GGGI

SPAR6C

Supporting Preparedness for Article 6 Cooperation

A Toolbox series for Article 6 implementation

Screening and developing Article 6 activities

Guide 5

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Version 1.0: *The version of this guide, including the descriptions of mandatory and optional requirements, is based on the COP26 (2021) and COP27 (2022) decisions on Article 6.2 and 6.4 (i.e., decisions 2/CMA.3, 3/CMA.3, 6/CMA.4 and 7/CMA.4) and so does not yet include any decisions from COP28.*

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Screening and developing Article 6 activities

About the Supporting Preparedness for Article 6 Cooperations (SPAR6C)

The Supporting Preparedness for Article 6 Cooperation (SPAR6C [spark]) program enables stakeholders in Colombia, Pakistan, Thailand, and Zambia to become prepared to engage in carbon transactions under Article 6 of the Paris Agreement. SPAR6C program provides decision support to government counterparts on Article 6 strategy and governance frameworks, capacity building for private sector and technical assistance to identify and prepare mitigation activities which could serve as the basis for Article 6 transactions. In addition to in-country support, SPAR6C program hosts a global knowledge exchange platform, the "Community of Practice for Article 6 Implementing Countries" or CoP-ASIC. The program is implemented by a consortium of experts, led by the Global Green Growth Institute (GGGI), with delivery partners Carbon Limits, GFA Consulting Group (GFA), Kommunalkredit Public Consulting (KPC) and UN Environment Programme's Copenhagen Climate Centre (UNEP-CCC). SPAR6C is a five-year program (2022–2026) funded by the German Federal Ministry for Economic Affairs and Climate Action (BMWK), through the German government's International Climate Initiative (IKI).

About Lead Implementing Partner – Global Green Growth Institute (GGGI)

Based in Seoul, GGGI is a treaty-based international, inter-governmental organization – with over 40 Members and growing – dedicated to supporting and promoting strong, inclusive, and sustainable economic growth in developing countries and emerging economies. With operations in over 30 countries, GGGI serves the role of an enabler and facilitator of Members' transition into a low-carbon green economy, providing policy advice and technical support in the development of green growth plans, policies and regulations, mobilization of green investments, implementation of green growth projects, and development of local capacities and knowledge sharing. Further information on GGGI's events, projects and publications can be found on www.gggi.org.

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Preface: the SPAR6C Article 6 toolbox

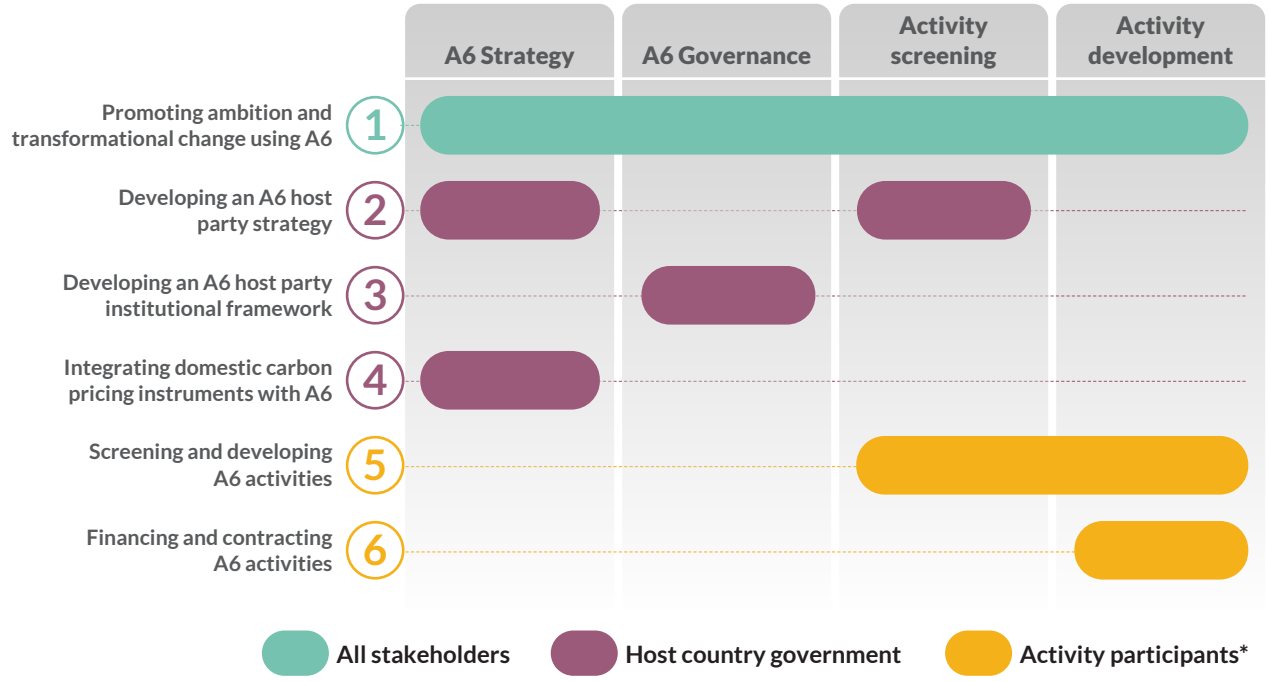
Many developing and emerging economies are keen to pursue carbon transactions under Article 6 of the Paris Agreement in the hope that they will promote ambitious climate change mitigation and generate sustainable development outcomes. However, for countries to be fully prepared to actively engage in the future Article 6 carbon market, there is a steep learning curve. The German Federal Ministry of Economic Affairs and Climate Action (BMWK) through the International Climate Initiative (IKI) supports the *Supporting Preparedness for Article 6 Cooperation* (SPAR6C) program. One of the program's many ambitious goals is to enable partner governments of Colombia, Pakistan, Thailand, and Zambia to become fully prepared to engage in Article 6 transactions.

As part of the program, the "Article 6 Toolbox" draws on the consortium's experience in Article 6 activity development to create guidance and tools that can be used in the target countries and that will make the mechanics of Article 6 implementation better understood. Toolbox development will also promote consistency across countries and efficiency in delivery. A core principle will be the adaptability of the Toolbox to different scenarios to fit the national conditions over the course of the project. The first set of outputs in the Article 6 Toolbox for 2022–2024 is six guides that target the fundamental needs of host party governments, on one hand, and activity participants, on the other hand. The six guides are as follows:

- **Guide 1:** Promoting ambition and transformational change using Article 6 – e.g., long-term strategy support, ITMO cancellation, national eligibility requirements, stringency in baselines.
- **Guide 2:** Developing an Article 6 host party strategy – e.g., accessing opportunities, managing overselling risks, meeting basic Article 6 requirements, criteria for authorization and transfer, developing supporting regulation.
- **Guide 3:** Developing an Article 6 host party institutional framework – e.g., institutional arrangements and procedures for authorization, transfer, tracking and reporting, registry design.
- **Guide 4:** Integrating domestic carbon pricing instruments with Article 6 – e.g., how Article 6 engagement could support or conflict with emissions trading schemes, carbon taxes and other carbon pricing instruments.
- **Guide 5:** Screening and developing Article 6 activities – e.g., guidance of each step in the project cycle, from conceptualization and pre-design, through issuance and transfer of ITMOs.
- **Guide 6:** Financing and contracting Article 6 activities – e.g., negotiating with financing partners, bilateral agreements, contractual issues for selling ITMOs.

Out of the six guides, three cater to host party governments, two are tailored for activity participants (either public or private), and the one on ambition and transformational change encompasses aspects from both areas, as shown in Figure 1.

Figure 1. Overview of scope of the first six guides in the Article 6 toolbox



* Includes intermediaries and financiers.
Notes: A6 = Article 6. CPI = Carbon pricing instrument. The strategy box under "Activity screening" is for how governments choose to prioritize funding for pilot activities funded by national or international public finance.

Each guide delves deeper into its scope and content, addressing any overlaps with other guides. For example, because financial and contractual issues are strategic for mitigation activities, Guide 6 refers to those arrangements. However, this guide on activity development (Guide 5) covers the activity screening and design across the entire activity cycle.

Future updates of the guides are planned, in 2024 and 2025, and will feature additional case studies from host countries and delve further into activity development. If you have suggestions for these case studies or any other feedback, please email SPAR6CToolbox@gggi.org.

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Acronyms and abbreviations

A6.4ERs	Article 6.4 emission reductions
AIN	Activity idea note
ACR	American Carbon Registry
BAU	Business as usual
CAPEX	Capital expenditure
CDM	Clean development mechanism
CDM DNA	CDM designated national authority
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
DOE	Designated operational entity
EIA	Environmental impact assessment
ESIA	Environmental and social impact assessment
Gg	Giga-grams (109 grams = one billion grams)
GHG	Greenhouse gas
IRR	Investment rate of return
LT- LEDS	Low emissions development strategy
MADD	Mitigation activity design document
MRV	Monitoring, reporting and verification
NDC	Nationally determined contribution
PDD	Project design document
PRC	Post registration changes
REDD	Reducing emissions from deforestation and forest degradation
RMPs	Rules, modalities and procedures
SDG	Sustainable development goal
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States dollar
VCM	Voluntary carbon market
VCS	Verified Carbon Standard

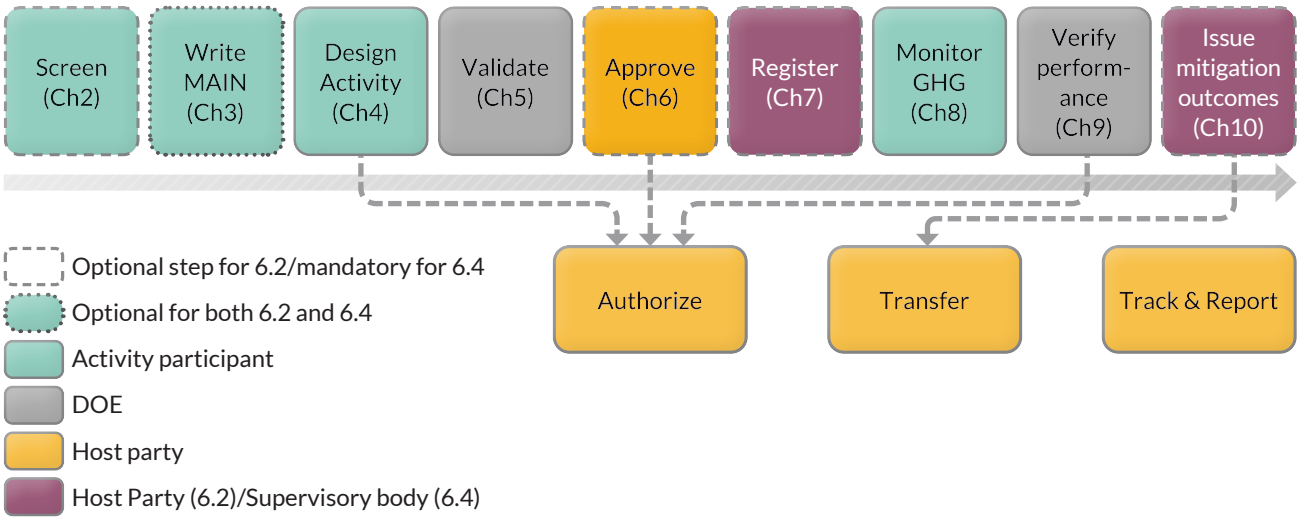
Chapter 1

Introduction

Article 6 of the Paris Agreement provides an opportunity for activity participants[1] to access an additional source of revenue – carbon finance – resulting from international transactions of mitigation outcomes. This guide aims to support these activity participants, whether public agencies or entities from the private sector, in developing Article 6 activities (i.e., projects or programs) and transactions of mitigation outcomes resulting from their implementation.

The guide helps activity participants to understand the Article 6 activity cycle, whether they are using a bilateral or independent crediting mechanism to generate mitigation outcomes for transfer (hereafter referred to as an activity cycle for "Article 6.2") or they are using the Article 6.4 mechanism to generate the mitigation outcomes for transfers (hereafter referred to as an activity cycle for "Article 6.4") as shown in Figure 2. The guide addresses the stakeholders involved, the steps in the traditional activity cycle and the new steps required for Article 6.

Figure 2. Overview of the generic activity cycle (grey arrow) and the Article 6 additional steps (bottom of the figure)



The guide presents some tools for scoping, designing and structuring mitigation activities under the Article 6 and shows how activity participants can meet requirements for authorizing mitigation activities and mitigation outcomes. The tools presented here are generic, given that the specific requirements may vary from party to party.

Even though some steps on the activity cycle are led by actors other than the activity participant (i.e., host party, supervisory body, designated operational entity (DOE)) this guide focuses on the steps the activity participants need to take and what they can expect. The guide also takes advantage of the similarities of Articles 6.2 and 6.4 in each step of the activity cycle to present generic procedures, but highlights what the activity participant needs to address differently under each step for Article 6.4.

As the process of developing a mitigation activity is resource-intensive, this guide presents in chapter 2 an activity-screening procedure to provide the activity participant with elements to assess whether it is worthwhile to engage in the development of a proposed mitigation activity. This procedure involves the activity participant thinking early about the information tot be included in the activity idea note (AIN) and the mitigation activity design document (MADD) to enable strategic decision-making.

Chapters 3 (preparing activity Information note) and 4 (design activity) describe how activity participants will prepare activity documentation to have a greater chance of success of the mitigation activity materializing as part of Article 6 cooperation. For this purpose, the guide is based on best practices on the preparation of the clean development mechanism (CDM) project design document (PDD),[2] to provide tips on some sections that may still be similar in the MADD. It will also provide options for addressing the new requirements of Article 6. It will also help activity participants to understand and assess issues such as additionality to effectively identify baselines, among other issues.

Chapters 5, 6 and 7 provide guidance on the processes related to validation, approval and registration of the activity development. Chapters 8 (implement activity and monitor performance) and 9 (verify performance) present advice on how to manage the monitoring and reporting process based on the experience from the CDM, and on how to navigate the verification process necessary to generate mitigation outcomes.

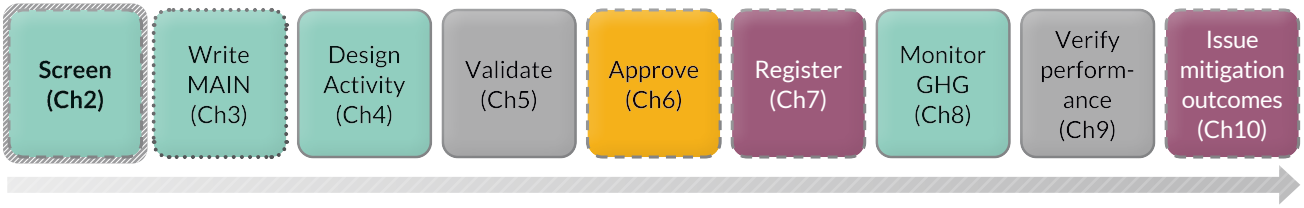
Chapters 10 and 11 include orientation on the issuance, authorization and transfer of mitigation outcomes, including the processes, the stakeholders involved and the conditions that should be met.

Chapter 12 provides recommendations for transition of CDM projects into Article 6 activities. These are based on the guidance provided by the Article 6 supervisory board.

All chapters at one or more points refer to guidelines 3 and 6, in case the activity participant wants to have more knowledge on how host countries establish governance frameworks for Article 6 or how bilateral agreements and other legal frameworks are established and legally formalised.

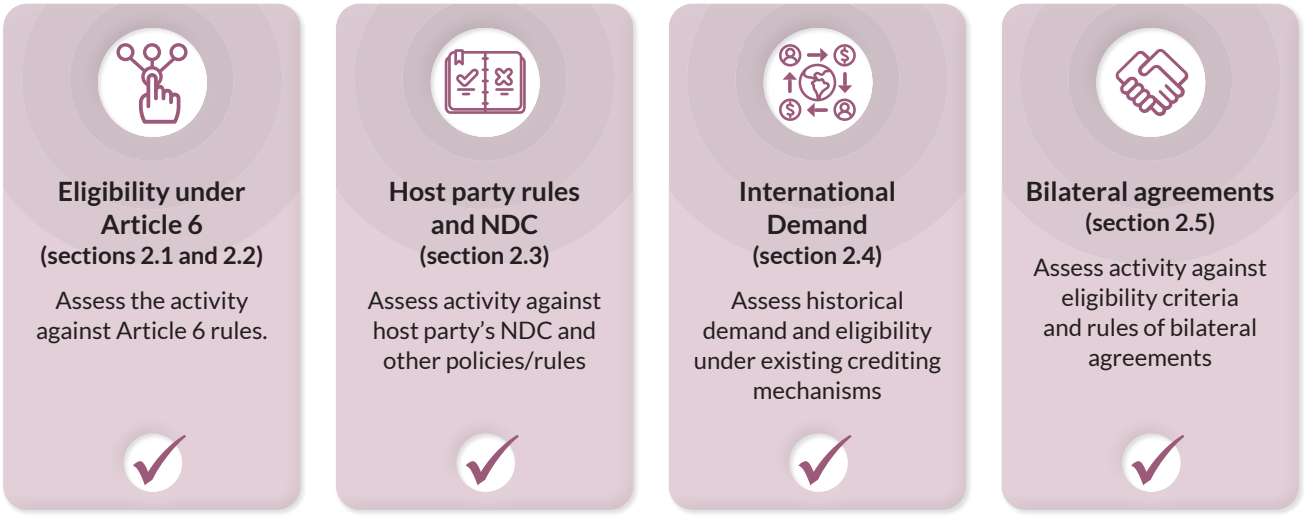
Chapter 2

Screen activity: success factors in early activity development



This chapter presents a screening process for the activity participant to identify mitigation activities (whether projects or programs) with a higher probability of being a successful part of Article 6 cooperative approaches in a host country. The overview of the screening process is presented in Figure 3. Each of the elements of the screening process is developed in the sections below.

Figure 3. Overview of the screening process



One of the first and most basic steps in identifying and designing an Article 6 activity is to assess its compliance with the basic requirements set out for Article 6.2 cooperation or for the Article 6.4 mechanism. If the proposed mitigation activity does not comply, or only partially complies, with these rules, the activity participant is advised not to pursue it further, as it will not be aligned with the core objective of Article 6: to enable voluntary cooperation between parties to enable greater ambition in their mitigation actions.

To carry out this analysis, sub-chapter 2.1 presents eligibility criteria for Article 6.2 approaches and sub-chapter 2.2 does so for the Article 6.4 mechanism. There are some criteria that may appear to be repeated in these two sections, but it is important to note that Article 6.4 provides more specific rules in this regard that the activity participant must comply with.

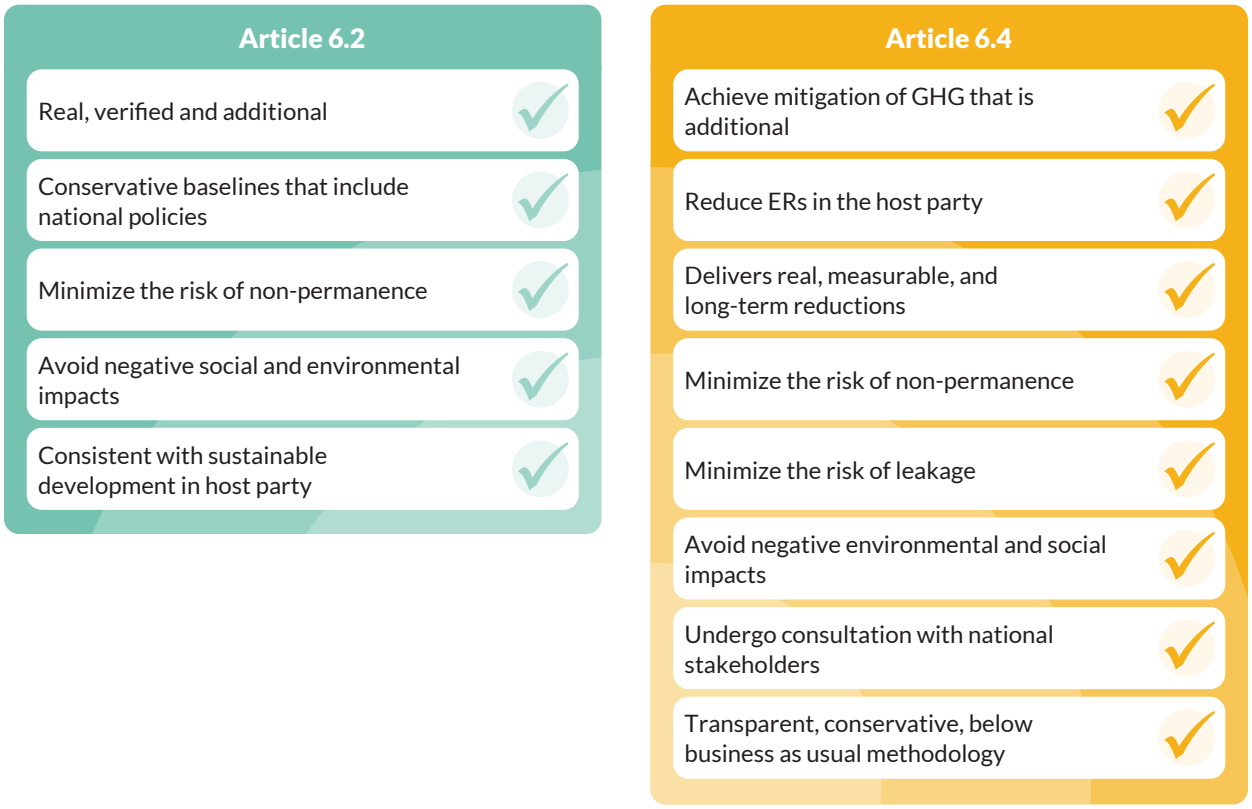
Although the rules set out in Article 6.4 do not necessarily apply to Article 6.2 transactions, based on the experience of other crediting mechanisms, it could be suggested that activities that meet all these criteria would have the greatest likelihood of success.[3]

2.1 Eligibility criteria under Article 6.2

The Article 6.2 rules define specific eligibility criteria for mitigation outcomes and the activities that are used to generate them. For Article 6.2 co-operative approaches, these criteria state that the activity and related mitigation should:

- Be real, verified and additional[4]
- Be generated in respect of or representing mitigation from 2021 onward[5]
- Result from a cooperative approach involving the international transfer of mitigation outcomes authorized for use towards a nationally determined contribution (NDC)[6]
- Mitigation outcomes authorized by a participating party for use for international mitigation purposes other than achievement of an NDC or authorized for other purposes[7]
- Be robustly quantified, with conservative baselines that include national policies[8]
- Minimize risk of non-permanence[9]
- Avoid negative environmental and social impacts[10]
- Be consistent with sustainable development priorities in the host party[11]
- Contribute to a host party's NDC implementation[12] (this criterion is addressed in sub-chapter 2.2)

Figure 4. Key requirements and questions for activity participants



2.1.1 Additionality

Crediting mechanisms consider a mitigation activity to be additional if it would not be undertaken in the absence of the incentives provided by the carbon market.[13] Additionality is a fundamental part of the environmental integrity and quality of a mitigation outcome. This section provides guiding questions which the activity participant can use for an initial additionality check for their mitigation activity. For more information on additionality and related tests to determine additionality, refer to Chapters 3 and 4 of this guide.

