between the Article 6 database and the A6.4 mechanism registry, this link should be traceable in the Article 6 database and should reveal underlying information on the Article 6.4 registry to ensure that the information can be processed during the Article 6 TER.

At the national level, efficient processes and infrastructure for reporting and tracking under Article 6.2 and for participation in the Article 6.4 mechanism need to be implemented. Before implementing these processes, the respective Party should reach a good understanding of the degree of involvement in Article 6 cooperation it pursues and design its governance structures fit for purposes while avoiding superfluous costs and complexity. The following steps are recommended to be taken at the national level:

- Appointment of a national authority that is responsible for the authorisation of ITMO transfers. This national authority should be well-embedded in existing institutions for

NDC implementation and inter-agency coordination must be ensured in the context of NDC monitoring and accounting, including with regards to authorisation of activities, issuing and tracking ITMOs and reporting on corresponding adjustments.

- For Parties that go beyond the use of the Article 6.4 mechanism or the recognition of independent third-party standards when granting authorisation of transfer and overseeing implementation, a technical committee or another administrative body that is in charge of analysing and overviewing methodologies (including the conversion of non-GHG in GHG metrics) will be required.
- Ensuring access to the UNFCCC registry, implementation of a national registry that is linked with the Article 6 database or a comparable tracking infrastructure. In a transition period, simple 'registers' of mitigation activities and outcomes can suffice (e.g., an Excel sheet).

Institutionalisation of Article 6 readiness comes with its challenges, especially regarding the lack of national capacities (also see Murun et al. 2021). Therefore, Parties must acknowledge that developing countries with limited resources will require support and targeted technical assistance to overcome these challenges.

- Capacity building programmes will have to be designed, building on lessons learned from the Kyoto era and the Clean Development Mechanism. Countries should explore options on how to ensure that costs incurred may be covered by administrative fees levied in cooperative approaches. Furthermore, synergies with capacity building programmes and support provided for GHG inventories and reports to the UNFCCC should be harnessed. Better donor coordination and transparency on support available and provided can also help increase efficiency and reduce costs of capacity building programmes.
- Different options for tracking systems and registries and cost implications for Parties need to be tested. In this context, design of registries that can support automatic generation of quantitative reports and support in the application of CA should be explored.
- Guidance will be required on 1) the introduction of host country authorisation processes, 2) the provision of quantitative information on ITMOs in an electronic format (as part of the annual information) and 3) guidance on converting ITMOs expressed in non-GHG metrics to CO₂ equivalent. This guidance should also promote a certain degree of harmonisation in Party reporting. Capacity building programmes must take this guidance into account and support Parties in applying them to their Article 6 activities.

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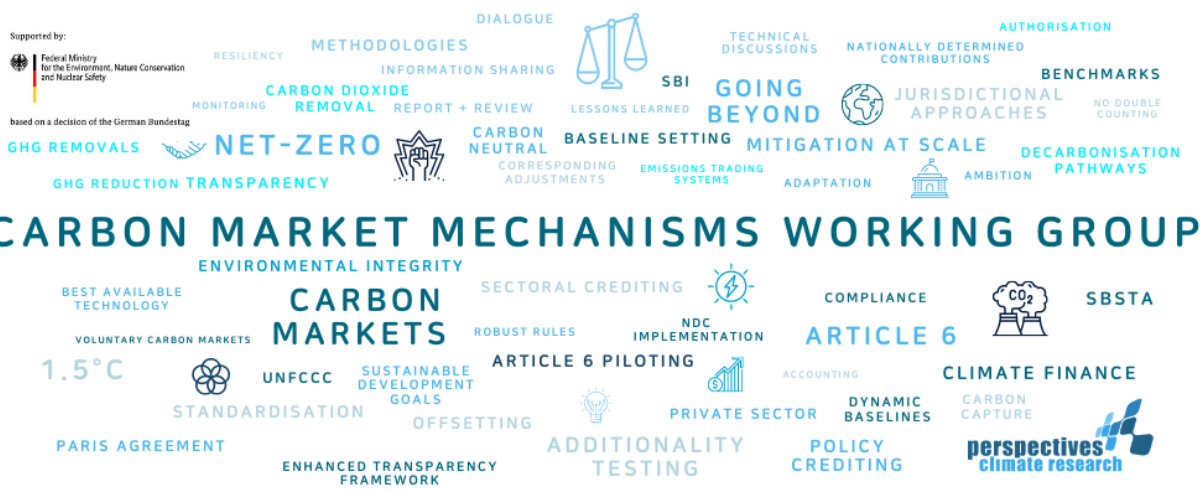
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