Activity participants can assess the likelihood of success against this criterion based on the following questions:

1. Is the viability of the proposed mitigation activity dependent on revenues from the sale of carbon credits?
2. Is the proposed mitigation activity beyond of any required activities by previous or recent regulations or laws?
3. Is the proposed mitigation activity still in the planning/structuring phase or has it not reached financial closure?

If the response to any of these is no, the likelihood of success is very low, because it will be difficult for the activity to demonstrate additionality.

2.1.2 Robustly quantified, with conservative baselines that include national policies

Article 6 requires that all national/sectoral policies related to the activity must be considered in the establishment of a baseline, irrespective of when they entered into force. In other words, there are no exemptions for policies that give comparative advantages to more emission-intensive technologies or fuels, nor for policies that give comparative advantages to less emission-intensive technologies or fuels.

The activity participant can use the following questions to help assess the likelihood of success with respect to this criterion:

1. Has an applicable methodology been identified for the activity?
2. Does the selected baseline methodology consider national policies related to the activity (i.e., subsidies, national implementation programmes, etc.)?

If the answer to either of these questions is no, the likelihood of success of the proposed mitigation activity will be very low, as it will be difficult to demonstrate that emissions and mitigation outcomes have been quantified in a conservative manner.

2.1.3 Minimize the risk of non-permanence

Non-permanence is where the mitigation outcomes (emission reductions or removals) generated by the mitigation activity are released back into the atmosphere (e.g., due to a natural disaster, activity mismanagement, or intentional use of biomass). Assessing the risk of such reversals is a critical part of screening potential mitigation activities.To meet this criterion and increase the likelihood of success, activity participants can follow the steps below:

- If the mitigation activity relies on natural systems for emission reductions (e.g., REDD) or removals (e.g., afforestation), the activity participant should consider how to measure and manage the risk of non-permanence in the activity design (MAIN and MADD) over the long term.
- If the mitigation activity does not rely on natural systems for emissions reductions (e.g., REDD) or removals (e.g., afforestation), this criterion does not apply and should not be considered by the activity participant.

2.1.4 Avoid negative environmental and social impacts and be consistent with sustainable development priorities in the host party

Article 6 of the Paris Agreement states that activities developed under its cooperative approaches should prevent negative environmental and social impacts, i.e., the degree to which the mitigation activity avoids adverse environmental or social impacts on stakeholders and local communities, such as human rights violations, and generates benefits beyond greenhouse gas (GHG) emission reductions, such as reduced air pollution.

The rules also requires activities to enhance the positive impacts, considering sustainable development as a national prerogative (i.e., the benefits the activity generates beyond GHG emission reductions, such as reduced air pollution).

To increase the likelihood of meeting this criterion, activity participants should:

- Screen the proposed mitigation activity against any recognized environmental and social safeguards frameworks (e.g. International Finance Corporation). This will allow early identification of risks that may arise from the activity and address them from the design phase.
- Check the proposed mitigation activity against environmental impact assessment (EIA) legislation or regulations to determine if an EIA is required. It is important to determine this need at an early stage as it can be a lengthy and costly process.

In addition, activity participants can answer these questions to assess the likelihood of meeting this criterion:

1. Are the sustainable development co-benefits easily identifiable while the negative impacts are manageable?
2. Could the implementation of the activity contribute to the advancement of sustainable development goals/indicators/policies in the host party?

The list of the 17 sustainable development goals (SDGs) and their targets is available online.[14]

2.2 Eligibility criteria under Article 6.4

In addition, the rules of the mechanism set out in Article 6.4 define that the activities must comply with the following criteria:

- Achieve mitigation of GHG emissions that is additional[15]
- Reduce emission in the host party[16]
- Deliver real, measurable, and long-term mitigation benefits[17]
- Minimize the risk of non-permanence of emission reductions[18]
- Minimize the risk of leakage[19]
- Avoid negative environmental and social impacts[20]
- Undergo consultation with local and where appropriate subnational stakeholders[21]
- Apply or develop a methodology, approved by the supervisory board, that is transparent, conservative, below business as usual (BAU)[22]
- Align with the host party's NDC and, if applicable, with its long-term low-GHG emission development strategy[23] (this criterion is addressed in sub-chapter 1.3)

2.2.1 Achieve mitigation of GHG emissions that is additional

Like Article 6.2, Article 6.4 includes the criterion of additionality. However, in this case the definition is much more robust, and requires demonstrating that the activity:

- Would not have occurred in the absence of the mechanism's incentives
- Takes into account all relevant domestic policies, including legislation
- Represents mitigation that exceeds any mitigation required by law or regulation[24]
- Adopts a conservative approach that avoids locking in emission levels,[25] technologies or carbon-intensive practices

The following questions could guide activity participants in determining additionality of the proposed mitigation activity:

1. Is the viability of the proposed mitigation activity dependent on revenues from the sale of carbon credits?
2. Is the proposed mitigation activity beyond any activities required by previous or recent regulations or laws?
3. Is the proposed mitigation activity still in the planning/structuring phase or is still reaching financial closure)?
4. Does the activity neither involve nor prolong the life of fossil fuel infrastructure?

If the answer to these questions is no, it is very likely that the proposed mitigation activity is not additional and therefore not eligible to participate in the Article 6.4 mechanism.

2.2.2 Reduce emissions in the host party

All crediting mechanisms require a mitigation activity to define the geographical boundary, as well as the boundary in terms of gases, sources and sinks. However, the rules in Article 6.4 require that mitigation outcomes occur within the host party. In other words, some activities involving, for example, cross-border energy trading where emission reductions occur in another country, would no longer be eligible.

To increase the likelihood of meeting this criterion, activity participants should:

- Design the mitigation activity in such a way as to ensure that the mitigation outcomes take place within the physical boundaries of the host party.[26]

2.2.3 Deliver real, measurable, and long-term reductions

This criterion means that mitigation outcomes must be measurable, reportable, and verifiable, but also that they must be maintained throughout and potentially beyond the implementation of the activity. This could also be related to the issue of non-permanence (refer to sub-chapter 2.1.3).

The following questions are useful for activity participants to assess compliance with this criterion:

1. Can mitigation outcomes be verified reasonably easily and using a conservative approach?
2. Are the mitigation outcomes likely to be sustained beyond the lifetime of the activity?
3. Does the proposed activity relate to the low emissions development strategy (LT-LEDS) (if available) of the host party?

If the answer to these questions is no, it is likely that the activity is not eligible, because it delivers temporary mitigation results or because these may be overestimated.

2.2.4 Minimize the risk of non-permanence

See sub-chapter 2.1.3.

2.2.5 Minimize the risk of leakage

Leakage is defined as the net change of GHG emissions or removals that are attributable to the activity but occur outside the boundary of that activity. These include, for example, indirect emission changes upstream or downstream of the activity or rebound effects.

Leakage can occur in various sectors (e.g., industry) and from various types of interventions (i.e., energy efficiency), although it is most frequent in forestry and land use activities. It can be brought about by[27]:

- Activity-shifting: mitigation activities shift emissions to locations not targeted, or emissions not monitored, by the mitigation activity
- Market: an impact on the supply or demand of an emissions-intensive product or service, creating an increase in emissions elsewhere
- Lifecycle: the generation of emissions of a product created as part of the activities implemented for a mitigation activity
- Ecological: emissions from hydrologically connected systems (e.g., wetlands)[28]
- Market: an impact on the supply or demand of an emissions-intensive product or service, creating an increase in emissions elsewhere
- Lifecycle: the generation of emissions of a product created as part of the activities implemented for a mitigation activity
- Ecological: emissions from hydrologically connected systems (e.g., wetlands)[29]

Activity participants can assess whether the proposed mitigation activity presents a risk of leakage and how these risks could be mitigated in the design of the activity (MAIN – see chapter 3; and MADD – see chapter 4).

2.2.6 Avoid negative environmental and social impacts

See sub-chapter 2.1.4.

2.2.7 Undergo consultation with local stakeholders

Stakeholder consultation is a key element of activity design. Various international and independent crediting mechanisms require the activity participant to carry it out as a requirement for registration. Host party policies may also require the activity participant to carry out stakeholder consultation depending on the characteristics of the activity (sector, size, geographical area of implementation).

Stakeholder consultation involves the activity participant contacting local communities and organizations or other stakeholders that may be affected by the activity to seek their views and input to co-create on its design and implementation. This process can increase public acceptance of the activity by addressing any relevant concerns at an early stage of the activity cycle.

To increase the likelihood of meeting this criterion, activity participants should:

- Screen the proposed mitigation activity against the host party's or crediting mechanism's legislation/regulations (e.g. Article 6.4 mechanism or independent crediting mechanism) to determine stakeholder consultation frameworks and requirements.
- Identify the stakeholders that could be affected by the proposed mitigation activity and assess the potential for strong resistance or concerns with the intended mitigation measures

2.2.8 Apply a methodology approved by the supervisory board that is transparent, conservative, below business as usual

Transparent means explaining the methodology used and its parameters; and indicating the source of the underlying data and how the data is used and how the baseline methodology is applied in a conservative manner that addresses uncertainty and ensures environmental integrity.

Below BAU implies that the methodology should be more conservative (i.e., lower emission factors) and the baseline should reflect existing installations and incentives.

The following questions can help the activity participant to assess the likelihood of meeting this criterion:

1. Is there an approved methodology under the 6.4 that is applicable to the proposed mitigation activity?
2. Is there a methodology from the CDM or from an independent crediting mechanism that is applicable to the proposed mitigation activity?
3. Do you have the necessary resources to develop an appropriate methodology for the proposed mitigation activity?

If the response to either of these is no, the likelihood of success is very low, because it will be difficult for the proposed mitigation activity to demonstrate compliance with this criterion.

2.3 Host party rules and NDC

The objective of this sub-chapter is to identify whether the host party has rules and procedures in place to assess the opportunities and impacts of activities seeking to engage in the Article 6 cooperative approaches, and to authorize mitigation outcomes. Of course, at this time host parties may or may not have eligibility criteria for mitigation activities clearly defined in Article 6 strategies. In any case, activity participants can use these questions and analysis to assess the likelihood that the host party would grant authorization, even if they have not completed a formal Article 6 strategy process. Many of the questions relate to how the activity

might impact the host party's NDC compliance, because this could influence later host party decisions on authorization and transfer of internationally transferred mitigation outcomes (ITMOs). The process for determining whether an activity is likely to be authorized by a host party is summarized in Figure 5 below.

Figure 5. Assessing the likelihood of successful host party authorization of a proposed mitigation activity

To carry out this analysis, activity participants should become familiar with the governance of the NDC and Article 6 in the host party. For this purpose, they should identify:

- The institution or institutional body in charge of NDC approval in the host party, to request additional information or clarifications on the NDC. In addition, this institution is usually the lead for climate change institutional arrangements

The institution that functions as the DNA of the host party, as this will be the institution that will act as the contact point for all matters related to Articles 6.4[30] and 6.2[31] (including communications, processes related to the activity cycle, etc.).

Whether there is a law on climate change that creates specific governance in the country,[32] as that governance might include additional stakeholders whose priorities may influence the screening process or design of the activity

2.3.1 Check against any host party negative list

A negative list refers to a set of activities that activity participants may not use as part of Article 6 cooperation. Host parties may create negative lists for several reasons, including the exclusion of activities that could cause NDC compliance risks, or of activities that have negative social and environmental impacts or result in human rights violations, such as the displacement of people.

Negative lists may include technologies, types of activities or sectors. Activity participants can use the following question to assess the likelihood of success with respect to this criterion:

1. Is the activity outside the host party's negative list?

If the answer is no, presumably there is no chance of the host country approving the mitigation activity. If the host party does not have a negative list this question is not applicable to the analysis.

2.3.2 Check against any host party positive list

Positive lists refer to a set of activities that host Parties promote to participate in Article 6 transactions, which almost certainly will be authorized or would be exempt from certain authorization or approval requirements. Host parties may use this approach to incentivize technologies or types of activities that, due to their cost, market penetration rates and/or non-financial barriers, cannot be implemented without carbon revenues.

To assess the likelihood of meeting this criterion, activity participants should check:

- Whether the proposed mitigation activity is included in the host party's positive list.

2.3.3 Check against any public host party requirements or criteria on carbon markets

Whether the host party has an official Article 6 strategy in place or not, activity participants should check any policies, strategies, laws or regulations that may influence the eligibility of activities seeking to participate in carbon markets. The activity participant can use the following questions to guide this assessment:

1. Is the proposed mitigation activity able to demonstrate support to government goals and/or key public policies in the relevant sectors?
2. In case the host party has a carbon registry in place, is the proposed mitigation activity able to demonstrate alignment with its requirements?
3. Is the mitigation activity permitted by the sectoral or regional regulations of the host party?

In case the answer to any of these is no, the probability of success of the proposed mitigation activity will be low.

2.3.6 Compare to host party NDC to assess potential overselling risks[33]

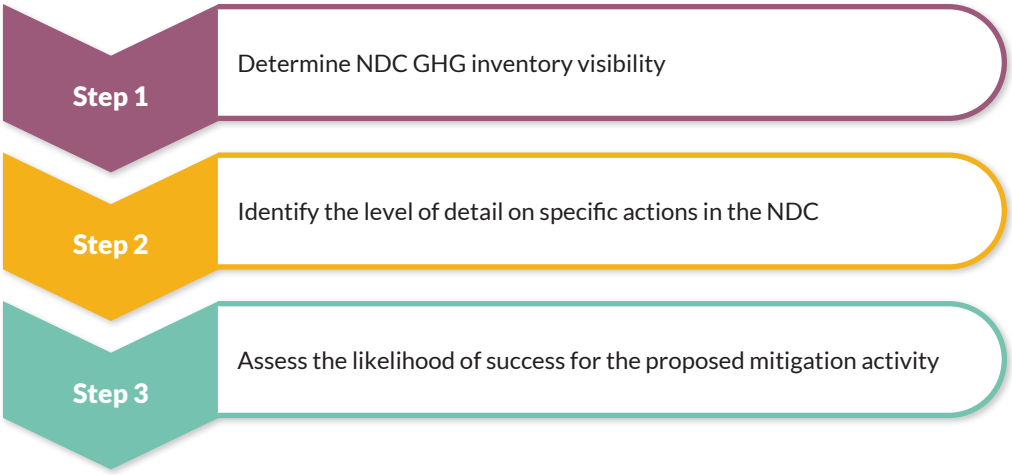
Host parties will eventually need strategies to manage their risk of overselling mitigation outcomes or compromising their NDC compliance. Where the host party has not finished the strategy development process, the activity participant can still ask some basic questions about its activity as it relates to the NDC, to give an indication of how likely the host party might be to authorize it.

For more information on the over-selling risks, refer to Guide 2: Creating a governance framework

Overselling risks depend on the characteristics of the specific mitigation activity proposed, the details of the host party's NDC,[34] as well as the reporting frameworks (e.g., the NDC GHG inventory that supports the monitoring of NDC progress).

Activity participants can use the following process to assess the likelihood of success of the proposed mitigation activity against the overselling risks in the context of the specific host party's NDC. Figure 6 presents the overall process, while the paragraphs below explain each step.

Figure 6. Analytical framework for assessing the likelihood of success of the proposed mitigation activity against the host party's NDC and reporting framework



Step 1 – Screen for NDC GHG inventory visibility: Is the proposed activity visible in the NDC GHG inventory used in NDC reporting, or is it inside the scope of the host party's NDC?

For activities that are not visible in the NDC GHG inventory (e.g., improved cookstove activities that reduce deforestation, but whose impact is not captured in the forestry NDC GHG inventory) or are outside the scope of the NDC, the probability of success is very low (Table 1). This is because the host party's corresponding adjustment for the transfer (i.e., adding back these emission reductions to the NDC GHG inventory) is not matched by any visible reduction in the NDC GHG inventory due to the mitigation activity (or because the emission reductions occur in a sector, gas or source that is outside the scope of the NDC). Such a transfer essentially increases the host party's NDC target because more mitigation is required for its "emissions balance" to match its original NDC pledge. To still meet its goal, the host party would therefore have to pursue additional mitigation options to replace the transferred mitigation outcomes. This could be more expensive or complex than the actions included in the plan.

Table 1. Step 1 – Screen for NDC GHG inventory visibility

Condition	Likelihood of success
Activity type reduces emissions outside the NDC scope (gases, sources and sinks, etc.)	Very low
Activity type reduces emissions, but these reductions are not visible in the NDC GHG inventory[35]	Very low
Activity type reduces emissions from gases and sectors covered by NDC and these reductions are visible in the NDC GHG inventory	Continue to step 2

For proposed mitigation activities that are visible in the NDC GHG inventory and are inside the scope of the NDC, the screening process would then continue to Step 2.

Step 2 – Identify level of detail on specific actions in NDC

The key question for these remaining activity types is how likely it is that the activity type overlaps with the actions the host party needs to implement to reach its unconditional NDC[36] goal. The challenge with answering this question is that not all countries have NDCs or NDC implementation plans that specify the actions needed to reach the NDC goal. Even when there is some form of plan, the level of detail presented publicly may be limited. Separating NDCs into four categories makes it easier to answer the question of potential overlap:

- The NDC lists specific conditional and unconditional actions
- The NDC lists mitigation activities but does not specify whether they are for the unconditional or conditional NDC
- The NDC does not list specific mitigation activities but has unconditional and conditional mitigation goal
- The NDC does not specify whether or not the goals are conditional, or NDC has only either conditional or unconditional targets (i.e., not both)

The screening process for each type of NDC is somewhat different, but all of them lead to an assessment of high, medium or low probability of success.

Step 3 – Assess the likelihood of success for the proposed mitigation activity

The assessment process depends on the category of NDC, as explained in the following descriptions (numbered *a–d*) and tables. For a given mitigation activity and host party, only one of the assessments would apply, based on the category of NDC. In all cases, this part of the assessment framework only applies to mitigation activities that are inside the scope of the NDC and whose emission reductions or removals are visible in the NDC GHG inventory covering the NDC goals (see Step 1).

a. NDC lists specific conditional and unconditional actions

The assessment of the likelihood of success is easiest where a host party has identified the actions preferred to meet its unconditional and conditional NDC goals. The only caveat is that some actions might be used for both goals but at different levels of implementation. Table 2 shows the likelihood of success associated with different types of mitigation activities in this type of host party.

Table 2. Assessing the likelihood of success for the proposed mitigation activity where the NDC lists specific unconditional and conditional actions

Condition	Likelihood of success
Activity type is mentioned *only* as an unconditional action, and NDC does not specify level of implementation of this action	Low
Activity type is mentioned *only* as an unconditional action, but NDC specifies a level of implementation of this action (e.g., MW of power or ha of land) that could be exceeded by a specific activity	Medium*
Activity type is mentioned as *both* an unconditional and conditional action (e.g., at different degrees of implementation)	Medium
Activity type is not mentioned in either list or is only mentioned as a conditional action	High

Note: *Using the NDC implementation goal as the baseline for this cooperative activity would address the associated overselling risk, assuming the mitigation activity was broad enough in scope to match that goal.

b. NDC does not list specific mitigation activities but does have unconditional and conditional mitigation goals

The other scenarios make it even more difficult to establish whether a mitigation activity type overlaps with the actions needed to reach NDC goals. If no list of actions is presented and the country has both conditional and unconditional goals, it is difficult to say whether a given activity type might overlap with the country's NDC plans, so essentially all actions could potentially pose some overselling risk (Table 3). The exception would be when countries have only conditional goals because, in essence, these countries have not made a binding commitment to mitigation. Even if they do oversell mitigation outcomes, they could simply argue that the conditions for reaching the NDC were not met. Ironically, the risk of overselling in that case is effectively low, only because there is no clear commitment.

Table 3. Assessing the likelihood of success of the proposed mitigation activity where the NDC does not lists specific mitigation actions but does have unconditional or conditional goals

Condition	Likelihood of success
Host party has both unconditional and conditional goals	Medium
Host party does not specify whether goals are unconditional or conditional (i.e., so goal can be interpreted as unconditional)	Medium
Host party has only an unconditional goal	Medium
Host party has only a conditional goal	High

c. *NDC does not specify whether or not the goals are conditional, or the NDC has only conditional or unconditional goals (i.e., not both)*

A final combination of scenarios would be where the NDC lists specific actions but the NDC itself does not have both conditional and an unconditional goal or does not specify conditionality. In this case, if the host party does not specify conditionality, then the goal could be interpreted as unconditional. This would mean that any mitigation activity on the NDC list is unlikely to succeed because it presents a high overselling risk. But if the host party only has conditional goals, then, following from the logic above, none of the activities present a present a major risk, because the host party has not made any binding commitments, and therefore they are likely to succeed.

Table 4. Assessing the likelihood of success where the NDC does not specify whether or not the goals are conditional, or the NDC only has either conditional or unconditional goals (i.e., not both).

Condition	Likelihood of success
Activity type is in the list and NDC has only unconditional goal or does not specify conditionality of goals (i.e., so the goal can be interpreted as unconditional)*	Low
Activity type is not in the list or NDC has only conditional goals	High

Note: *The assumption here is that if the NDC specifies a goal and does not specify any conditions, then the goal is unconditional. This is not meant to be a political statement about NDC types but simply a practical approach to addressing this type of NDC.

With this information, activity participants can answer the following question:

1. Is the likelihood of success of the proposed mitigation activity high or medium?

If the likelihood of success of the proposed mitigation activity is high, the activity participant can move forward with the following steps presented in this guide.

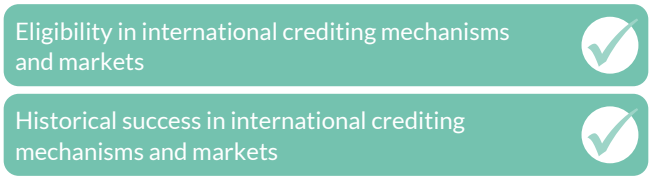
If the likelihood of success of the proposed mitigation activity is medium, the activity participant is advised to approach the host party to identify whether there are already strategies in place to manage the associated overselling risks. Or to discuss any strategies which might include sharing mitigation outcomes, establishing limited crediting periods or capping transfers, among others. This does not apply when the likelihood of success is low or very low.

If the probability of success of the proposed mitigation activity is low or very low, the activity participant is advised to modify the activity idea, as the host party may decide not to authorize it due to the high overselling risk and the potential impacts on the implementation of its NDC.

2.3.8 Identify early institutional/procedural requirements

Some host parties may require the activity participant to comply with some requirements even before the start of the activity cycle. For example, some host parties may require early notification of the intention to undertake the design of the activity. For this reason, the activity participant should identify any institutional or procedural requirements that the host party may have in place prior to the design of the activity, e.g., notifications, registrations, among others. This information can be found on the DNA's website or by contacting the host party's DNA directly.[37]

2.4 Assessing international demand



Even if an activity meets the basic Article 6.2 and Article 6.4 requirements and its mitigation outcomes are authorized by the host party, this is no guarantee that the activity can earn income from selling ITMOs or even successfully navigate the crediting mechanism requirements. This is why it is useful to look at the international demand for credits from different types of activities, as another tool to assess the likelihood of success. To do so, it is necessary to evaluate the two sub-elements of international demand:

- The current eligibility criteria and restrictions in crediting mechanisms and markets
- The historic track record of different activity types in compliance and voluntary carbon markets

In other words, the experience from these markets, and eligibility criteria of the different mechanisms, can give an indication of trends in the types of activities and types of mitigation outcomes that have the best chance of success.

2.4.1 Context – crediting mechanisms versus markets

There are three broad markets for Article 6.2 and Article 6.4 activities (Figure 7):

- International compliance demand from Paris Agreement parties meeting their NDC goals[38]
- International demand from airlines in the CORSIA scheme[39]
- International corporate demand to meet voluntary targets for carbon neutrality or net zero goals

Buyers in these markets may choose to purchase mitigation outcomes (i.e., GHG emission reductions or removals, issued as "credits" or other types of units in the different mechanisms) that have been generated and issued under an international or independent crediting

mechanisms. Figure 7 provides an overview of the three main types of markets that drive international demand for carbon credits/mitigation outcomes, and the crediting mechanisms that are currently used to generate and issue mitigation outcomes for these markets. In many cases, credits from a particular crediting mechanism may be used in more than one market. For example, CORSIA will accept credits from both Article 6.4 and the independent crediting mechanisms, as long as the units meet CORSIA's eligibility criteria. The various crediting mechanisms each have their own criteria for the types of activities that are eligible to generate mitigation outcomes, and activity type-specific methodologies (or protocols) also specify which activity types are covered. If an activity does not meet the general eligibility criteria of the crediting mechanism or the more specific criteria set out in one of its approved methodologies, then it cannot be used to generate mitigation outcomes. The figure also shows how Article 6.2, rather than being another crediting mechanism, is instead a tool for countries to allow mitigation outcomes to be used in different markets. Authorization under the Article 6.2 rules creates ITMOs that may be used for Paris Agreement NDC, CORSIA or voluntary carbon market demand. Importantly, credits issued by the Article 6.4 mechanism could also be used without authorization as "mitigation contribution units", meaning that the buyer does not take exclusive possession of these credits but rather uses the payment to contribute to the host party's mitigation efforts.

Figure 7. Crediting mechanisms versus international demand for mitigation outcomes

		NDC	CORSIA	Other compliance	Voluntary
Bilateral	Authorized	✓	✗	✓	✗
	Non-auth	✗	✗		✗
Article6.4	Authorized	✓	✓	✓	✓
	Non-auth	✗	✗	✓	✓
Independent crediting mechanism	Authorized	✓	✓	✓	✓
	Non-auth	✗	✗	✓	✓
Domestic crediting mechanism	Authorized	✓?	✓	✓	✓
	Non-auth	✗	✗	✓	✓

Voluntary: corporate voluntary and national voluntary (e.g. Sweden net zero)

Other compliance: where imported units can be used against ETS, carbon tax or other obligation

Other compliance + voluntary = "other purposes" under 6.2 authorization

✓ = allowed subject to relevant approvals

✓ = allowed where CORSIA or other compliance regime has approved this mechanism

Box 1 below provides more detail on mitigation outcome demand for these three broad markets. Activity participants can refer to the World Bank State and Trends[40] for a more complete picture of market dynamics.

Box 1. Main markets for ITMO demand

International demand for mitigation outcomes transferred under Article 6.2, including transfers based on Article 6.4 emission reductions, includes three broad categories:

Demand to meet Paris Agreement NDCs

International climate treaties govern international compliance markets and administration. Some parties to the Paris Agreement have said they will use ITMOs to meet part of their NDC goals. Article 6.2 provides a framework to authorize and transfer mitigation outcomes based on different crediting mechanisms, including the Article 6.4 mechanism, as long as the mitigation outcomes meet the criteria for Article 6.2 transfers (refer to sub-chapter 2.1 for more information on eligibility criteria under Article 6.2)

Demand from CORSIA commitments

Another potentially important international "compliance" market is CORSIA, a global market-based measure which aims to achieve carbon-neutral growth of international aviation from 2020. For participating countries, CORSIA requires that airlines operating international flights surrender offsets to account for their share of the growth in emissions relative to 2019 emissions. CORSIA has rules about the crediting mechanisms that may supply mitigation outcomes to this market, as well as specific requirements for those mitigation outcomes.

Demand from corporate voluntary commitments (net zero – carbon neutrality)

Corporate climate commitments drive, for the most part, the demand for carbon credits in what has been called the voluntary carbon market (VCM). The corporate commitments are the demand side of the VCM, while traditionally most of the supply has some from independent crediting mechanisms (e.g., Verified Carbon Standard (VCS), Gold Standard, Climate Action Reserve, and American Carbon Registry (ACR). However, corporate buyers also purchased certified emission reductions issued under the UNFCCC's clean development mechanism. Many national and multinational corporations have committed to net zero or "carbon neutral" strategies that include both deep reductions in internal value chain emissions and the purchase of carbon credits to "offset", or compensate for, their remaining emissions. The Science-Based Targets Initiative's Net-Zero Standard, released in Oct 2021, provides a credible and independent assessment of corporate net-zero target setting and enables companies to set a trajectory for internal value chain emissions that aligns with limiting global warming to 1.5°C.[41]

Box 1. Main markets for ITMO demand (*continued*)

Corporations could use carbon credits issued by independent crediting mechanisms to compensate for their remaining emissions but could also purchase ITMOs, including those based on Article 6.4 emission reductions. Article 6.2 rules include a provision for host parties to authorize mitigation outcomes for "other purposes", which is widely interpreted as referring primarily to voluntary corporate demand, but could also include demand related to voluntary national targets outside their NDCs (e.g. net zero targets). The Voluntary Carbon Markets Integrity Initiative "Claims Code of Practice",[42] released in June 2023, provides companies with a rulebook on credible use of high-quality carbon credits, and associated climate claims, that will accelerate climate action. The Integrity Council on Voluntary Carbon Markets is also setting standards to the supply of credits into the voluntary carbon market through its "core carbon principles"[43] that credits must meet to be considered high integrity by this industry body.

2.4.2 Eligibility in international crediting mechanisms and markets

When developing a mitigation activity, it is important for the activity participant to analyse the potential demand for the mitigation outcomes that could be generated from its implementation, mainly by identifying the eligibility for potential acquiring parties and markets.

The activity participant can use the questions below to assess the likelihood of meeting this criterion. If the answer to these questions is no, the probability of success of the activity will be very low, because it does not meet the eligibility criteria of the accreditation mechanisms (and cannot have verified mitigation outcomes) and markets.

1. Is the activity type considered eligible by any potential acquiring party?

Although this market is still in its early stages of development, a few acquiring parties have already specified the type of activities that are eligible or ineligible. Activity participants can use these criteria as a guide for the type of activities which are expected to be accepted by other potential acquiring parties that have not yet made their own decisions. Box 2 and Box 3 show the types of activities that Switzerland and Sweden regard as eligible and ineligible. Some potential acquiring parties, such as Japan and Sweden, may also publish their own eligibility criteria, and checking the relevant websites for these countries is recommended.[44]

Box 2. Example of acquiring party eligibility rules – Switzerland[45]

Eligible activity types include those relating to energy efficiency or the use of renewable energy in households, electric mobility, the use of renewable energy in industry, and methane reduction in agriculture.

Ineligible activity types:

- Investments in the use of fossil fuels for energy production or the extraction of fossil energy sources
- Use of nuclear energy
- Use of hydropower plants with installed production capacity of over 20 MW
- Activities in large industrial plants that do not meet the global state of the art
- Activities in the waste sector without material or energy recovery or reduction of waste
- Biological CO_2 sequestration activities
- Reduction of deforestation or forest degradation
- Abandonment of fossil fuel extraction

Box 3. Example of acquiring party eligibility restrictions – Sweden

The parties will endeavor to ensure that the following minimum principles and criteria relevant to ensuring the environmental integrity of mitigation outcomes are met:

Environmental integrity criteria

- Mitigation outcomes are real, verifiable, additional, and permanent or achieved under a system that ensures permanence to the greatest extent possible, including by appropriate accounting for any material reversals
- Mitigation outcomes represent emission reductions or removals from 2022 onwards
- Mitigation outcomes originate from activities that:
- Do not lead to an increase in global greenhouse gas emissions
- Promote enhanced climate action and ambition by the Parties, and safeguard against incentives for low ambition by the Parties
- Aim to mitigate the risk of carbon leakage
- Consider all existing and planned national policies, including abiding by national legislation
- Are in line with the long-term low GHG emission development strategy or climate change targets and policies of each party
- Foster the transition to zero/low emission development, in accordance with net zero carbon emissions by 2050

Box 3. Example of acquiring party eligibility restrictions – Sweden (*continued*)

- Do not include activities based on nuclear energy and avoid locking in levels of emissions, technologies or carbon intensive practices incompatible with the achievement of the long-term goal of the Paris Agreement, in particular any activities based on the continued use of fossil fuels
- Are based on conservativeness in baseline setting
- Include consideration of other factors for incentivizing enhanced climate action by the Parties; and
- Apply attribution of the mitigation outcomes to the sources of finance, where adequate.

Sustainable development criteria

- Are in line with sustainable development and any related strategies and policies
- Do not create or exacerbate any negative environmental, social or gender impacts, including air quality, biodiversity, worksite safety, social inequality and discrimination against population groups based on gender, ethnicity or age, and
- Respect human rights and do not create or exacerbate social conflict.[46]

2. Is the activity type considered eligible by any of the potential target markets?

Eligibility criteria under Article 6 rules are defined in the Paris Agreement and in Decisions 2 and 3/CMA.3 (sub-chapter 2.1). However, it is likely that clearer eligibility criteria of activity types under Article 6.2 will need to be determined by the cooperating parties under bilateral agreements, whereas clearer eligibility criteria of activity types under Article 6.4 will be specified by the supervisory board and also be implemented at the level of methodologies.

The CORSIA eligibility criteria for emission units include both the program design requirements for crediting mechanisms and the "carbon offset credit integrity assessment criteria".[47] While these criteria do not, a priori, exclude certain activity types, when CORSIA has applied them to specific crediting mechanisms they did restrict which activity types would qualify as CORSIA units.[48] For example, CORSIA restricts the eligibility of some activity-based forestry activities under the Gold Standard and VCS where the host party also hosts a jurisdiction REDD (J-REDD) program.

Some of the main international markets will only accept ITMOs and Article 6.4 emission reductions and removals (A6.4Ers) (e.g., the carbon market under the Paris Agreement), whereas others will accept ITMOs and A6.4Ers in addition to carbon credits generated under other mechanisms or schemes.

The various crediting mechanisms under the potential target markets may also set eligibility criteria at both mechanism level and at the level of the methodologies themselves. For example, Gold Standard does not support activity types associated with geoengineering or energy generated from fossil fuel or nuclear energy, fossil fuel-switching, or any activity that supports, enhances or prolongs such energy generation. The VCS excludes grid-connected

electricity generation activities using wind, geothermal, or solar photovoltaic (PV) power plants and activities generating electricity and/or thermal energy using fossil fuels (except in Least Developed Countries). Table 5 provides a summary of eligibility criteria under the main independent crediting mechanisms, where eligibility criteria can be found. Some crediting mechanisms also allow the use of methodologies from another crediting mechanisms. For example both Gold Standard and the VCS accept many CDM methodologies, as long as the activity fully complies with all of the crediting mechanisms overall eligibility rules (e.g., a grid-connected solar PV activity in a non-low development country would not be eligible under the VCS even though an applicable CDM methodology for that activity type is available).

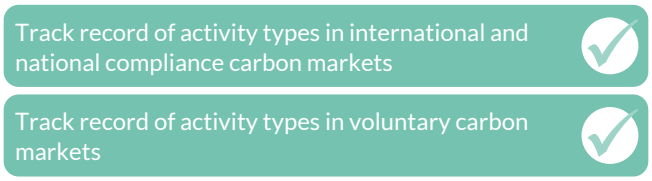
Table 5. Eligibility criteria under the main independent crediting mechanisms

Standard/crediting mechanism	Eligibility criteria
Verified Carbon Standard	• Comply with the principles of relevance, completeness, consistency, accuracy, transparency, conservativeness • Shall apply methodologies eligible under the VCS Program and its latest version in all cases • Activities shall not lead to the violation of any applicable law in the host party • Additional eligibility criteria at methodology level
American Carbon Registry	• Being real, additional, permanent, net of leakage, accurately and conservatively quantified, verified by a competent independent third party, not double-counted, and contribute to sustainable development • Being validated and verified against an ACR-approved methodology • Excludes activities that convert and/or clear native ecosystems; activities that lock-in long-term GHG emissions; GHG emission reductions or removals under a regulated source or have been used to meet a regulatory compliance obligation; GHG emission reductions or removals that are used in other environmental markets; REDD+ activities, others • Additional eligibility requirement at methodology level
Gold Standard	• Contribute to climate security and sustainable development • Comply with safeguarding principles • Demonstrate real outcomes • Demonstrate impacts that are additional as compared to their baseline • Comply with host party's legal, environmental, ecological and social regulations • Demonstrate full and uncontested legal ownership of any products that are generated under the GS • Additional eligibility requirements at methodology level

(continued)

Standard/crediting mechanism	Eligibility criteria
Global Carbon Council	• Activity started operations and began generating emission reductions after 1 January 2016 Complies with the GCC rules on: – GHG emission reductions – Contributions to the UN SDGs (voluntary for some activity types) – Do-no-net-harm environmental requirements (voluntary for some activity types) – Do-no-net-harm requirements for society (voluntary for some activity types) – Submission of host party attestation on double-counting as and when required by CORSIA (mandatory requirement for activities that intend to use ACCs for CORSIA) • Additional specific eligibility criteria for different activity types

2.4.3 Historical success in international crediting mechanisms and markets



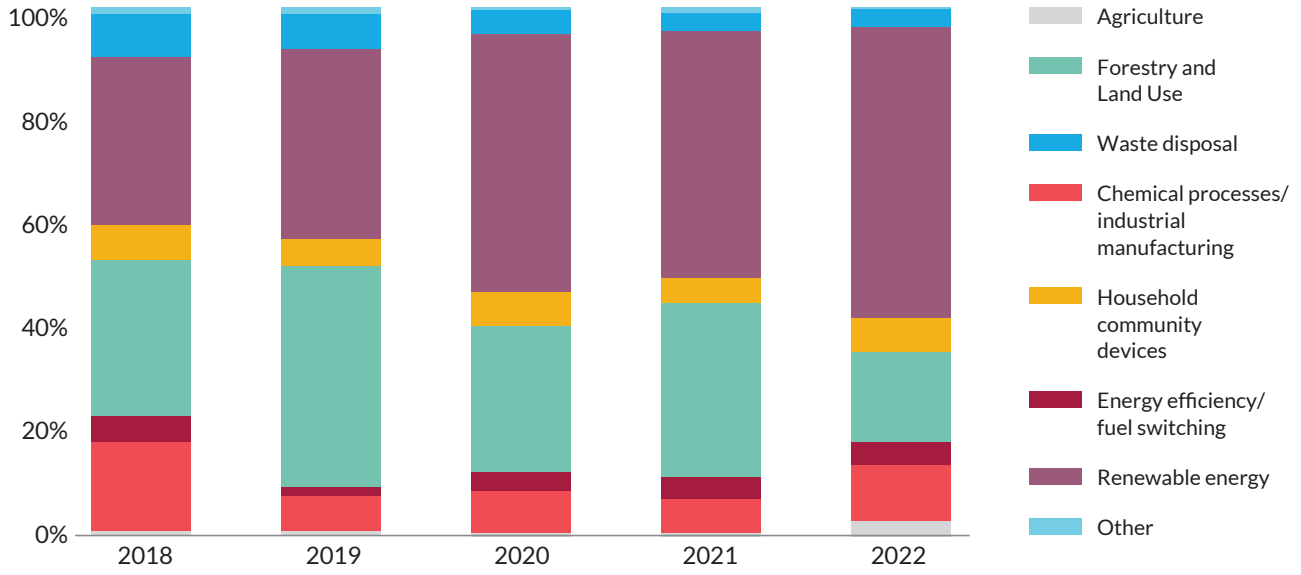
As mentioned in the introduction to this sub-chapter, the historical track record of different activity types in the compliance and voluntary carbon markets also helps to assess the likelihood of success of a proposed mitigation activity. This would allow the activity participant to identify whether the proposed mitigation activity has market acceptance. Activity participants should take the following steps to assess the historical success of a proposed mitigation activity in the voluntary and compliance carbon markets:

- Check the track record of activity types in international and national compliance and voluntary carbon markets

The activity participant can do this by making use of historical information on the project categories that have been most successful in issuing certified units in the main markets and crediting mechanisms. Although this information does not necessarily indicate compliance with Article 6 criteria, it may provide an insight into the types of mitigation activities that may be most in demand in the main crediting mechanisms for the voluntary and compliance markets.

Figure 8 Shows the percentage of credits issued by 8 project categories in the main crediting mechanisms.[49] The figure also shows in bold print the categories of projects that would be eligible under Article 6.

Figure 8. Percentage of total issuance by project category and year for the main crediting mechanisms (2018–2022)



From the figure, although credits generated by renewable energy projects have the largest share, this category is not highlighted in bold because they are increasingly competitive, so they would not depend on revenues from the sale of carbon credits[50] and therefore would not be eligible under Article 6.

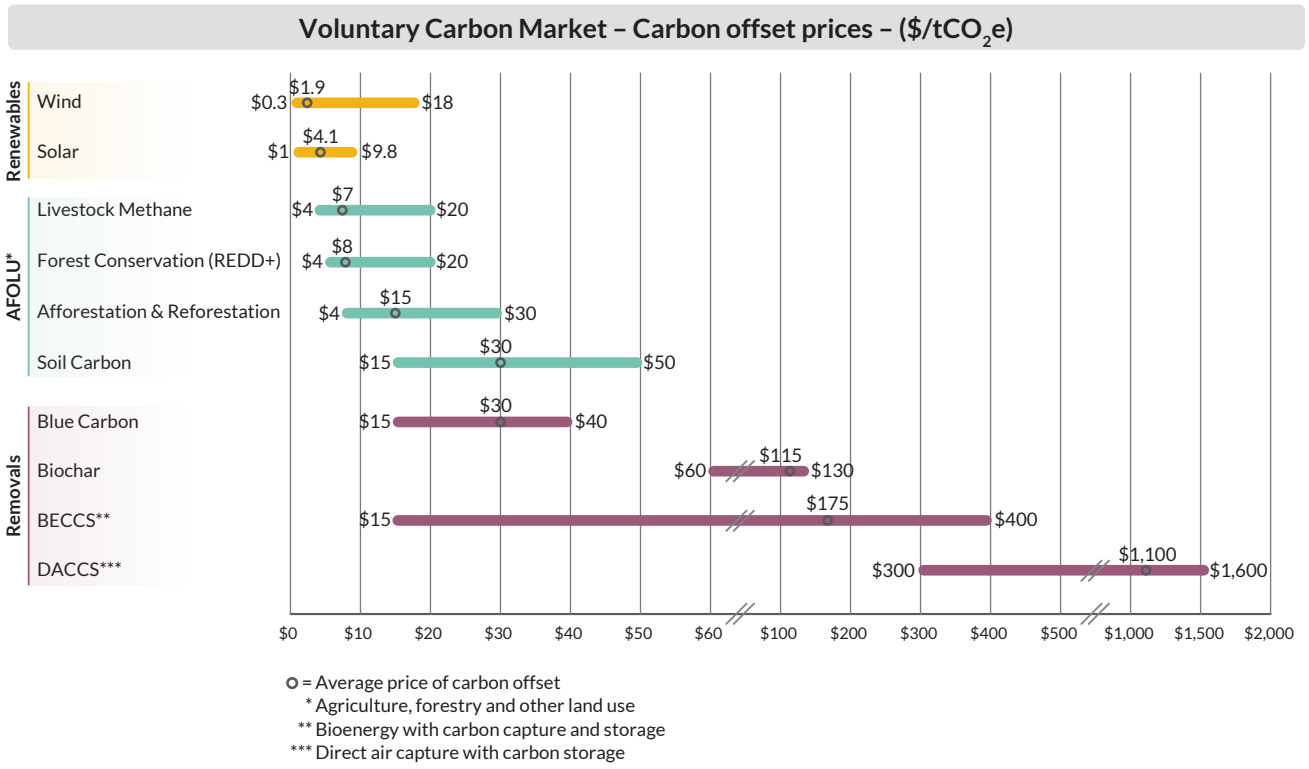
This information also indicates the types of activities in which there is more experience in developing projects and issuance of certified emission reductions. The activity participant can access the databases of the different mechanisms to find more information on the issuance success of a particular methodology. The CDM activity search, UNEP CDM pipeline or the Gold Standard registry are useful databases where the activity participant can find mitigation activities similar to the proposed mitigation activity. It is advisable to review the design documents of the activities of interest to have a basis or point of comparison for the design of the proposed mitigation activity.

- Check the history price on compliance and voluntary carbon markets

The activity participant should also research historical carbon credit prices in order to get an idea of how profitable an activity can be. For the different compliance markets, the activity participant can look at different websites and reports such as the "State and trends of carbon pricing" and other on-line sources.[51]

Information on VCMs can be more difficult to find as, by definition, these consist of (mostly private) entities purchasing carbon credits for the purpose of complying with voluntary mitigation commitments.[52] Figure 9 presents information on contract prices confidentially reported by activity promoters and intermediaries. This can indicate to activity participants potential price ranges for a proposed mitigation activity.[53]

Figure 9. Price range for different activity types under independent crediting mechanisms 2023



Source: Own elaboration based on different sources on carbon credits prices[54,55,56]

Regarding demand in the VCM, it is important to note that it is expected to increase 15-fold per year by 2030.[57] This demand is mainly driven by voluntary corporate commitments. In 2021 the main players in the market were energy companies, mainly large oil and gas firms; food and beverage companies; tourism companies; other consumer goods firms; and the financial sector.[58]

It is important for the activity participant to follow the development of VCMs because, although their main market niche may be voluntary corporate commitments, they are expected to have a greater relevance in the accreditation of activities for the implementation of Article 6.

2.5 Bilateral agreements

- Is there a bilateral agreement in place with any potential acquiring party?
- If yes, check the eligibility under the bilateral agreement(s)
- If not, check status of negotiations and contact potential acquiring party

Bilateral agreement is the legal instrument governing the relationship between the host and acquiring parties, and there are clear rules for the cooperative approach under Article 6.2.

The agreements include the principles and criteria for the approval of activities and rules for the authorization and transfer of mitigation outcomes (i.e., eligibility criteria, accounting, etc.). The bilateral agreement would also govern a transaction based on Article 6.4 emission reductions, even though some elements (e.g., host party approval) would, in that case, be governed by the Article 6.4 mechanism rules. While having a bilateral agreement in place is not a pre-requisite for the success of an Article 6 activity, the activity participant does need to know if agreements are in place that affect potential acquiring parties. In addition, familiarity with existing agreements may make it easier to anticipate the content of future agreements that might end up governing transfers based on the proposed activity. For more discussion on bilateral agreements and identifying acquiring parties, see Guide 6: Financing and contracting Article 6 activities.

Box 4. The Swiss-Peruvian Article 6 implementation agreement

The bilateral agreement signed between the governments of Switzerland and Peru in October 2020, which is the legal framework for ITMO transactions, establishes minimum criteria of environmental integrity and promotion of sustainable development for mitigation outcomes. Among these:

- Mitigation outcomes must be real, verified, additional, permanent (with qualifiers) and be generated by activities from 2021 onwards
- The year of vintage and use of the mitigation outcomes must fall within the NDC application period
- Eligible activities shall not result in an increase in global emissions, and shall be in consistent with the NDC implementation period
- Eligible activities must be in line with Parties' Low Emission Development Strategies (LEDS) and promote the transition to zero net carbon emissions by 2050.
- The agreement establishes as ineligible activities nuclear energy or those that result in fossil fuel lock-in.

2.5.1 Identify if there is a bilateral agreement in place with any potential acquiring party

Start by identifying any existing (or under discussion) bilateral agreements with any party (either governments or private actors) to understand what the likely eligibility conditions are. Activity participants can find information on Article 6 bilateral agreements on the host party's DNA website,[59] on the acquiring party's DNA website,[60] or by enquiring directly from the host party through a formal communication channel. Activity participants may also consult the DNA registry for Article 6.4, as this institution is most likely the same DNA for Article 6.2 transactions.

To assess the likelihood of meeting this criterion, activity participants should:

- Identify whether the host party has any signed bilateral agreements.

Then, the following question can guide the activity participant in assessing the likelihood of meeting this criterion:

1. If the host party has bilateral agreements in place, would the proposed mitigation activity meet the eligibility conditions of these bilateral agreements?

If there is information on the existence of a bilateral agreement with the acquiring party of interest, proceed to sub-chapter 2.4.2; if there is no evidence of such an agreement, proceed to sub-chapter 2.4.3.

2.5.2 Check the eligibility of the proposed mitigation activity under the bilateral agreement(s)

Once there is confirmation of the existence of a bilateral agreement between the host party and other parties, verify the eligibility criteria and compare with the proposed mitigation activity.

The following question may guide the activity participants in this assessment:

1. Is the proposed mitigation activity eligible under any of the identified bilateral agreements?

If the answer is yes, the activity participant should check whether the host party has a procedure for expressing interest in participating in this bilateral agreement and submit the mitigation activity for feedback or contact the host party if it does not have a procedure.

If the answer is no, the activity participant should adapt the proposed mitigation activity to the terms of one of these bilateral agreements for it to be eligible. If necessary, the activity participant may contact the host party to better understand the terms of the bilateral agreement and how the proposed mitigation activity could comply with them.

2.5.3 Check the status of negotiations and contact the potential acquiring party in case there is no bilateral agreement in place

If there is interest in a specific acquiring party but there is no signed bilateral agreement with the host party, the activity participant could proactively:

- Assess the interest of the parties to engage in these negotiations or identify the status of such negotiations. In this way the activity participant can express interest to the parties and support the process, if possible. Explore if the host party is engaged in a readiness program that will pilot Article 6 transactions
- Identify whether the host party has a process in place to initiate discussions or negotiations on bilateral agreements
- Inquire about the host and/or acquiring party's interest in advancing discussions on a bilateral agreement
- Identify whether it is possible for activity participants to support the discussions and provide the necessary information to both parties

In addition, the activity participant can contact the acquiring party of interest (e.g., through the Article 6.4 DNA, if there is one, the existing CDM DNA, ministry of environment or other relevant institution in charge of climate change policy) in order to identify potential interest in acquiring ITMOs from the implementation of the proposed activity type and, consequently, trigger discussions with the host party that could lead to a bilateral agreement.

2.6 Concluding the screening: go or no go!

Based on the steps outlined above, activity participants should use Table 6 to provide a preliminary assessment of whether the activity has a high likelihood of success in the Article 6 market in a specific host party. If the answer to any of these questions in the table is no (except for those questions with the N/A option), the likelihood of success for the proposed mitigation activity is very low. However, if the conclusion of the screening stage is that the activity as a minimum meets the fundamental requirements for participating in Article 6 markets, and that any identified risks are manageable, activity participants can then move to the next step, preparing the activity idea note.

Table 6. Summary of activity screening

Screening criteria		Response
Eligibility under Articles 6.2 and 6.4 rules of the Paris Agreement		
Additionality	Is the viability of the proposed mitigation activity dependent on revenues from the sale of carbon credits? (Articles 6.2 & 6.4)	Yes ☐ No ☐
Additionality	Is the proposed mitigation activity beyond any activities required by previous or recent regulations or laws? (Articles 6.2 & 6.4)	Yes ☐ No ☐
Additionality	Is the proposed mitigation activity still in the planning/structuring phase or has it not reached financial closure? (Articles 6.2 & 6.4)	Yes ☐ No ☐
Additionality	Does the activity neither involve nor prolong the life of fossil fuel infrastructure? (Article 6.4)	Yes ☐ No ☐
Conservative baseline	Has an applicable methodology been identified for the activity? (Article 6.2)	Yes ☐ No ☐
Conservative baseline	Does the selected baseline methodology consider national policies related to the activity (i.e., subsidies, national implementation programmes, etc.)? (Articles 6.2 & 6.4)	Yes ☐ No ☐
Avoid negative impacts	Are the sustainable development co-benefits easily identifiable, while the negative impacts are manageable? (Articles 6.2 & 6.4)	Yes ☐ No ☐

(continued)

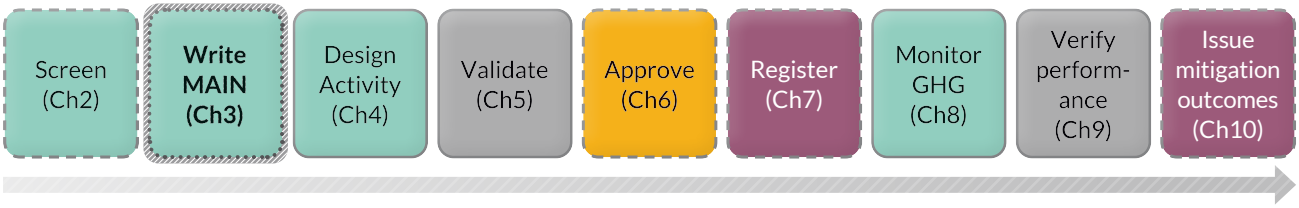
Screening criteria		Response
Avoid negative impacts	Could the implementation of the activity contribute to advancing sustainable development goals, indicators, or policies in the host party? (Articles 6.2 & 6.4)	Yes ☐ No ☐
Delivering long term emission reductions	Can mitigation outcomes be verified reasonably easily and using a conservative approach? (Article 6.4)	Yes ☐ No ☐
Delivering long term emission reductions	Are the mitigation outcomes likely to be sustained beyond the lifetime of the activity? (Article 6.4)	Yes ☐ No ☐
Delivering long term emission reductions	Does the proposed activity relate to the LT-LEDS (if available) of the host party? (Article 6.4)	Yes ☐ No ☐
Conservative methodology	Is there an approved methodology under Article 6.4 that is applicable to the proposed mitigation activity?	Yes ☐ No ☐
Conservative methodology	Is there a methodology from the CDM or from an independent crediting mechanism that is applicable to the proposed mitigation activity?	Yes ☐ No ☐
Conservative methodology	Do you have the necessary resources to develop an appropriate methodology for the proposed mitigation activity?	Yes ☐ No ☐
Host party rules and NDC		
Negative lists	Is the activity outside the host party's negative list?	Yes ☐ No ☐ N/A ☐
Additional host party eligibility criteria	Is the proposed mitigation activity able to demonstrate support to government goals and/or key public policies in the relevant sectors?	Yes ☐ No ☐
Additional host party eligibility criteria	In case the host party has criteria defined for Green Climate Fund Projects, is the proposed mitigation activity able to demonstrate alignment with these?	Yes ☐ No ☐ N/A ☐
Additional host party eligibility criteria	In case the host party has a carbon registry in place, is the proposed mitigation activity able to demonstrate alignment with its requirements?	Yes ☐ No ☐
Additional host party eligibility criteria	Is the mitigation activity permitted by the sectoral or regional regulations of the host party?	Yes ☐ No ☐
Host party NDC	Is the likelihood of success of the proposed mitigation activity high or medium?	Yes ☐ No ☐

(continued)

Screening criteria		Response
International demand		
Eligibility by acquiring party	Is the activity type considered eligible by any potential acquiring party?	Yes ☐ No ☐
Eligibility under international markets	Is the activity type considered eligible by any of the potential markets (compliance, VCM, local)?	Yes ☐ No ☐
Bilateral agreements		
Bilateral agreements	If the host party has bilateral agreements in place, would the proposed mitigation activity meet the eligibility conditions of these bilateral agreements?	Yes ☐ No ☐ N/A ☐
Bilateral agreements	Is the proposed mitigation activity eligible under any of the identified bilateral agreements?	Yes ☐ No ☐ N/A ☐

Chapter 3

Write mitigation activity idea note



The mitigation activity idea note (MAIN) is a document that provides high-level description of the mitigation activity. It is a useful document for providing information to a host party, and to request interest from a potential acquiring party and potential financiers (for information on non-carbon finance aspects of mitigation activities see Guide 6: Financing and contracting Article 6 activities). In principle, the MAIN is a brief concept note, which forms the basis for elaborating the activity design in the MADD. The main purpose of the MAIN is to assess whether the mitigation activity is of interest to potential acquiring parties before committing time and resources into developing the MADD. The MAIN could also be used to inform the host party of the potential mitigation activity at an early stage and obtain a "letter of no objection" from the latter if this is a requirement (see Guide 2: Developing and Article 6 Strategy). The MAIN should present the mitigation activity idea and provide technical and financial information so that it may be assessed against eligibility criteria. It should present the business model and demonstrate that there is sufficient capacity to implement the activity. As far as is possible at this early stage, it should also confirm that the activity meets the fundamental requirements of Article 6 and of the chosen crediting mechanism related to additionality, eligibility of the activity type and relevant methodology. A MAIN can be submitted by activity participants: a government body in the host party, or a private national or international institution. This can, for example, happen through open calls for proposals for mitigation activities put out by intermediary institutions, such as Klik (Switzerland) or the Swedish Energy Agency (Sweden).

3.1 A template for the MAIN

While there is no official template from the UNFCCC, several countries have started to develop documents. In addition, even during the CDM, many activity participants would prepare idea notes prior to developing the full activity design, as a way to present the mitigation activity to potential acquiring parties or to secure a "letter of no objection" from government. Based on that experience, this Guide includes a generic MAIN template (see Annex A and Figure 10). It should be noted that acquiring parties and/or host parties may have their own specific information requirements for the MAIN and may eventually prepare their own specific

template. The activity participant should therefore check with target acquiring parties and host parties as to whether they have their own template or requirements for the MAIN.

- Check if any acquiring countries you plan to approach have a standard template for the MAIN or if they have specific information requirements.

The following sections explanation the main concepts introduced in the MAIN, and how the relevant information may be collected and presented.

Figure 10. Content of mitigation activity idea note

Activity overview	GHG emission reductions	Financing	Implementation arrangements
• General information • Technical and sectoral overview • National climate policy (NDC) • Sustainable development and other co-benefits • Challenges and barriers	• Relevant crediting mechanism(s) • Additionality • Baseline • Est. emission reductions • Crediting period • MRV	• Financing secured • Financing needs • Financial incentives	• Technical and financial arrangement • Implementation schedule • Stakeholder engagement • Safeguards and compliance

3.2 Activity overview

This section of the MAIN should provide an overview of the activity and the activity participant, present the activity in the context of the host party's climate policy and NDC target and provide a first estimate of the emission reductions achieved by the activity and any co-benefits.

- The **basic activity information** includes the activity title, its location, an ex-ante (i.e., before the implementation of the activity) estimate of emission reductions and basic information on the activity participant.
- The **technical and sectoral overview** provides more detailed information about the mitigation activity, for example its generation capacity, its energy activity, and what type of technology is used. The technologies, measures or practices that will be used in the activity should be described, including the commercialization and deployment status of these technologies in the host party (i.e., is the technology common practice or "first-of-its-kind") and other similar countries, and whether any technology transfer is involved.
- The **national climate policy context** is a key element and should describe how the activity fits with the host party's climate policy framework or other climate strategy, in particular with respect to the country's NDC target and how it ensures mitigation benefits beyond national (unconditional) commitments. This section should reflect the findings of the assessment of "host party rules and NDC" undertaken in step 2. If applicable, information should be provided to confirm that the activity is not on the host party's negative list,

or is on its positive list, and that it also meets any other relevant host party criteria or requirements. This section should also highlight whether the host party has an Article 6 strategy in place and the institutional and regulatory capacity to process and authorize Article 6 activities; if not, it should indicate the corresponding risks and how will they be mitigated (e.g., by stating that "although the institutions are not in place, these are expected in late 2024"). This section should also include a statement on the host party's unconditional and/or conditional goals, if applicable, and how the activity relates to these.

- **Sustainable development and other co-benefits,** in addition to the GHG emission reductions, should also be described. These might include improved access to energy, poverty alleviation, health benefits or reduction in other pollutant to air and water. It may be useful to refer to the UN SDGs, and identify at least three of these goals which may be positively impacted by the activity, how the activity will impact these goals, and what indicators may be used to monitor the impacts. Any other co-benefits which may not be part of the SDGs should also be highlighted and an explanation of how these co-benefits come about should also be included.
- Most mitigation activities will face **challenges and barriers** to their implementation (other than financial ones), such as lack of local know-how and expertise due to the introduction of new technologies, lack of relevant regulations, or a lack of awareness that may hinder adoption of new measures. It is important to be open about what these might be and what solutions are envisaged to overcome any challenges and/or barriers. Identifying these challenges and barriers requires a clear understanding of the social and economic context where the activity will be implemented.
- More information on the **activity participant** or lead institution driving the development of the mitigation activity should be given. This may include contact names and details, main areas of business, year established, reference to relevant projects and activities, annual turnover, and any relevant websites. This section should make the potential acquiring party confident that the activity participant is a reputable organization with the resources and capacity to implement the relevant mitigation activity.

3.3 GHG emission reductions

This section should describe the crediting mechanism which has been identified as relevant for this mitigation activity (e.g., Gold Standard, VCS, Article 6.4) and the specific methodology which is to be used. Methodologies allow the activity participant to establish the baseline emissions which would occur if the activity was not implemented, and to provide an estimate of the emissions reductions once the activity is operational. Methodologies also specify how to monitor and quantify activity emissions and, in some cases, to update the baseline emissions based on the performance of the activity. The methodology also explains how to use this to calculate achieved emission reductions. Because the nature of mitigation activities varies widely depending on the sector or emissions source (i.e., a solar PV activity is very different to a landfill gas recovery activity, even though both may lead to a reduction in GHGs), methodologies are specific to the sector, or the technology used, or the scale of the mitigation activity, or another aspect of the mitigation activity, such as data availability. For this reason,

activities which are planning to use a certain methodology need to meet the "eligibility criteria" (sometimes called "applicability conditions" or simply "applicability") that are specified for the methodology. Activity participants should ensure that all methodology-specific eligibility criteria will be met by the activity, and, if possible, this should be explained in this section of the AIN. Table 7 presents a simplified example of possible eligibility criteria for an energy efficiency activity, and how these criteria should be addressed in the AIN.

Table 7. Example of eligibility criteria and how these should be discussed[61]

Eligibility criteria	How the mitigation activity meets the criteria
The methodology is applicable to commercial buildings only (retrofit or new construction)	The activity involves replacing existing and inefficient air-conditioning systems with state-of-the-art energy-efficient (energy star rated) heat pumps in city schools
This methodology is not applicable to activities that affect off-site district heating and/or cooling plants and distribution networks	All schools within the activity boundary rely on electricity for heating and cooling purposes and are not connected to any district heating or cooling networks
If the energy-efficient equipment contains refrigerants, then the refrigerant used in the activity case shall have no ozone depleting potential)	All new heat pumps will use R-410A as refrigerant which is not an ozone depleting substance (see https://www.epa.gov/snap/substitutes-residential-and-light-commercial-air-conditioning-and-heat-pumps).
All technologies (e.g., equipment or appliances) used in the activity shall be new and not transferred from another mitigation activity	All heat pumps installed as part of the activity are new and not previously used and/or transferred from another activity

Methodologies approved under the three main international crediting mechanisms can be found as follows:

- UNFCC CDM: https://cdm.unfccc.int/methodologies/index.html (and a CDM Methodology Booklet which can assist activity participants in identifying methodologies suitable for their mitigation activities can be found here: https://cdm.unfccc.int/methodologies/documentation/index.html)
- Verra VCS: https://verra.org/methodologies-main/#vcs-methodologies
- Gold Standard: https://www.goldstandard.org/project-developers/standard-documents

The proposed crediting period for the mitigation activity should be presented – it is usually determined by the rules of the crediting mechanism used.[62] The expected lifetime of the mitigation activity should also be stated – it is usually a function of the technology and equipment used and is expected to be longer than the crediting period.

Setting the baseline is a fundamental step. It provides the basis against which the activity's mitigation impacts are assessed, and is therefore a prerequisite for documenting achieved

emission reductions. An explanation therefore needs to be provided on what the baseline is and how it was established. The baseline for a mitigation activity should describe what would happen if the proposed mitigation activity was not implemented, and what would be the volume of emissions that would occur in the absence of the proposed activity. There are different approaches for calculating baselines. Traditionally, under the CDM there were used the historic emissions (or BAU), emissions from economically attractive alternative or performance benchmark (see Figure 11). However, under Article 6 this requirement is more stringent, as baselines must be set in a conservative way and below BAU. On addition, Article 6.4 requires the use of more specific approaches, including best available technology, performance benchmark, or historically adjusted downward; meaning that baselines for Article 6 activities will be different to those from the CDM.

Figure 11. New approaches for baseline setting under Article 6

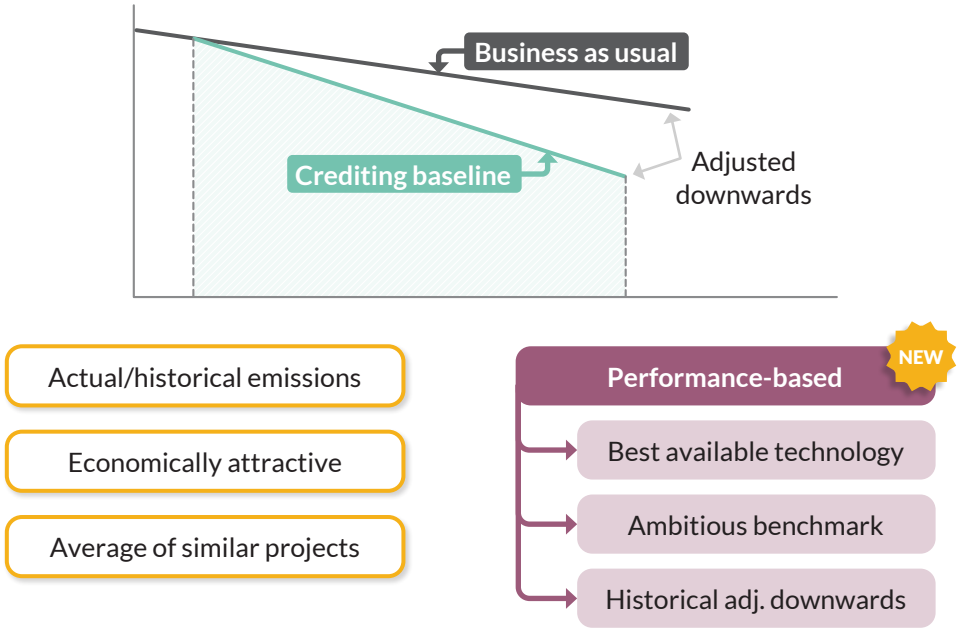


Figure 12 presents some examples on how these specific approaches can be used for setting the baselines to meet the new Article 6.4 requirements for different activity types.

Figure 12. Examples of baseline setting under Article 6 for different activity types

Activity type	Article 6 requiremen	Potential change in baseline setting
Improved cookstoves	Increase ambition/ consider policies	Integrate NDC goals into baseline across the sector (e.g., number of households that NDC action would reach)
Renewable energy	Below BAU baseline	Emission factors lower than current grid emission factor and/or decline over time Address any policy incentives for RE in baseline development
Altern. fuels for cement	Below BAU baseline	Baseline emission factor must be lower than current industry benchmark or decline over time or be more conservative
Landfill gas flaring	Regulatory surplus	Baseline may need to include some flaring even if not in BAU Consider any flaring regulations (even if not enforced)
EE fossil fuel use	Avoid lock-in in emissions	Potentially not eligible due to lock-in risks

Taking the case of renewable energy as an example, it is key to recognise that for some of these technologies (mainly wind and solar) there are a number of regulatory and financial incentives that have allowed them to be more competitive in the market. Therefore, setting the baseline as BAU will not recognise the increased penetration of the technologies into the power generation and transmission grid (which will lower the grid emission factor (less carbon-intensive) over time and not be static as in BAU), causing the mitigation outcomes to be overestimated. To estimate emissions in a conservative way, a baseline below BAU would imply that for the pre-project scenario, emission factors below current values or decreasing emission factors would be employed to account for this process of technology penetration.

Following on from the baseline approach and the calculation of baseline emissions, emissions from the activity (activity emissions) and any leakage emissions should be presented, in order to provide an estimate of ex-ante emission reductions. The methodology that has been identified as applicable for the activity in question will describe how baseline, activity and leakage emissions (if any) are to be estimated ex-ante. Although all the data required to undertake the calculations as prescribed in the methodology may not be available at this early stage, it is recommended that the methodology is reviewed and then reflected in the calculation of emission reductions wherever possible.

3.4 Additionality

Carbon credits should only be awarded to activities that are driven by the incentives provided by the crediting mechanism — that is, if they demonstrate additionality. There are a number of approaches to demonstrate additionality (see chapter 4).

One of the most common ways an activity participant can demonstrate additionality is to demonstrate the need of carbon revenue for the viability of the activity. Given the wide use

of this investment analysis approach to demonstrate additionality, the activity participant should already be relatively confident at the concept stage that it can demonstrate the impact of carbon revenues. The investment analysis aims to determine and prove that the proposed mitigation activity is not the most economically or financially attractive option, or economically or financially feasible without the revenue from the sale of carbon credits. This can be best done by an initial assessment of a financial indicator such as investment rate of return or net present value and comparing this to a benchmark value commonly used to determine whether a mitigation activity is financially attractive. If the value of the financial indicator has been calculated to be lower than the benchmark, then the mitigation activity is likely to be additional. The idea at the MAIN stage is to do a brief assessment of financial viability, which will be developed in detail in the MADD section.

When determining the chosen financial indicator, it is important to ensure that all costs, costs savings and all sources of revenue are taken into account, which will include:

- Capital expenditure (CAPEX)
- Operational expenditure
- Any revenues (e.g., from the sale of renewable energy or recovered gas), as well as how these may evolve over time
- Any savings due to reduced energy use as a result of improved energy efficiency
- Any savings due to reduced taxes (e.g., reduction in levies imposed on flared natural gas if the gas is recovered and used for energy generation)

Existing tools which can help to assess additionality at this stage include the CDM "TOOL01: Tool for the demonstration and assessment of additionality"[63] and the VCS tools for assessment of additionality for specific activity types.[64] However, the activity participant needs to check what the supervisory board has published under Article 6.4 additionality tool.

The activity participant may, in fact, not have all the techno-economic data needed to perform a detailed additionality assessment at the concept stage. This information may only be available once a full feasibility study has been undertaken prior to preparation of the MADD, but this section of the MAIN should confirm that the activity is expected to be additional, based on the information already available.

A summary of the approach for monitoring, reporting and verification (MRV) of the baseline, activity and leakage emissions (if relevant), and how these will be used to calculate emission reductions, should be provided, based on the monitoring approach described in the relevant methodology. If relevant, any monitoring approach for other indicators which will be used to determine sustainable development and other co-benefits should also be summarized.

3.5 Financing

The section on financing should describe the total CAPEX for the activity, the financing secured to date, and the nature of that financing (e.g., equity from the activity participant, bank loans). Any financial incentives which will be leveraged, or which will be needed to ensure implementation of the mitigation activity, should also be identified (e.g., government subsidies, national or international grants, tax exemptions). Once financing is secured and financial incentives have been identified and presented, an outline of financing needed to close the gap between financing secured and CAPEX should be presented, and any identified sources to cover the financing needs, with an overview of any ongoing financial negotiations with potential investment partners and the status of those negotiations.

3.6 Implementation arrangements

The activity technical and financial arrangements should describe the management and planning structure for the mitigation activity, including main roles and responsibilities (i.e., activity participant and all other relevant institutions), management structures, and operational processes (for more information on institutional set up or governance of the mitigation activity see sub-chapter 4.13).

The implementation schedule should be described, including key milestones and proposed timelines, including for activity preparation, authorizations, financial closure, procurement, implementation and commissioning.

The stakeholder engagement plan should describe which and how stakeholders have been identified or will be identified, the consultations and participatory processes conducted so far, and the nature and timeline of future consultations and participatory processes. It is important to take into consideration existing host party regulations regarding previous and informed consultation with indigenous peoples and other considerations for managing the engagement of local communities.

Safeguards and compliance should describe which environmental and social safeguards are relevant, and if an environmental and social impact assessment has been undertaken or is planned. For more information about safeguards see Box 6 and Annex C in Guide 1.

3.7 Submitting the MAIN

Once the activity participant has completed the MAIN, it can be submitted to potential acquiring parties. Based on their own criteria (see sub-chapter 2.3.2), the potential acquiring party will either i) confirm (non-binding) interest in the mitigation activity, ii) reject the mitigation activity, or iii) ask for adjustments and resubmission of the mitigation activity. If the acquiring party confirms that it is interested in the mitigation activity, the activity participant may request a letter of intent confirming that there is no objection from the host party to the mitigation activity and/or the interest in the mitigation activity from the acquiring party. The letter of intent is a non-binding document, but it can provide the activity participant with confidence to proceed with developing the MADD (see chapter 4). The MAIN can be submitted

to the relevant authority within the host party and could serve as the basis for including the mitigation activity in a project registry or database if one exists.

3.8 Feasibility study

Investment projects of all types typically conduct a feasibility analysis early in the development process, as part of assessing the viability of the project in depth. This is also good practice for Article 6 activities. The feasibility study is a deep dive into the technical and financial feasibility of the mitigation activity and should contain many of the needed inputs for both MAIN and MADD preparation. The feasibility study for Article 6 activities under the Paris Agreement should be conducted in a transparent and inclusive manner that considers the specific needs and circumstances of the affected communities and stakeholders. The following are some examples of the key components of such a study:[65]

- Clarify the scope and objectives of the mitigation activity and clarify its geographical and technical boundaries.
- Assess the legal and regulatory framework to ensure that the mitigation activity follows relevant national and international laws and regulations as well as long-term sectoral plans. The mitigation activity should align with the host party's NDC and 2030 Framework Agenda, if available. There should be a summary of applicable local requirements and approvals to the activity.
- Create a stakeholder mapping and analysis, as well as an engagement and action plan: the mitigation activity will need to engage with relevant stakeholders, including local communities and organizations, NGO, government agencies, and private sector entities, to identify their interests and potential impact on the mitigation activity.
- Assess the potential for emissions reductions: analyze the potential for emissions reductions and identify the technologies and methods that can be used to achieve these reductions.
- Evaluate the economic and financial viability of the mitigation activity: identify the business model of the mitigation activity, assess the potential costs and benefits of the mitigation activity, including the potential for generating revenue from the sale of carbon credits.
- Consider social and environmental impacts: evaluate the potential social and environmental impacts of the mitigation activity, including any negative impacts on local communities, and develop measures to mitigate these impacts.
- Conduct a risk analysis and potential impact assessment.
- Clarify the scope and objectives of the mitigation activity and clarify its geographical and technical boundaries.
- Assess the legal and regulatory framework to ensure that the mitigation activity follows relevant national and international laws and regulations as well as long-term sectoral

plans. The mitigation activity should align with the host party's NDC and 2030 Framework Agenda, if available. There should be a summary of applicable local requirements and approvals to the activity.

- Create a stakeholder mapping and analysis, as well as an engagement and action plan: the mitigation activity will need to engage with relevant stakeholders, including local communities, government agencies, and private sector entities, to identify their interests and potential impact on the mitigation activity.
- Assess the potential for emissions reductions: analyze the potential for emissions reductions and identify the technologies and methods that can be used to achieve these reductions.
- Evaluate the economic and financial viability of the mitigation activity: identify the business model of the mitigation activity, assess the potential costs and benefits of the mitigation activity, including the potential for generating revenue from the sale of carbon credits.
- Consider social and environmental impacts: evaluate the potential social and environmental impacts of the mitigation activity, including any negative impacts on local communities, and develop measures to mitigate these impacts.
- Conduct a risk analysis and potential impact assessment.

Letter of no objection for Article 6.2 mitigation activities

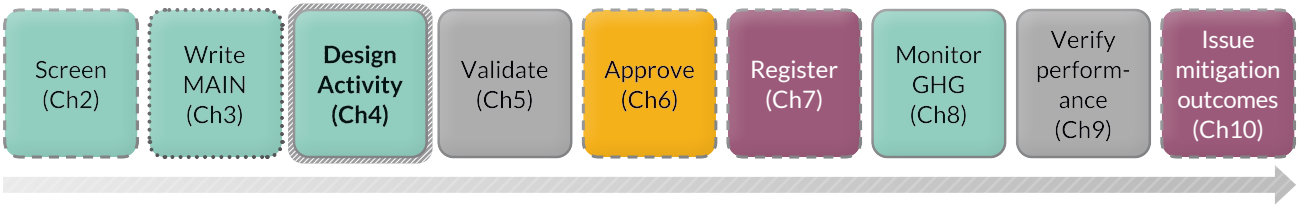
If the activity participants seek to promote the mitigation activity through a cooperative approach to Article 6.2, they need to take into account that some host parties may choose to have this additional step in the activity cycle. To move forward with this process, upon completion of the MAIN, the activity participant should:

Check whether the host party requires the issuance of a letter of no objection in order for the activity participant to move forward with its design and implementation

Verify the information to be submitted to the DNA (including the MAIN).

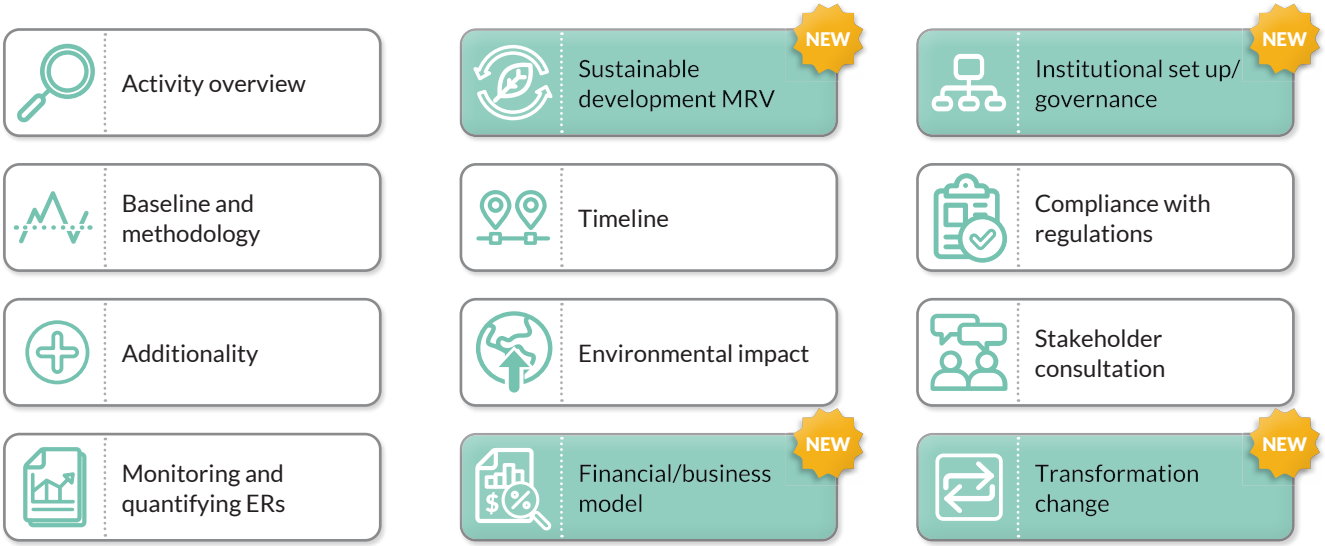
Chapter 4

Design mitigation activity



A core step in the process of developing a mitigation activity is the preparation of the MADD. It describes in detail the design of a proposed mitigation activity and demonstrates its compliance with the requirements. The MADD provides a full description of the mitigation and is comparable to the PDD under the CDM. However, the MADD also includes elements that were not in the CDM PDD or other crediting mechanisms. Figure 13 gives an overview of the typical content of the MADD and highlights elements that are new compared to CDM projects.

Figure 13. Overview of typical MADD content



Source: The authors[66]

A core principle that should guide the MADD development is that the activity must be consistent with the host party's NDC, aligning with key parameters in the host party's sustainable development policies and developments, and showing that the generation of mitigation outcomes is in tandem with transformational change.[67] Deep engagement with the

host party is therefore important during the process. Without this, mitigation activities run the risk of undermining national development policy and a party's NDC. The consultation and planning with relevant government ministries should begin when drafting the AIN.

The current sub-chapter focuses on MADD for activities aiming to generate ITMOs under Article 6.2 of the Paris Agreement. MADD development under Article 6.4 will have to follow the template and respective completion guidelines, which will be adopted by the Article 6.4 supervisory body.

There is no single template for an Article 6.2 MADD. Rather, several institutions and countries have developed templates based on ongoing pilots that provide the content of a MADD, including the Global Green Growth Institute, the Swedish Energy Agency, and the Klik Foundation amongst others. An acquiring party and a host party may require a specific template to be used and, where available, the corresponding guidelines on its completion should be followed.

This document provides a general overview of the main elements of an Article 6.2 MADD and describes in further detail its typical content, in order to establish a generic guide for the development of a MADD, based on existing pilots, best practices and experience from CDM and other crediting mechanisms.

The MADD is developed from the MAIN and may include detailed results from a feasibility study. The activity title should remain the same where possible, to keep consistency and continuity throughout the activity development cycle, which will help to demonstrate prior consideration of carbon credits. For example, the title communicated in a notification of mitigation activity to the national authorities or UNFCCC should not be changed unless necessary.

4.1 Select a consultant for the MADD development

The development of the MADD is a complex and labor-intensive process, which requires multiple inputs and knowledge and experience in developing emission reduction or removal projects. To support the development of mitigation activities some private foundations offer funding (e.g., Klik), which can help to dedicate a team that will prepare a MADD and have it validated by an independent auditor. Typically, MADD is developed by an external consultancy or an intermediary institution, but in some cases it can be done by the activity participants, particularly if they were previously involved in other carbon crediting mechanisms.

If the activity participants decide to hire an external MADD developer, they should look for the following characteristics, to make sure that MADD is developed in a professional manner and eventually will pass the validation and be approved:

1. Experience in developing projects and/or programs of activities under the UNFCCC mechanisms (CDM or Joint Implementation), that were successfully registered and delivered credits. Developing projects under other crediting mechanisms could be also

useful, although the level of other programs' requirements may be different from that of the UNFCCC mechanisms.
2. Experience with the specific mitigation action type, knowledge of the emission reduction or removal technology employed by the activity, or similar activity types. For example, an activity participant that has good track record with forestry projects may not be suitable for developing a renewable energy activity.
3. Knowledge of the Paris Agreement and subsequent CMA (Conference of the Parties serving as the meeting of the Parties to the Paris Agreement) decisions related to Article 6.2 and Article 6.4 mitigation activities.
4. Participation in research on mitigation activities under the Paris Agreement could be beneficial. For example, this could include the discussion of application or interpretation of new requirements, development of guidelines, recommendations, tools or methodologies.
5. Ideally, the candidate developer should have direct experience with MADD development – although it is understood that currently there are not many completed MADDs.

Even if the MADD is developed by an highly qualified external organization, activity participants will need to be actively involved in the process, by providing the necessary inputs; understanding the key choices and decisions to be made with regard to mitigation action design and their implications; knowing the steps to be taken by each organization involved; establishing and maintaining communication with the host and buyer party; and supervising the MADD development by the consultant. For this reason, the following sub-chapters will help activity participants to understand and participate in the MADD development process.

4.2 Activity overview

The activity overview is a general description of the activity that contains a non-technical summary of other MADD sections and provides some basic information about the activity. In the first place, it describes the purpose of the activity and how it is going to reduce GHG emissions. This includes a concise description of the current situation, baseline scenario (which may be the same or different from the current status), and the activity scenario, i.e., what exactly will be done under the activity to reduce emissions, with a basic explanation of technologies to be employed and/or the measures to be undertaken.

The description of the activity scope should refer to its sectoral scope(s). For this purpose, the list of sectoral scopes used under the CDM could be used.[68] If there is no dedicated section on the geographic location, it should be described in the text in a way that enables clear identification of the activity and its differentiation from other possible activities. The description would include locality name(s), precise coordinates and map(s) showing the activity location(s) where possible or relevant (e.g., an activity could be implemented in a single point emissions source, or a policy intervention could cover the whole country).

Annual and total estimated emission reductions over the crediting period and over the lifetime of the MA should be specified.

Activity participants need to be listed, including state and non-state actors involved in the implementation of the activity from both host and acquiring parties.

While the issue of sustainable development will be addressed in a dedicated section, a summary of how the activity contributes to sustainable development should be provided here. Likewise, the key dates in the activity timeline should be mentioned (e.g., activity start date, physical operation start, crediting period).

Depending on the MADD template used and/or specific requirements of the host or acquiring party, as well as the rationality and activity specifics, the activity overview may also include other elements, such as the history of the mitigation activity, funding sources and the approach to attribution,[69] activity transformational change potential, technology transfer, etc.

4.3 Application of selected methodologies and standardized baselines

4.3.1 References to methodologies and standardized baselines

The methodology(ies) or protocol(s) applied by the activity, as selected by activity participants at the stage of MAIN preparation, need to be listed in this section of the MADD. Similarly, all methodological tools, other methodological regulatory documents, and standardised baselines (if applied) are to be itemised. The references should include the exact title, approving body (e.g., Article 6.4 supervisory body, CDM executive board, or another mechanism's governing authority), and version. The latest version available at the time of MADD preparation must be used.

4.3.2 Applicability of methodologies and standardized baselines

The selection of methodologies and other tools presented in the previous section needs to be explained and justified.

Normally, methodologies, protocols and methodological tools contain a section on their applicability and scope. The fulfilment of each applicability requirement to the circumstances of the mitigation activity has to be demonstrated. This could be done, for example, in a table format, where one column lists the applicability criteria and the other explains how it relates to the mitigation activity, as presented in Box 5 below.

Box 5. Example of demonstrating compliance of the mitigation activity with the methodology applicability criteria (CDM AMS-III.BL is used as an example)

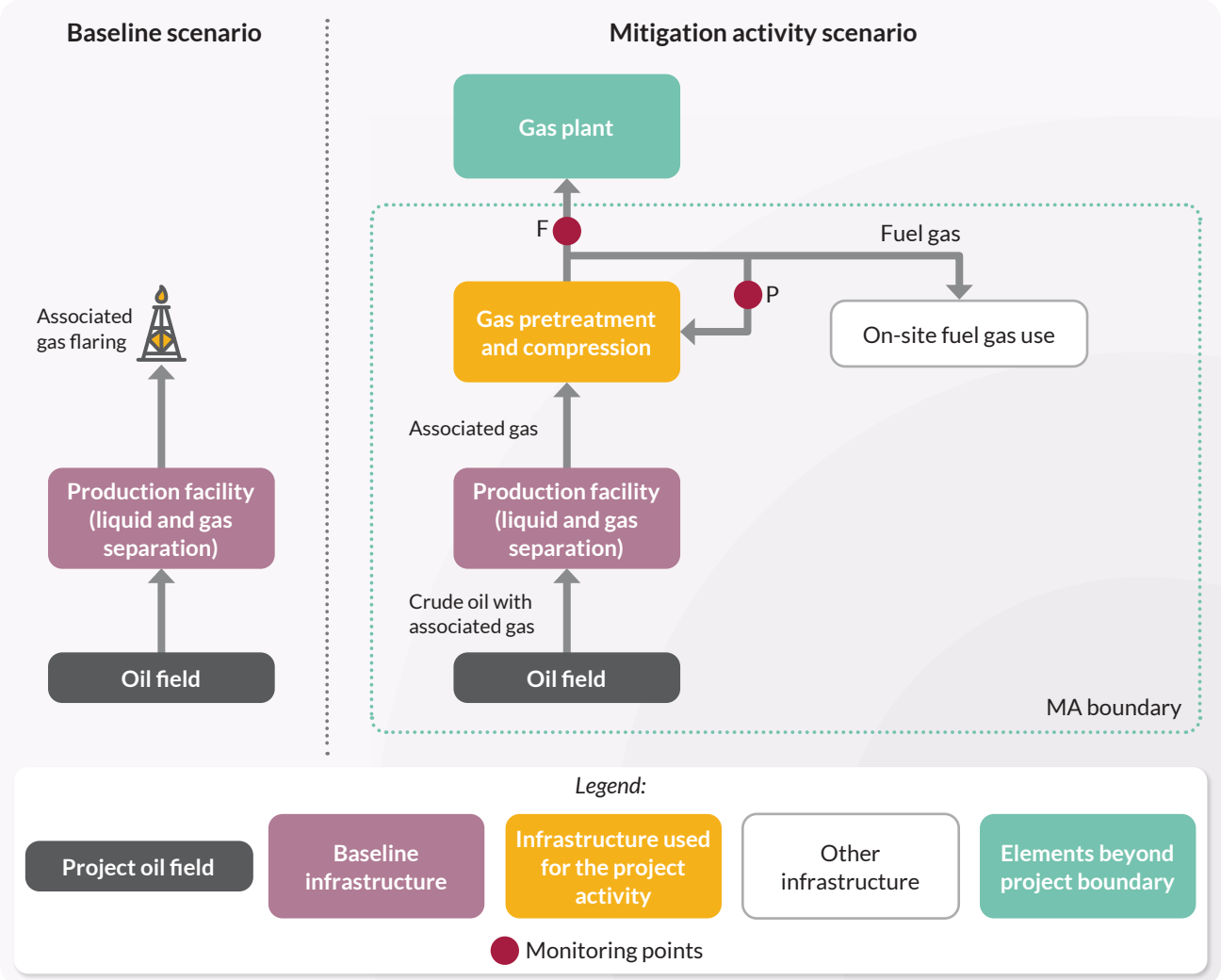
Applicability conditions	Applicability to the proposed mitigation activity
(1) This methodology is applicable in situations where consumers that were not connected to a national/regional grid prior to activity implementation are supplied with electricity generated from the mitigation activity. It is also applicable in situations where consumers that were supplied with electricity from a fossil fuel-based individual energy system or fossil fuel-based mini-grid prior to the implementation of the activity, are supplied with electricity from the mitigation activity (e.g., moving from a carbon-intensive mini-grid to a less carbon-intensive grid or mini grid).	The mitigation activity will include both consumers that were not connected and consumers that were connected to a fossil fuel-based mini-grid prior to the mitigation action.
(2) Electricity consumers may include households, commercial facilities such as shops, public services/buildings and small, medium and micro enterprises. Applications may include lighting, household electrical appliances (e.g., refrigerators, TV, radio), public lighting and water pumps. At least 75% (by number) of the consumers connected by the mitigation activity must be households.	Consumers may include all of these groups. At least 75% of consumers are households, as shown in the spreadsheet annex calculating capacity and emissions reductions.
(3) This methodology is applicable to electrification of a community of consumers that is achieved through one or more of the following technologies or measures: (a) New construction of individual energy systems (renewable or hybrid) such as rooftop solar PV systems or hybrid energy systems; (b) Rehabilitation (or refurbishment) of individual energy systems, mini-grid or hybrid energy systems.	The mitigation activity will include extension of a national grid to supply new consumers as well as consumers currently connected to a mini-grid.
(4) Activity equipment shall comply with applicable international standards or comparable national, regional or local standards/guidelines and, when relevant, the PDD will indicate the standard(s) applied for main activity equipment.	All relevant standards are specified in contracts with implementing agents and vendors for this mitigation activity.
(5) For activities involving the installation of hydro power plants with reservoirs, the requirements prescribed under AMS-I.D (Grid connected renewable electricity generation) must be followed.	Not applicable – no hydropower plants are installed as part of the mitigation action.
(6) Measures are limited to those that result in emission reductions of less than or equal to 60 kt CO_2-equivalent annually.	The annual emission reductions for each individual measure under the mitigation activity will not exceed 60 ktCO_2 throughout the entire crediting period. This will be confirmed during monitoring.

It could be helpful to look at examples of similar approved mitigation activities or past projects (publicly available MADDs of activities under Articles 6.2 and 6.4, when available, or PDDs under other crediting mechanisms, such as CDM or voluntary schemes) that use the same methodology or protocol. This could help in completing this and other sections of MADD.

4.3.3 Mitigation activity boundary, sources and GHGs

The system boundaries should be identified in line with the applied methodology, which normally lists all potential elements that need to be considered and included as relevant to a particular type of activity. In general, the boundaries should include all significant GHG emission sources or sinks under the control of the activity participant that are reasonably attributable to the activity. The description should be accompanied by schematics showing the boundary and elements included in the mitigation activity, as well as main inputs and outputs that need to be monitored (e.g. fuels, carbon-containing products, GHG emissions – if measured directly) and monitoring points (see the example in Figure 14).

Figure 14. Example schematics showing mitigation activity boundary



The processes that result in GHG emissions and the types of GHGs from each process should be listed for both baseline and activity scenarios. For this purpose, a table format is normally used, which may be provided in the MADD template or included by the activity participant following the example below.

Box 6. Example of table listing GHGs included in the activity boundary

Source		Gas	Included?	Justification/Explanation
Baseline	Combustion of fossil fuels at end-users that are produced from non-associated gas or other fossil sources	CO2	Yes	Main source of emissions in the baseline
		CH4	No	Excluded for simplification. This is conservative
		N2O	No	Excluded for simplification. This is conservative
Mitigation activity	Energy use for the recovery, pre-treatment, transportation, and if applicable, compression/ decompression, transportation of the recovered gas	CO2	Yes	Main source of emissions in the mitigation activity
		CH4	No	Excluded for simplification. This emission source is assumed negligible
		N2O	No	Excluded for simplification. This emission source is assumed negligible

4.3.4 Methodological approach establishing a baseline

As explained earlier, a baseline scenario represents a course of action that would take place in the absence of the proposed mitigation activity. A baseline scenario needs to be established in order to demonstrate the additionality of the mitigation activity (as described in the next sub-chapter), and to enable the calculation of mitigation outcomes. By definition, the mitigation activity is different from the baseline scenario.

Under most crediting programs, including CDM, baseline emissions were defined as GHG emissions that would occur in the baseline scenario,[70] which was usually interpreted as the BAU scenario. Thus, the emission reductions were calculated as a difference between the BAU emissions and the emissions under the activity scenario. However, in the context of the Paris Agreement, a conservative crediting baseline below BAU should be set. The baseline scenario will provide the reference emissions level against which the volume of mitigation outcomes achieved by the activity is calculated.[71]

Based on the above, this MADD section covers two major elements: establishing a baseline scenario, and determining the crediting baseline

The baseline scenario is established according to the selected methodology or protocol, using tools referred to in the methodology (such as the CDM combined tool to identify the baseline scenario and demonstrate additionality),[72] or based on the appropriate standardized baseline for the relevant activity type, if it is approved or accepted by the countries involved in the bilateral agreement. If a standardized baseline is used, its applicability to the mitigation activity shall be demonstrated as described in sub-chapter 4.3.2.

The procedure of defining the most likely scenario in the absence of the mitigation activity typically involves several steps, including identifying all possible options, and assessing their feasibility, plausibility and compliance with existing and planned legislation and policies. The application of each step as per the methodology should be described, and reasons and justification should be provided for the outcome of each step, transparently showing how the conclusion was reached. The justification should include the explanation of the inputs, assumptions and rationales, as well as references to information sources, legislation and other relevant documents.

All relevant policies should be taken into account, and their effect on the plausible scenarios should be analyzed. Some policies may generate new scenarios, e.g., development or deployment of certain technologies, or financial incentives that make some scenarios viable. As explained in detail in sub-chapter 2.2, the fulfillment of the host party's unconditional NDC targets must be considered as part of baseline, even if it is not yet reflected in specific national policies.

The identification of the baseline scenario is interconnected with the demonstration of additionality, and the outcomes of the steps described in this section may feed into the additionality demonstration in the next section, while the conclusions of additionality tests may confirm or finalize the selection of the baseline. This is particularly relevant in cases where several potential baseline scenarios are identified in this MADD section, and investment comparison analysis is used to select the most attractive course of action. Thus, where needed, references to the outcomes of relevant sections and steps may be included. Obviously, the determination of the baseline and the demonstration of additionality have to be consistent and complement each other.

As explained above, determining the crediting baseline is more than just identifying the baseline scenario and calculating its emissions (yet it may serve as a starting point for establishing the crediting baseline). The key principle of baseline-setting for mitigation activities under the Paris Agreement is the conservativeness of the crediting baseline, which must be below BAU (see Figure 12).

The following approaches to setting a crediting baseline are available to activity participants:[73,74]

- **Best available technology (BAT)** approach. A baseline is set at the level of BAT, which is technically and economically feasible in the context of the mitigation activity.

- **Performance-based approach/ambitious benchmark**. A baseline is based on the emissions per unit of product of best-performing facilities providing similar outputs and/or services in similar social, economic, environmental and technological circumstances.
- Activity-specific **historical or projected emissions adjusted downwards** (below BAU). This is the least preferred option and should be used only where the application of the above approaches is not possible (e.g., due to the lack of data). This approach can also be used if the mitigation activity applies a CDM methodology, where the baseline is set at the level of BAU and needs to be adjusted downwards to be applicable under the Paris Agreement rules.

A crediting baseline set using one of the above approaches may need to be further adjusted to be brought in line with the host party NDC. This may be particularly relevant if the NDC commitments (sectoral or country-level) are not yet translated into specific actions or national policies. The baseline should be reviewed at least every five years, in accordance with the NDC update schedule, to make sure that it remains in line with the host party ambition.

Recommendations on the process of selection and application of baseline setting approaches, as well as the NDC alignment, are provided in the concept for the tool for robust baseline-setting proposed by the International Initiative for Development of Article 6 Methodology Tools (II-AMT).[75] The draft tool is based primarily on the requirements for Article 6.4 mitigation activities, but is also in line with the Article 6.2 rules, so it may be used (in whole or in part) for mitigation activities under the cooperative approaches, particularly in the absence of guidance from the host or acquiring party.

It should be highlighted that baseline setting for Article 6.4 mitigation activities will have to rely on methodologies and tools that will be adopted by the supervisory board. Once adopted, they are likely to set best practice for mitigation activities under Article 6.2 and other programs. However, it should be kept in mind that Article 6.4 rules are not directly applicable to cooperative approaches. Activity participants are free to use other methods for baseline setting as long as they comply with the Article 6.2 rules[76] and are in line with the rules and expectations of the parties involved in the cooperative approach.

One of the specific requirements to baseline setting for mitigation activities under the cooperative approaches is addressing uncertainties in quantification of baseline emissions.[77] One way of doing this could be to calculate the overall uncertainty of baseline monitoring and deducting it from the baseline emissions to ensure conservativeness. Another way could be to select the lowest range of baseline emissions pathway or the most conservative option if several baseline choices exist.

There are some potential pitfalls that could be particularly relevant for mitigation activity participants that have previous experience with CDM or other carbon crediting mechanisms. Apart from setting baselines below BAU levels, baselines that lead to a net increase of emissions (e.g., in line with expected production growth) contradict the goals of the Paris Agreement and will be rejected. [78]

4.4 Additionality

Recommendations presented in this sub-chapter are aimed to assist activity participants in demonstrating additionality in a way that it increases the likelihood of mitigation activity approval as being additional, while not being prescriptive. A detailed definition of additionality is provided in Box 6.

Box 7. The concept of additionality

Additionality is one of the key requirements to mitigation activities. Article 6.2 rules starts with a statement that "Internationally transferred mitigation outcomes (ITMOs) from a cooperative approach are: (a) Real, verified, and additional…".[79] Similarly, Article 6.4 rules, modalities and procedures (RMPs) require that "The activity: (a) Shall be designed to achieve mitigation of GHG emissions that is additional…".[80] Additionality is commonly required in the majority of crediting mechanisms, including CDM and voluntary programs, with varying definitions and requirements to its demonstration. The concept of additionality of mitigation outcomes was introduced in the Kyoto Protocol. It demands that emission reductions generated by an activity are additional to those that would occur in the absence of the incentive provided by the crediting mechanism. In other words, it means that if a mitigation activity would be implemented anyway without carbon credits, it is not additional.

For Article 6.4 mitigation activities the RMPs further stipulate that "Each mechanism methodology shall specify the approach to demonstrating the additionality of the activity. Additionality shall be demonstrated using a robust assessment that shows the activity would not have occurred in the absence of the incentives from the mechanism, taking into account all relevant national policies, including legislation, and representing mitigation that exceeds any mitigation that is required by law or regulation, and taking a conservative approach that avoids locking in levels of emissions, technologies or carbon-intensive practices ...".

In the context of the Paris Agreement, where each party has its mitigation target under the NDC, the demonstration of additionality is broader than it was under the CDM and can be considered at two levels:

- **Policy level:** Assessment of whether emission reductions would take place due to implementation of host party's NDC target, policies and measures that are in place or could be reasonably expected within the mitigation activity crediting period
- **Activity level:** Assessment of whether an individual activity would take place in the absence of support offered by the crediting mechanism, i.e., demonstrating that it is additional as compared to its baseline scenario (similar to CDM and many voluntary programmes)

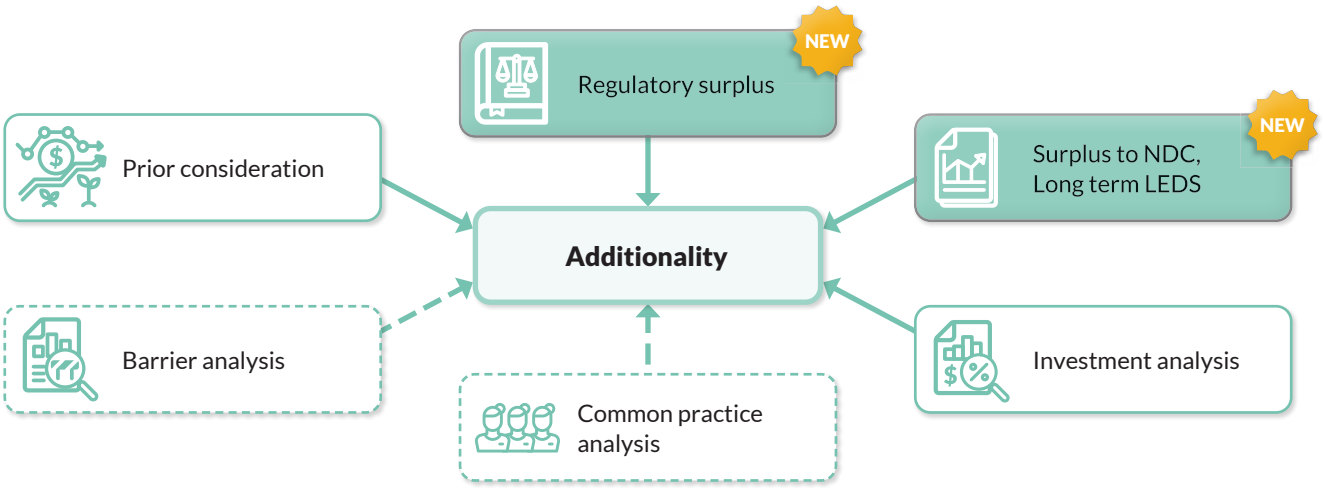
The Article 6.2 rules does not set specific requirements to additionality demonstration, leaving it up to the Parties involved in a cooperative approach to ensure that mitigation activities

are additional. Thus, the activity participants should in the first instance check if there is any guidance or rules set by the ITMO host and acquiring party.

Additionality demonstration under the cooperative approaches can build upon experience from CDM and other programmes but has to take into account the context and requirements of the Paris Agreement. It should be consistent with the baseline setting, proving that the activity would not take place in the baseline scenario. If a mitigation activity is developed under an independent standard, which is recognized by the countries under the cooperative approach, it should follow the requirements of that standard and methodology or protocol used, yet the activity participants should make sure that the "policy level" of additionality is addressed, even if the standard or methodology does not prescribe it.

There are several elements and tests that are commonly used to demonstrate additionality, which can be considered as various indicators pointing to mitigation activity additionality. The exact set of additionality tests and steps is normally defined by the applied methodology, which is specific to the activity type. In some cases, methodologies and methodological tools give flexibility for activity participants as to which tests they can apply. Figure 15 gives an overview of additionality criteria, and is followed by brief explanations of each element.[81]

Figure 15. Elements of demonstrating additionality.



Prior consideration of carbon credits. As suggested in sub-chapter 2.1, activity participants should notify the host party, and possibly acquiring party, authorities about their mitigation activity idea before the start of the activity (i.e., decision to proceed with implementing mitigation activity). This could be done, for example, in the form of an official letter. The date and the authorities to which the notification was submitted should be noted in the MADD. For Article 6.4 activities there will be a procedure of notification to the UNFCCC secretariat. While this step by itself does not prove that the mitigation activity is additional, it is an important signal that carbon credits were seriously considered by activity participants.

Regulatory surplus means that the mitigation activity is additional to regulatory requirements. This involves the analysis of all applicable legislation (national, subnational, local) to determine

whether the implementation of the proposed mitigation activity is not required by law and if it is not part of the planned GHG emission reductions effectively required by regulation. The check should include both in force and upcoming legislation that is formally announced by the government that will make the planned mitigation compulsory within the crediting period.

NDC and long-term low emission development strategy target surplus. This complements the regulatory analysis by checking whether implementation of the activity may be deemed part of the host party's efforts to achieve its unconditional NDC and LT-LEDS targets. There are several possible options for performing target surplus assessment, depending on the availability and the level of detail of information on the host party's plans to achieve its NDC. In case it turns out that the mitigation activity is likely to be part of the NDC efforts, this should be at least flagged to the host party as soon as possible, but no later than the approval phase. The consequences should be clarified before the decision to proceed with the mitigation activity, otherwise there is a significant risk of its rejection by the host party.

Investment analysis is applied to determine that the mitigation activity is not financially feasible without the expected revenues from the sale of the ITMOs. Usually, this is the core part of additionality demonstration because it proves that financial revenue from carbon credits enables the implementation of mitigation activity. Still, in some cases in-depth analysis may not be necessary, e.g., if carbon revenue is the only incentive to implement the mitigation activity (like destruction of some industrial GHGs that are not regulated by law). Financial analysis has been widely used in a variety of programmes, notably in CDM, which offers a number of tools, including the tool for the demonstration and assessment of additionality (CDM TOOL01), the combined tool to identify the baseline scenario and demonstrate additionality (CDM TOOL02), and the investment analysis tool (CDM TOOL27).[82] While these tools will need to be refined for the purpose of using under the Paris Agreement, they can serve as a good basis for performing investment analysis for mitigation activities under the cooperative approaches.

Common practice analysis usually complements other additionality tests, and may not be necessary for mitigation activity under the cooperative approaches. It is used to show that the proposed activity is not commonly implemented in the host party without the support from carbon crediting mechanisms. The CDM common practice methodological tool (CDM TOOL24) can be used for this additionality test.

Barrier analysis identifies barriers to mitigation activity implementation other than financial barriers that are alleviated with carbon crediting mechanisms. However, it is not expected that the barrier analysis will play a significant role in demonstrating additionality of mitigation activity under the Paris Agreement.

Some types of mitigation activities can be considered automatically additional, if they are included in a positive list approved or recognised by the relevant party or, in the future, by the Article 6.4 supervisory body. In such cases it needs to be demonstrated that the mitigation activity complies with eligibility requirements set out in the positive list, while other additionality criteria do not apply.

The requirements and tools for additionality demonstration will be elaborated by the Article 6.4 supervisory body, and they will be mandatory for mitigation activities under Article 6.4. These tools will also help to guide the demonstration of additionality of the Article 6.2 mitigation activities, keeping in mind that the cooperative approaches are not under the authority of the Article 6.4 supervisory body.

In the meantime, there are several resources that can aid additionality assessment. For example, Gold Standard Foundation proposed its view of "Additionality under Article 6.2 of the Paris Agreement",[83] where Chapter 3 is dedicated to additionality assessment and would be of particular use for activity participants. II-AMT developed a stepwise approach to demonstration of additionality, which is described in the "Concept note on the tool for the demonstration and assessment of additionality (TOOL01 concept)".[84] It is notable that the two papers address a similar set of additionality criteria, and each criterion (or step) can be attributed either to the policy or activity level (as defined above).

4.5 Monitoring, reporting

4.5.1 Explanation of methodological choices

Methodologies and protocols need to be applied and often customized to the circumstances of a particular activity. For example, certain elements included in the methodology may not be relevant in the context of the mitigation activity, such as emissions from diesel combustion in backup power generators where these are not used. This needs to be clearly explained in this MADD section and not simply skipped as irrelevant. Some other methodology elements may provide for a generic case or contain several possible options. It has to be specified what options are selected for the mitigation activity and why, including the necessary concretization in the equations provided by the methodology. For example, the reference to "fossil fuel i" in the generic cased should be replaced by "coal" (as appropriate) in the MADD.

Overall, this MADD section should describe the methodology as applied to the mitigation activity, including the approaches that will be used to calculate baseline and activity emissions, and leakage.[85] Each element of the methodology should be addressed, and its relevance and application in the context of the activity explained.

4.5.2 Data and parameters fixed ex ante

After explaining the activity-specific calculation methodology, the MADD has to list all parameters that will be needed to perform the calculation. Some data and parameters can be established before the mitigation activity monitoring begins and will remain unchanged throughout the duration of the activity. These could be standard emission factors, stochiometric values, numbers prescribed by the methodology, etc. A table is normally completed for each parameter fixed ex ante, including the name of the parameter (as it appears in a respective equation), its description, source of data, value(s) applied, purpose of data (i.e., where it is used), and comments. If the MADD template does not provide the table format for fixed parameters, the activity participant can copy it from the CDM PDD or another appropriate template.

In some cases, there is a choice between monitoring a parameter and using a fixed value (if the selected methodology permits). If the latter is used, it has to be conservative (i.e., will lead to underestimation of emission reductions) and well justified (e.g., based on a reliable source). It is worth evaluating the feasibility and costs of performing monitoring versus the loss of carbon credits due to the use of a conservative value.

4.5.3 Data and parameters to be monitored

Like the parameters fixed ex ante, each variable that is required for calculating emission reduction needs to be described. A similar table format is used but including the data measurement methods and procedures, monitoring frequency and quality assurance and quality control (QA/QC) procedures.

The monitoring methods and frequency should be in line with the methodology and other applicable requirements (e.g., required by the acquiring or host party). At the same time, the description should correspond to the reality of the mitigation activity, and the proposed monitoring process should be feasible to implement.

The activity participants should be aware that mitigation activity monitoring will have to be performed exactly as described in the MADD, otherwise the issuance (or the number) of carbon credits may be jeopardized, or post-registration MADD changes may be required to address any inconsistency, and this is a difficult and costly process. For this reason, the description of monitoring provisions in the MADD should be thoroughly checked by activity participants, including the personnel in charge of the activity monitoring. The description should be kept concise, without unnecessary details, and within the realistic capabilities of the activity participants.

4.5.4 Ex-ante estimation of emission reductions

Preliminary estimation of emission reductions is usually based on the same calculation approach as described for activity monitoring. However, unlike activity monitoring, estimated values are used instead of actual monitored parameters. For example, these could be based on historical records or experience in similar activities, equipment capacity and its expected operation mode, business plans, forecasts, conservative assumptions etc. While ex-ante estimation of emission reductions is speculative by nature, it should be kept in mind that each input parameter will need to be backed up by evidence or reasonably explained during the MADD validation.

In case it is not feasible or unreasonable to use the same calculation method for the ex-ante estimates as for activity monitoring, this should be justified and an alternative approach for preliminary estimates should be proposed and described in this section.

4.5.5 Sampling plan

In some cases, when direct measurement of certain parameters is not feasible, activity monitoring may be based on their measurement in a sample with subsequent extrapolation of the results to the whole population. To ensure the representativeness of the sample a sampling plan needs to be developed. This section should include a summary of the sampling plan to

demonstrate that the monitoring results will be representative for the whole activity. For example, this could be relevant for laboratory analysis of carbon-containing inputs or outputs in an industrial process, or carbon sequestration by forests.[86]

4.5.6 Other elements of monitoring plan

This section describes the arrangements for monitoring mitigation outcomes of the activity, as well as additional elements of the monitoring plan that are required in the context of the Paris Agreement.

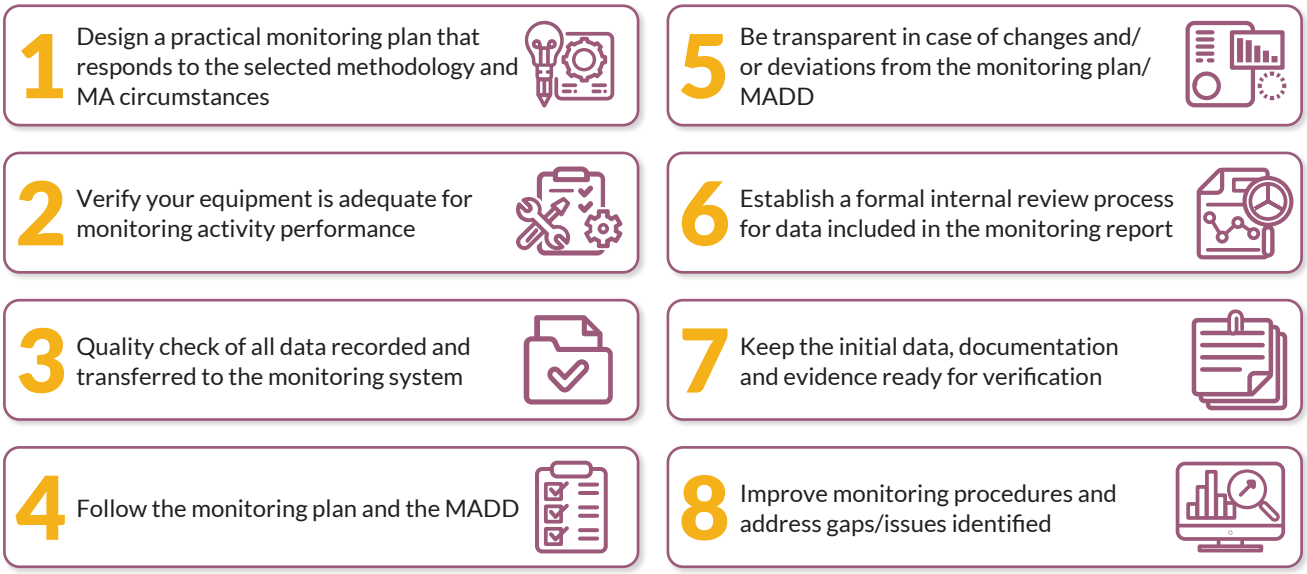
The activity participants need to decide on monitoring arrangements, which should cover the procedures for monitoring data collection, recording, analysis, processing and storage, i.e., the whole chain from sourcing monitored data and parameters to the calculation of emission reductions and preparation of a monitoring report. They also need to address procedures for archiving of monitoring results, calculation inputs and evidence. However, it may not be necessary to describe this in detail in the MADD, for which a summary of the monitoring procedures will suffice. Rather, a stand-alone monitoring plan should be prepared by the activity participants, describing in detail how activity monitoring will be performed. One of the benefits of this approach is that the monitoring plan (being an internal document of the activity host) can be modified as necessary without the need of external approval if some details of monitoring arrangements change during the crediting period of the activity. At the same time, the MADD (which is hard to change after the activity validation and registration are completed) does not need to be modified as long as the core monitoring arrangements remain the same throughout the operation of the activity.

The monitoring plan needs to address the following aspects, among others:[87]

- The roles, responsibilities, and competencies of the personnel who will be involved in the activity monitoring
- Data collection procedures
- Data recording and storage procedures (including security of IT systems)
- Sampling and analysis methods used
- The calculations steps to be used to determine the emission reductions
- Equipment calibration and maintenance (this could be already addressed in other internal documents – in such case a reference to them should be provided)
- Quality assurance and quality control procedures, including procedures for internal reviews and validation of data
- Procedures for corrections and corrective action
- The content of future monitoring reports (optional)

Proper monitoring is important to make sure that the achieved mitigation outcomes will be converted to issued carbon credits. Some key recommendations on monitoring good practice are presented in Figure 16.

Figure 16. Recommendations on good practice of mitigation activity monitoring.



In addition to monitoring mitigation outcomes (that is common under various carbon crediting schemes) several other elements need to be monitored following the requirements of the Paris Agreement and subsequent CMA decisions, as proposed by II-AMT in the tool for monitoring, reporting and verification of emissions, reductions and removals (TOOL03).[88]

- **Conservativeness of monitoring mitigation outcomes**. As a general rule, monitoring methodologies should strive for the highest level of accuracy available without prohibitive cost. Where a lower accuracy is chosen due to unreasonably high costs of more precise monitoring methods, conservativeness of estimating mitigation outcomes has to be ensured, i.e., the activity emissions must be overestimated, or removals underestimated. In such cases the activity participant needs to briefly present in the MADD different monitoring options with their costs and estimated uncertainties and a justification for the option chosen. As an example, the activity participant may consider the approach used in the EU ETS to determine whether the costs of improving accuracy of measurements can be considered unreasonable.[89] To evaluate the benefits of reducing uncertainty, an estimated price of carbon credits may be used instead of the default EUA price included in the EU tool.

Methodologies should ensure that the overall uncertainty of their emission or removal estimation does not exceed the overall level of uncertainty for the respective category in the national NDC GHG inventory of the host party,[90] or, if this is not available, the default uncertainty values for the respective category in the IPCC 2006 guidelines for national GHG inventories.[91]

- **Monitoring of all relevant policies** needs to be done in order to make sure that the crediting baseline remains valid, and the activity and baseline emission levels are not

affected. If any new policies or changes in the existing policies are identified, the baseline and/or activity emission levels have to be revised. The assessment of the relevant policies needs to be performed at least every five years, corresponding to the NDC periods. The policy monitoring procedure has to be included in the monitoring plan.

- **Monitoring of reversals** should be performed for activities related to enhanced storage of carbon in terrestrial or geologic reservoirs or protecting reservoirs from destruction (e.g., forestry, soil carbon enhancement, carbon capture and storage). The approaches used for monitoring potential reversals are provided in their respective methodologies, which should be adapted for the proposed mitigation activity and included in the monitoring platform. There is no need to address reversals in monitoring plans of other types that are not related to carbon storage.

4.5.7 Monitoring SDG outcomes

While the assessment of expected sustainable development impacts of the mitigation activity has to be performed ex ante (as described in sub-chapter 4.6), the activity participants also need to plan how its actual effects will be monitored and reported. The MADD and the monitoring plan have to include provisions for monitoring sustainable development impacts, including both positive and negative effects.

As a possible approach, a table identifying which of the 17 SDGs the activity contributes to could be included in this MADD section, describing how they will be monitored. Particular attention should be given to those SDGs where the mitigation activity may have negative effects (to identify and timely address them) and where positive contribution to sustainable development is claimed, as identified ex ante. The relation of the activity and SDGs is described in more detail in sub-chapter 4.6.

4.6 Sustainable development contribution

As explained in previous chapters, mitigation activities under Article 6.2 must be consistent with and contribute to the sustainable development objectives of the host party (as defined by that party).[92] Similarly, for Article 6.4 activities information should be provided on how the activity fosters sustainable development in the host party (which is one of the requirements for mitigation activity approval).[93]

As explained in previous chapters, mitigation activities under Article 6.2 must be consistent with and contribute to the sustainable development objectives of the host party (as defined by that party).[94] Similarly, for Article 6.4 activities information should be provided on how the activity fosters sustainable development in the host party (which is one of the requirements for mitigation activity approval).[95]

This MADD section should contain the assessment of how the implementation of the activity will affect sustainable development of the host party. On the one hand, any potential negative effects should be identified and minimized to the extent possible. On the other hand, the activity's contribution to achieving host party's sustainable development objectives should

be analyzed. It may be helpful to conduct some research on SD priorities of the host party and consultation with stakeholders on their expectations with regard to SD (stakeholder consultation is discussed in more detail in sub-chapter 4.12).

There are several tools and resources that could be helpful for activity participants. As a starting point, the CDM sustainable development tool can be used to showcase the sustainable development benefits of the mitigation activity.[96] Gold Standard for the Global Goals offers the SDG impact tool, which is useful not only for assessment of expected SDG impacts, but also for monitoring the actual activity's SDG outcomes.[97] II-AMT TOOL03 offers a safeguards tool for identifying, assessing and reporting on sustainable development safeguards.[98] In addition, it is expected that the Article 6.4 supervisory body will develop and adopt a sustainable development tool (which will be directly applicable for Article 6.4 mitigation activities, but could be also used by mitigation activities under cooperative approaches).

4.7 Timeline

This section should include references to the timeline of the main milestones of the activity. The timeline should be consistent with the information provided in other MADD sections, particularly the activity description. It should include at least the following key steps:

- The date of submission of a notification of the activity to the host party DNA and/or UNFCCC secretariat. As explained in sub-chapter 3.2.5, the notification is important to support the demonstration of additionality.
- The expected start date of the activity, which is the date on which the activity participants commit to implementing the mitigation activity, for example the date of an investment decision, signing the first contract to start construction or providing services for activity implementation, etc.[99]
- The expected start date of activity operation, i.e., when the activity will be physically launched and start reducing or absorbing GHG emissions.
- The expected operational lifetime of the mitigation activity (e.g., based on equipment lifetime).
- The planned start of the crediting period, which may be different from the date of the physical start of operation, e.g., allowing some time for equipment commissioning, setup, or start of monitoring.
- The length of the crediting period and whether renewal of the crediting period is expected. The potential for renewal should be coordinated with the host party and be aligned with the NDC update. For Article 6.4 emission reduction activities the crediting period could be up to 5 years (renewable a maximum of twice), or up to 10 years without the possibility of renewal. For carbon removal activities the allowable crediting period is longer.[100]

4.8 Environmental impact

As explained in sub-chapter 2.1.4, mitigation activities under both Article 6.4 and cooperative approaches must minimize and, where possible, avoid negative environmental and social impacts. Conducting an EIA or environmental and social impact assessment (ESIA) may be mandatory under the host party regulation, depending on the scale and type of mitigation activity. However, the level of requirements varies across the host countries, and in some of them EIA may not be mandated by law even for activities that have significant impacts. Some methodologies and protocols may contain provisions that require activity participants to carry out an EIA.

Even if the host party or the methodology applied does not require an EIA or ESIA, the activity participants should still evaluate the scale of potential environmental impacts of the mitigation activity, and if deemed necessary, develop an EIA (or an ESIA to address social/sustainability aspects in the same document). II-AMT TOOL03 recommends the following steps in its safeguards tool:[101]

1. Screening and categorisation of the mitigation activity to establish if an EIA or ESIA is required. In the absence of host party guidance, categorization by International Finance Corporation may be used.[102] If it is concluded that no EIA is needed, the justification should be transparently presented in the MADD.
2. Scoping for a preliminary assessment of the impacts. This step should identify those impacts considered to be significant, those thought to be negligible, and those whose importance is uncertain. The proposed scope of the EIA or ESIA is to be discussed and agreed with the relevant authorities and the stakeholders.
3. Detailed assessment involves in-depth analysis of the identified impacts and proposes mitigation options.
4. Formulation of an environmental impact statement and environmental and social management plan.

The main findings of the EIA or ESIA, as well as the respective mitigation measures, should be summarised in the MADD. The EIA or ESIA must be available for validation.

4.9 Finance

4.9.1 Funding sources and approach to attribution

The sources of funding for the mitigation activity should be described, explaining how the implementation of the activity will be financed, including expected revenue from the sale of ITMOs. There is no need to provide unnecessary details or confidential information given that the MADD typically will be publicly available.

In case the mitigation activity receives any kind of climate finance, official development assistance or governmental support, the attribution of mitigation outcomes should be analyzed. The shares of contributions from all sources need to be listed, and the structuring of the financing should be explained (guarantees, result-based financing, concessional funds, grant money or budgetary contributions). Activity participants may use relevant guidance

or recommendations on performing attribution of mitigation activities, such as the guide provided by the Swedish Energy Agency[103] or the discussion paper by CPF/TCAF.[104]

The activity participants should state whether they are planning to use any other carbon crediting mechanisms (including any compliance or voluntary crediting schemes). If any other carbon finance is used, the activity participant must avoid double-claiming, and describe here how it is ensured and how mitigation outcomes are attributed to different schemes.

4.9.2 Financial model

The financial model is not normally part of the MADD, unless explicitly required by the host or acquiring parties, as financial data are usually considered confidential or sensitive. Nonetheless, the financial model (usually in the form of an Excel spreadsheet) needs to be prepared as part of the demonstration of additionality (see sub-chapter 4.3) and presented during the validation. The model should transparently show formulas and calculation steps, assumptions and input data, including capital and operational costs, as well as a comprehensive list of revenues, clearly showing sources for each parameter. The model should highlight key results, including the internal rate of return and/or net present value, for both cases without and with carbon credits, which needs to prove that the crediting mechanism enables implementation of the mitigation activity. Significant input variables[105] should be subject to a sensitivity analysis to show that their influence on the results does not affect the additionality argument.

4.10 Institutional setup or governance

From the perspective of a mitigation activity, the setup of an institutional framework refers to the set of rules, processes and structures that determine how a mitigation activity is managed throughout its life cycle. This framework, also known as governance, is essential to ensure that a mitigation activity is planned, implemented and monitored transparently, responsibly and efficiently, which is necessary in the context of an authorisation of mitigation outcomes. Key aspects of the institutional setup of a mitigation activity are as follows:

- **Decision-making processes:** It defines how decisions related to the mitigation activity are made. This includes determining who has the authority to make decisions as well as the procedures for obtaining permissions at various stages of the activity.
- **Roles and responsibilities:** It serves to assign the roles and responsibilities of personnel and entities involved in the mitigation activity. This includes specifying the roles of coordinators, project managers, team members, stakeholders and any external parties such as contractors or consultants and the relations with civil society.
- **Transparency:** Institutional setup establishes transparency mechanisms because the activity participants are responsible for executing and reporting the results of the mitigation activity according to the established objectives, schedules and budgets. Transparency ensures that relevant information about the status, progress and challenges of the mitigation activity is accessible to all stakeholders.

- **Risk management:** Institutional setup includes processes that help identify, assess, mitigate, and monitor risks associated with the mitigation activity, to ensure that potential issues are addressed immediately and effectively.
- **Regulatory compliance:** Mitigation activities will have to comply with legal and regulatory requirements. Institutional setup ensures that the activity complies with all relevant laws, regulations and standards.
- **Mitigation activity reporting:** Institutional setup establishes requirements for activity documentation, including project plans, progress reports, and other documentation that helps track and communicate activity status and results, particularly traceable MRV requirements essential for transferring mitigation outcomes.

In addition, institutional setup also serves for financial management (allocation, monitoring and use of resources in the activity); to promote stakeholder participation; to address any changes in the objectives, scope or execution of the project by duly informing in each process; and to ensure, among others, social responsibility.

The governance of the mitigation activity is required for assigning roles and responsibilities in accordance with the technical and regulatory requirements in the activity cycle, and to anticipate interactions with host party authorities and other stakeholders with the activity participant.

4.10.1 Roles and responsibilities in cooperative Article 6 approaches

The institutional setup within a mitigation activity is governed by an institutional arrangement that entails functions of coordination, legal compliance, operation and monitoring of the activity, as essential roles. Below are the key responsibilities of the activity participants in the processes of authorization and transfer of mitigation outcomes, for which it is essential to cover specific functions.

Authorization

- Request authorization of mitigation outcomes: This involves compiling the information that verifies compliance with the requirements of Article 6.2 and duly presenting it to the host party authority (for more information on how a host party sets up authorization criteria see Guide 1: Developing an Article 6 host party strategy), as well as responding to any request for clarification that is made in the process.
- Once the authorization is issued, (i.e., through the authorization letter) the activity participant must ensure compliance with the terms and conditions of the authorization letter, throughout the mitigation activity.

Transfer:
Request international transfer of mitigation outcomes: Respond to any requirement that the host party requests to execute the transfer, under the terms and conditions of the authorization letter.

Basically, the responsibility of the activity participant, within the framework of Article 6.2, lies in demonstrating compliance with the authorization criteria, and then aligning with the terms and conditions of the authorization letter. Although they seem mere administrative tasks, they do imply, in a broader scope, the correct implementation and monitoring of the mitigation activity. So it is essential to establish a governance framework that assigns roles and responsibilities to those involved in the mitigation activity, including decision making, supervision, legal and regulatory compliance, implementation, MRV, evaluation and continuous improvement.

There is no mandatory model for deploying a governance framework in a mitigation activity. However, based on good practice and past experiences in carbon markets and Article 6 pilots, a structure containing the following institutional arrangements are required by the activity participant:

- Coordination body
- Decision-making body
- Focal point with host party and other stakeholders
- Legal compliance entity or body
- Steering committee
- Operations manager
- MRV

Table 8 shows the general roles and responsibilities for each stakeholder in the institutional arrangement.

Table 8. Stakeholder roles and responsibilities

Entity	Role	Responsibility
Activity participant roles		
Activity participant – executive chief	Overall coordinator	• Validate new technologies; • Approve providers/subcontractors/companies or other organizations engaged in the mitigation activity • Monitor the market; • Train different actors • Quality management of the mitigation activity • Technical validation and submission of the authorization request • Manage the financial issues • Oversight in the implementation of the mitigation activity • Hire and train staff according to needs
Activity participant – steering committee	Decision making body (high-level)	• Evaluate the performance of the mitigation activity (i.e., key parameters) • Give advice on any concern that may arise in the implementation of the mitigation activity • Provide relevant and up to date information related to the mitigation activity (i.e., on methodologies, available technologies, monitoring approaches, and so on). • Propose improvements to the activity • Issue opinion on draft reports before submission • Prepare requests to the host-party authorities related to high-level decision making • Strengthen transparency in the mitigation activity
Activity participant – legal compliance manager	Guarantees the regulatory compliance of the requirements for Article 6	• Most likely to be focal point with the host party • Review requirements and keep up to date compliance • Be responsible for keeping compliance with terms and conditions of the authorization letter • Compile information from different areas to prepare the authorization request • Request and check performance reports to the technical operator • Hire a verification body for the verification of the mitigation activity • Prepare authorization request • Follow up in any legal and compliance situation (e.g., attend requests from host party authority) • Oversight of the mitigation activity

(continued)

Entity	Role	Responsibility
Activity participant roles		
Activity participant – operations manager	Implement mitigation activity	• Be responsible for the implementation and monitoring of the mitigation activity (the overall MRV approach) • Identify risks in the implementation • Inform the compliance manager or the chief executive about any challenge, risk, gap or barrier to solve • Report expenses associated with the implementation of the mitigation activity • Report performance of the mitigation activity • Prepare monitoring report • Train and supervise staff involved in the implementation of the mitigation activity • Provide relevant information to the verification body in the verification processes • Perform periodic needs assessment in terms of equipment and staff and report to legal unit or the coordinator
Other potential stakeholders		
Financial institutions	Financing and supporting mitigation activities	• Grant credits • Support activity participants to set up a mechanism for managing identified risks in the target markets • Prepare reports on the state of implementation of the providers or other supporter in the implementation of the mitigation activities
Providers/ subcontractors	Probably, main implementers of the mitigation activity, who could receive financing from FIs.	• Data providers (i.e., management of databases) • Set up credit files to finance validated applications • Ensure implementation of the mitigation activity (when applicable) • Ensure the technical follow-up of the subcontractors • Monitor the optimal functioning at facility/household level (when applicable)

Households/ facilities or other beneficiaries	End-users/ beneficiaries of the mitigation activity	• Responsibilities would be defined according to the mitigation activity, and could include:
		  ◦ Maintenance of equipment
		  ◦ Regular reporting of the performance of the equipment

4.11 Compliance with regulations

The mitigation activity must comply with national regulations. This includes conformity with the host party's NDC, in particular its sectoral targets, policies affecting GHG emissions, and relevant regulations, which has to be part of the activity baseline. Regulatory analysis, which is one of the steps in the demonstration of additionality, has to show that the activity

is not mandated by law, as described in sub-chapter 4.3. Other legal requirements have to be observed as well; in particular, any relevant environmental and social regulations, as well as other policies supporting sustainable development of the host party.

The MADD should include references to the regulations that are considered relevant for GHG emissions, with a brief explanation of the requirements. If the MADD template used does not include a dedicated section on compliance, this may be included in the section on additionality, e.g., in the sub-section on legal additionality.

The activity participants should make a statement on compliance with applicable regulations, which has to be supported by evidence if requested during the validation.

The MADD should also describe how the mitigation activity will avoid double-counting. The need for making corresponding adjustments by the host party will depend on how the mitigation outcomes will be used (e.g., international under the Paris Agreement compliance or offsetting corporate emissions within or outside of the host party).

4.12 Stakeholder consultation

As explained in chapters 2 and 3, the activity participants should try to meaningfully engage local stakeholders in the mitigation activity from its very beginning to enable them to contribute to the activity design and be involved in the decision making process, as well as to establish good relationships and build trust. This will help the activity participants to identify and minimize some potential risks, e.g., avoid opposition, maximize sustainable development benefits, and reduce or avoid adverse impacts of mitigation activity on the local communities or other stakeholders.

MADD should describe at least the following elements of the stakeholder process:

1. **Modalities for local stakeholder consultation** should explain how stakeholders are engaged in the activity, what groups are considered relevant, what communication means are used for each group, etc. The stakeholder engagement plan, which was prepared at the stage of developing AIN, could be a good basis for completing this MADD section. Means used to reach out relevant stakeholders should be adjusted for the relevant target group, taking into account the cultural context, literacy, and access to communication technologies (internet, social media, newspapers). The modalities for stakeholder consultation should give them an actual possibility to provide comments. In particular, key information about the planned activity should be explained in plain language and made available in advance of a stakeholder meeting, and/or allowing sufficient time for submitting written comments.
2. **A summary of comments received** should be provided in this section, highlighting the main concerns and suggestions received. The list of all comments or minutes of the meetings may be included in an annex. This and other evidence of stakeholder consultation will be needed during the MADD validation.

3. **Consideration of comments received**. It should be explained how the activity participants addressed the comments. It could be a good idea to combine the list of comments received with the response provided, e.g., in a table to be included in an annex (which could be the same annex as mentioned in the previous point or a different one). It should be demonstrated how each comment received is addressed, i.e., if it is considered relevant, what action is or will be taken, or, if otherwise, it should be explained why the comment is declined.
4. **A continuous input or grievance mechanism** should be established to maintain communication with stakeholders during implementation and operation of the activity, so that they are given a chance to raise their concerns or provide feedback – if, for example, the activity does not go as expected. This could be part of the stakeholder engagement plan mentioned above, or a separate procedure. It should include both regular meetings and grievance procedures that could be used in case an issue emerges. If any grievance redress mechanism is already in place, e.g., if mandated by the EIA or required for compliance with regulations, it can be used for the MA. Stakeholders need to be informed about the mechanism and how they can interact with it. Ideally, it should be indicated at which stage the court or arbitration system needs to be involved in case solutions cannot be found through the grievance redress mechanism. The summary of the procedure is to be described in the MADD.

If there are any host party requirements with respect to stakeholder consultation process, they need to be followed, although they may not be sufficient for Article 6 mitigation activities. The activity participants may use the Gold Standard stakeholder consultation and engagement guidelines,[106] which could be considered as best practice for stakeholder involvement in mitigation activities. Obviously, the guidelines are not mandatory for Article 6 mitigation activities, and the activity participants are free to select elements which are relevant in the context of the mitigation activity. It is also worth checking whether the parties involved in the bilateral agreement and acquiring parties (mitigation outcome buyers) have any guidelines, recommendations or any specific expectations regarding stakeholder consultation.

4.13 Transformational change

Transformational change is defined as a fundamental, sustained change of a system that disrupts established high-carbon practices and contributes to a zero-carbon society, in line with the Paris Agreement goal to limit global warming to 1.5–2°C and the UN SDGs. Table 10 presents the key elements the activity participant needs to consider when including the transformational change criteria into activity design.[107]

Table 9. Identification of issues relevant to design of transformative Article 6 activities

Transformation characteristics	Issues to consider in designing Article 6 activities
GHG mitigation outcomes at scale, sustained over time, aligned with the project activity temperature goal of well below 2°C	*To what extent does the activity contribute to additional mitigation in the host party, enhancement of unconditional NDC targets and innovation regarding mitigation policies?* **Issues** • Stringency of additionality testing • Mitigation potential • Likelihood that activity leads to an expansion of the unconditional part of the NDC in its next revision • Likelihood that activity leads to upscaling of mitigation • Share of mitigation outcomes kept by the host party • Degree of innovation of underlying policy instruments
SDG outcomes at scale, sustained over time, aligned with the 2030 Agenda global goals and Planetary Boundaries framework	*To what extent is it guaranteed that SDG benefits accrue, given that these are preconditions to achieve transformational change?* **Issues** • Level of detail of accounting of SDG benefits • Level of safeguards against adverse effects in development and on planetary boundaries • Existence of ex-ante assessment of potential SD contributions and risks • Level of detail of SDG benefit monitoring • Existence of third-party verification of SDG benefits
Technology change and digitalisation	*How far is technology including digitalization in an Article 6 activity transformational?* **Issues** **Broader technology development – R&D, adoption and scale-up** • Likelihood of catalytic implementation of mitigation technology • *Degree of understanding of abatement costs of the technology and the ability to lower them* • Level of risk for lock-in fossil infrastructure **Digitalisation** • Degree of support for acceleration of implementation of mitigation technology • Level of reduction of transaction costs • Degree of facilitation of MRV • Degree of facilitation of digital payments/financing mechanism

(continued)

Transformation characteristics	Issues to consider in designing Article 6 activities
Normative change – (dynamic) baselines	*Is the baseline approach and implementation of the baseline methodology in line with the promotion of transformational change?* **Issues** • Degree of consistency of baseline approach with PB concept and long-term target of the Paris Agreement, e.g., through crediting thresholds and derivation of a baseline emissions path below BAU • Degree of conservativeness • Frequency of revision • Length of crediting periods (relative to technology lifetime?)
Agents of change – government and private sector	*Are government and private sector involved in a way that promotes transformational outcomes and processes?* **Issues** • Are actors involved that have the power to drive transformation? • Does the activity create institutional capacity and improve effectiveness? • Does the activity include a gradual phase-out of Article 6 funding through "catalytic" finance?
Incentives for change – carbon pricing	*Does the activity increase the likelihood that carbon pricing is introduced or enhanced?* **Issues** • Does the activity enhance the likelihood that carbon pricing policies are mentioned in the NDC? • If carbon pricing already exists: Does the activity have a link to carbon pricing? • Does the activity contribute to the reduction of fossil fuel subsidies (negative carbon pricing)?

Source: Own compilation; PCR, UNEP DTU & FC.

For activity participants' convenience the box below lists tools and guides referred to in the current chapter that could be helpful at various stages of MADD development.

Box 8. Available tools and guides that could aid MADD development process

Title, author, link	Relevant MADD section(s)
Decision 2/CMA.3, Annex. Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement. https://unfccc.int/sites/default/files/resource/cma3_auv_12a_PA_6.2.pdf	Multiple sections, Article 6.2 MADDs
Decision 3/CMA 3, Annex. Rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement. https://unfccc.int/sites/default/files/resource/cma3_auv_12b_PA_6.4.pdf	Multiple sections, Article 6.4 MADDs
CDM tools, UNFCCC. https://cdm.unfccc.int/Reference/tools/index.html	Multiple sections
VERRA tools. https://verra.org/methodologies-main/	Multiple sections
List of Sectoral Scopes, UNFCCC. https://cdm.unfccc.int/DOE/scopelst.pdf	Activity overview
II-AMT TOOL01 – Tool for the demonstration and assessment of additionality. Concept Note. Perspectives Climate Research. https://www.perspectives.cc/public/fileadmin/user_upload/II-AMT__2022__TOOL01_-_Tool_for_the_demonstration_and_assessment_of_additionality_Concept_Note._Version_April_2022__Perspectives_Climate_Research__Freiburg.pdf	Additionality
II-AMT TOOL02 – Tool for robust baseline setting: Concept Note, Perspectives Climate Research. https://www.perspectives.cc/public/fileadmin/user_upload/II-AMT__2022__TOOL02_-_Tool_for_robust_baseline_setting_Concept_Note._Version_April_2022__Perspectives_Climate_Research__Freiburg.pdf	Baseline setting
II-AMT TOOL03 Perspectives Climate Research, "Tool for Monitoring, Reporting and Verification of Emissions, Reductions and Removals.": Concept Note, Perspectives Climate Research. https://www.perspectives.cc/public/fileadmin/user_upload/II-AMT__2022__TOOL03_%E2%80%93_Tool_for_monitoring__reporting_and_verification_of_emissions_and_emission_reductions_Concept_Note._Version_April_2022__Perspectives_Climate_Research__Freiburg.pdf	Monitoring plan
Unreasonable Costs Determination Tool, European Commission. https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/monitoring-reporting-and-verification-eu-ets-emissions_en	Monitoring plan
SDG IMPACT TOOL, Gold Standard. https://www.goldstandard.org/project-developers/standard-documents	Sustainable development contribution

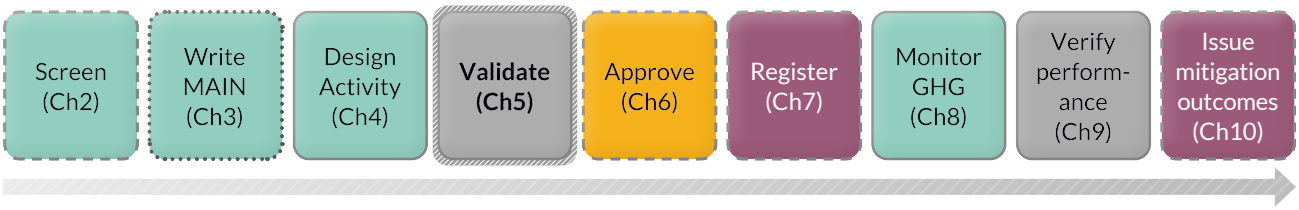
(continued)

Box 8. Available tools and guides that could aid MADD development process (*continued*)

Title, author, link	Relevant MADD section(s)
CDM Sustainable Development co-benefits tool, UNFCCC. https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Tool.aspx (the version in a Word document)	Sustainable development contribution
Attribution: A Practical Guide to Navigating the Blending of Climate Finance and Carbon Markets, Spalding-Fecher et al. https://www.energimyndigheten.se/4aacfb/globalassets/webb-en/cooperation/attribution-report.pdf	Finance
Publicly available MADDs under Article 6.2 (examples), Swiss Federal Office for the Environment. https://www.bafu.admin.ch/bafu/en/home/topics/climate/info-specialists/reduction-measures/compensation/abroad/registered-projects-abroad.html#accordion_2083064496169545775462O	Multiple sections

Chapter 5

Validate mitigation activity design



5.1 Objectives of the validation

The objective of the validation of Article 6 activities is primarily an assessment of the likelihood (including assumptions, limitations and methods) that a proposed mitigation activity will result in the achievement of mitigation outcomes. Additionally, it may also include assessments of potential achievements of sustainable development co-benefits. The DOE conducts a thorough and independent judgement of a proposed activity against the applicable rules of the selected crediting mechanism (e.g., Article 6.4 mechanism, independent crediting mechanisms or bilateral mechanism).

While validation takes place before the implementation of a mitigation activity, verification is conducted after activity implementation and monitoring. Positive validation is a general prerequisite for an activity to generate mitigation outcomes and the verification assesses the specific number or mitigation outcomes during a certain monitoring period.

The cost for validation in international carbon markets has usually ranged from EUR 15,000–25,000 (despite the fact that prices in the most dynamic moments of the market have risen to EUR 65,000 per activity) and may also be different for specific activity types (e.g., small-scale renewables may be less while country-wide dissemination of efficient lighting devices may be much higher).

5.2 Actors in the validation process

The main actors in the validation process are typically the following:

Activity participants, who own and/or operate the specific technological or natural asset and/or activity which creates the specific mitigation outcomes. Activity participants have the following tasks:

- To provide access to all sites where activities will most likely take place

- To provide all information (in validation specifically referring underlying assumptions for baseline calculations, additionality arguments, sustainable development co-benefits etc.) required by the DOE
- To support the response to any clarification requests or corrective action requests raised by the DOE

In many activities mitigation outcomes are not the primary driver to implement the activity but a valuable "by-product". If activity participants do not own or operate a series of mitigation activities, they may not have sufficient technical resources to manage the validation process effectively on their own.

Therefore, activity participants may cooperate with specialized external **carbon or Article 6 activity participants or consultants**. Carbon consultants can:

- Guide the activity participants to identify and select the appropriate DOE
- Arrange for the site visits (including the preparation of the activity participant´s team)
- Communicate with the DOE including leading the responses to the DOE´s raised clarification request and corrective action requests
- Revise baseline calculations

Designated operational entities are qualified, independent third-party auditors who are approved by the respective independent crediting mechanism or by the respective host party where the activity takes place. DOEs may hold accreditation for specific sectoral/technical scopes. Usually DOEs need to be contracted by an entity being appointed as an entity holding interest in the issued mitigation outcomes (potentially including the activity participant, or the acquiring party).

Local stakeholders in the proposed Article 6.2 or 6.4 activities are defined as individuals directly impacted by the activity. The DOE will need to determine if the activity participants have completed the local stakeholder consultation process in accordance with the requirements of the Paris Agreement (e.g., its preamble) independent crediting mechanism and/or host party regulation (inter alia by conducting interviews with local stakeholders).

The rules to be followed by the DOEs and activity participants are set by the specific **crediting mechanism** (e.g., Article 6.4 mechanism, independent crediting mechanisms or bilateral mechanism) where the activity may be submitted. Crediting mechanisms provide a list of organizations that are eligible to perform validation and verification services for specific activity types.

Box 9. Example of CDM validation rules

The CDM validation rules include:

- General validation requirements such as validation approach, means of validation
- Additionality requirements such as prior consideration of CDM, start date, investment analysis etc.
- Identification of activity type and description of activity (e.g., clear description of used equipment in the baseline and the activity; associated mass and energy flows etc.)
- Selection and application of baseline methodologies (procedures to clarify or revise existing methodologies), assess ex ante and ex post calculations
- Activity boundaries (are all GHG emission sources covered)
- Monitoring plan (assessment if all necessary parameters and procedures are clearly described)
- Sustainability/environmental social impacts, stakeholder consultations

5.3 Overview of the validation process

In general, the validation process (from the point of view of an activity participant) includes the steps shown in the figure below and then discussed.

Figure 17. Overview of the validation process

1. The activity participant identifies a suitable DOE (according to criteria such as: regional focus of DOE, scopes of accreditation, logistics, timeline of validation, pricewise).
2. The activity participant contracts the DOE according to the requirements of the independent crediting mechanism.
3. The DOE carries out a desk review of existing documentation (MADD, supporting evidence) to identify key risks and prepare the audit plan including the on-site assessment.
4. The DOE conducts on-site assessment that allows it to seek confirmation physically that the implemented activity complies with the validation rules of the independent crediting mechanism.
5. The activity participant received and addresses the findings list. This document contains the clarification requests and corrective action requests by the DOE (e.g., if not sufficient evidence is presented that measurements have been carried out according to the monitoring plan).
6. The DOE prepares the draft validation report (by the lead auditors) and then sent to internal quality management.

7. The DOE carries out an internal technical review. After a successful technical review, the final verification report, including the assurance statement, is issued; it can then be forwarded to the respective independent crediting mechanism.

In general, after contracting the validation may take two to six months.

5.4 Typical challenges

Common challenges of validations which should be avoided by activity participants include:

- Non-applicability of or deviations from the baseline and monitoring methodology (e.g., a small-scale activity is used for a large-scale activity)
- Start date of activities not determined according to rules of the independent crediting mechanism
- Insufficient evidence for additionality claims (activity participants need to be aware that every statement made in the MADD needs to be backed by documentary evidence); specifically, evidence for financial parameters used in the investment analysis needs to be readily available
- Monitoring procedures sometimes may not be clear, especially in cases where the mitigation outcomes are not the main source of income (e.g., biofuel production, utilization of associated gas, waste heat recovery etc.)
- Insufficient information on stakeholder consultation process (e.g., not clear how stakeholders were selected or how they were contacted etc.)

Chapter 6

Approve mitigation activity by host party

The request for approval is a step in the activity cycle that is required for Article 6.4 but may also be adopted by some host parties for all mitigation activities (including bilateral Article 6.2 approaches and non-Article 6 activities). This is an independent step from authorization of mitigation outcomes from mitigation activities (for authorization see sub-chapter 11.1). In other words, it is possible for an activity to be approved for the generation of mitigation outcomes, but those could not be authorized to be transferred as ITMOs. For example, they could be used as "mitigation contributions units" under the Article 6.4 mechanism.

To move forward with this process, the activity participant must answer the following questions:

1. Who is the DNA that the host party has designated for Article 6.4?

Or, if this institution has not yet been designated:

2. Who has been the CDM DNA?

Answering this is key, as the DNA is the institution that the activity participant will need to contact to request approval of the proposed mitigation activity. The next steps depend on the market in which the activity participant intends to promote the mitigation activity.

6.1 Approval process under the Article 6.4 mechanism

As mentioned, this process is mandatory for Article 6.4. If the activity participant is carrying out an activity under this scheme, it should follow the 6.4 rules including:

- Follow the procedure for approval request established by the host party and framed in the rules.[108]

- In case this process is still not clear, the activity participant should contact the Article 6.4 DNA for Article 6.4 or the CDM DNA for information, as this institution is likely to have the most up-to-date information on the process.
- Identify what information needs to be submitted and how to submit it (i.e., formats, reporting systems, official letters, etc). It is likely that the validated MADD will need to be submitted.
- It is key for the activity participant to note that under the CDM there was a technical review of the host party, where the alignment of the motivation activity against national policy priorities was checked. It is possible that some host parties may decide to follow a similar process.
- In addition, some rounds of questions from the DNA that the activity participant should respond to may be required.
- It is important to note that under this mechanism no approval from the acquiring party is required.

6.2 Approval process under the Article 6.2 mechanism

Article 6.2 cooperative approaches are not likely to require a separate approval process from that established for Article 6.4. If the activity participant opts for a cooperative Article 6.2 approach, identify whether the host party requires approval of activities that will not be governed by the Article 6.4 mechanism.[109]

- Identify whether this procedure is different from the one applicable to activities under Article 6.4 and identify what type of information should be sent (i.e., validated MADD, justification of alignment with national policies), in what format and through what means (i.e., email, formal letter, information system).
- As in the process defined for Article 6.4, contact the DNA in case further clarification on the procedure is required.
- Identify whether the acquiring party requires any approval process, if one has been identified.
- If this is the case, identify what the process requires and how it should be responded to.
- As with the Article 6.4 process, some rounds of questions and answers from the host and acquiring parties may be required.

6.3 Approval process under independent crediting mechanisms

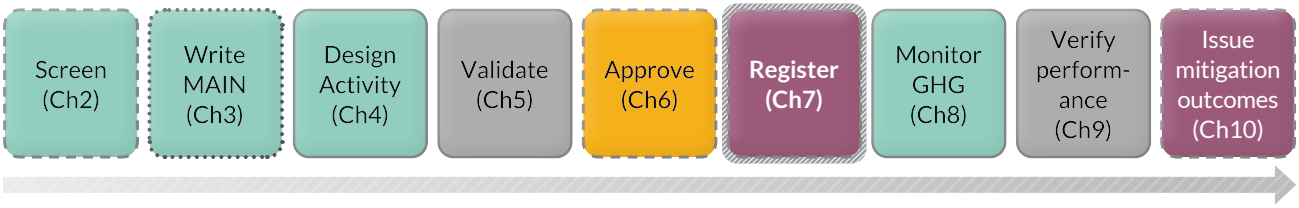
In general, independent crediting mechanisms do not require an approval process from the host party. However, this may become required if the host party has this as a rule for all Article 6 activities. If this is the case, the activity participant must follow the general process established by the host party.

In case the proposed mitigation activity is approved by the host party, at the end of the process the activity participant will receive a notification about the approval of the mitigation activity.

The output of this step is a letter of approval for the proposed mitigation activity.

Chapter 7

Register activity



7.1 Registration of activities under Article 6.4

7.1.1 UNFCCC registry of activities under Article 6.4

To keep track of the status and progress of the relevant activities, and issuance of A6.4ERs, the UNFCCC secretariat will establish the registry mechanism. The mechanism will be maintained and operated by the secretariat under the supervision of the Article 6.4 supervisory body.[110]

7.1.2 Pre-registration

Registration of a mitigation activity should be preceded by a notification from the host party on approval of the mitigation activity and authorization of activity participants by the host and acquiring parties. Host party and authorized activity participants will have to communicate this information to the secretariat in accordance with the rules, modalities and procedures to be further specified by the Article 6.4 subsidiary body.[111] Approvals and authorizations for the Article 6.4 activities will be communicated via the UNFCCC website.

7.1.3 Who applies for registration of activities

In case of the successful validation of the mitigation activity's compliance with the RMPs, the DOE shall submit the registration requirement with the relevant documentation to the secretariat.[112] The provisional list of documentation should include:

- A cover note for a registration request that contains necessary information on the mitigation activity – name, host party, crediting period, activity type, expected emissions reductions, methodology applied for calculation of expected emission reductions, name of the DOE that has performed validation
- The MADD, providing detailed information of the mitigation activity to demonstrate that the proposed mitigation activity meets all relevant requirements to be registered under Article 6.4

- A validation report prepared by a DOE
- Modalities of communication with activity participants, providing contacts of authorized communication channels with the supervisory body and the secretariat

7.1.4 Registration fee

The secretariat notifies the authorized activity participant of the registration fee due to be paid within a year after issuance of the note on payment. The modalities of communication are to be specified by the Article 6.4 supervisory body. The size of the registration fee is defined by the CMA for each tier of the expected Article 6.4 ERs to be generated by mitigation activities (see Box 6). If the secretariat does not receive the deposit of the registration fee within a year of issuing the request for the payment, request for the mitigation activity registration is deemed to have been withdrawn.

Once the registration fee has been received, the secretariat publishes information on requests for registration for activities or programs of activities on the UNFCCC website.

According to the preliminary procedures,[113] the secretariat starts the completeness check within seven days of receiving the registration fee. In case of minor issues that can be solved with proofreading or minor edits of text, the secretariat communicates such requirement to the DOE. In case of incomplete documentation, activity participants may resubmit the registration request, which will be treated as a new one.

Modalities and procedures for the registration fee reimbursement are to be further specified by the Article 6.4 supervisory body.

Box 10. Registration fees

Payment of the fees

- One year from the issuance of the statement of the registration fee
- Activity registration fee USD 2,000: Annual average GHG emission reductions or net GHG removals over the (first) crediting period of up to 15,000 tonnes of CO_2eq
- USD 6,000: Annual average GHG emission reductions or net GHG removals over the (first) crediting period of up to 15,001 to 50,000 tonnes of CO_2eq
- USD 12,000: Annual average GHG emission reductions or net GHG removals over the first crediting period of 50,001 tonnes of CO_2eq and above.
- A maximum of USD 1,000 for inclusion of a component of a project activity per inclusion.

Box 10. Registration fees (*continued*)

Reimbursement of payments:

- In full: Withdrawal by DOE before completeness check or withdrawal of host party authorization
- Above USD 2,000: Withdrawal by the DOE or concluded as incomplete by the secretariat at the completeness check stage
- Above USD 6,000: Withdrawal by the DOE or concluded as incomplete by the secretariat at the substantive check stage
- No reimbursement: In the case of rejection by supervisory body or withdrawal after the completeness check of the activity documents.

If the documentation is deemed complete, the secretariat conducts a substantive check within 21 days. After successfully completing the substantive check, the secretariat publishes the request for registration on the UNFCCC website, and it should be deemed as a received request for registration by the supervisory body. The request for registration thus will be open for the comments from parties, stakeholders and the UNFCCC observer organizations within 28 days.

The host party, any other participating party, or a member or an alternate member of the supervisory body, can submit a request for the review within 42 days from the date when the request for registration was published. Requests for review must include reasons based on the rules and requirements of the Article 6.4 mechanism. If such a request has been received by the secretariat, it should change the status of the activity to be "under review" and publish an anonymous version of each of the requests for review. The DOE or activity participants must provide responses to the request for the review by making alterations to the PDD or validation report, making sure all facts are clearly stated and sufficiently validated, or responding in writing and showing why no revisions to the PDD and/or validation reports are possible. The team of experts established by the supervisory body will assess the request for registration and accompanying documentation and suggest whether the activity in question should be registered under the Article 6.4, or the request for registration should be rejected.

In case of the positive result of the request for registration, and absence of the requests for review, the Article 6.4 supervisory body should deem the Article 6.4 activity as registered.

7.2 Registration under cooperative approaches Article 6.2 (bilateral mechanism)

Activities implemented within cooperative approaches under Article 6.2, unlike Article 6.4 activities, do not have registration as a part of the lifecycle. However, authorizations by the host party and the other involved parties serves as a similar step and are crucial for the subsequent IMTOs issuance and transfer. If the bilateral agreements are in place, Article 6.2 activities must comply with their terms, and the general requirements of the CMA rules for Article 6.2 activities implementation. The mitigation activities are communicated to the

UNFCCC through the initial reports by host and acquiring parties before issuance of ITMOs is authorized.

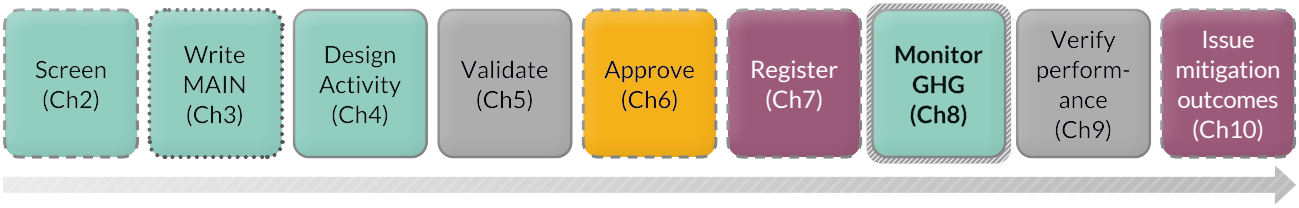
For each cooperative approach, the host and the acquiring party shall provide:

- A copy of the authorization by the host and acquiring parties involved in the bilateral cooperation
- A description of the planned or implemented mitigation activity
- Duration and the expected amount of mitigation outcomes for each year of its duration
- Names of the host party and acquiring parties involved and authorized entities

The UNFCCC will develop a database of Article 6 activities that will be integrated with a centralized platform for accounting and reporting, including information on corresponding adjustments and emission balances, ITMOs issuance, transfer, acquisition, retirement, cancellation, with information on individual ITMO containing participating party, vintage of the underlying mitigation, activity type and sector.

Chapter 8

Monitor greenhouse gas performance



The main objective of MRV is to assess the GHG performance of the activity and whether all related aspects have been carried out as originally assumed. Monitoring is an essential part of activity implementation, and helps to generate data to quantify baseline, activity, and leakage emissions; it also helps to safeguard against social and environmental impacts. The main output of MRV is the ability to convert an expected outcome (pre-activity GHG estimates) into a verifiable outcome (post-activity GHG estimates). Therefore, the transfers of mitigation outcomes can only occur after MRV.

This chapter provides guidelines for a successful implementation and monitoring process based on the learnings and best practices of the CDM and other crediting mechanisms.

8.1 Implementation

Before starting with the implementation, the activity participant should ascertain what is required by the host party regarding the approval process. For example, Article 6.4 requires a formal letter of approval based on the rules and procedures of this mechanism. For Article 6.2, the activity participant should check whether or not the host party has established a requirement to obtain a letter of approval, as, although this step is not mandated in the rules, some host parties have chosen to make it part of their activity cycle.

In addition, ensure that the construction and/or operating permits and environmental license required by the host party's legislation are in place to avoid significant delays in the implementation of the mitigation activity.

During the implementation of the activity, the activity participant is responsible for monitoring actual emissions according to approved methodology in the MADD. Monitoring is an essential part of activity implementation, as it allows the performance of the factors affecting emissions over the activity life cycle to be assessed. Monitoring also provides the basis for verifying

that mitigation outcomes have actually occurred. In order to carry out successful monitoring, activity participants should consider the following when implementing the mitigation activity:

- **Accuracy:** Since accuracy of emissions measurements can be an issue in some activity types, activity participants may bias measurement protocols by setting unrealistic accuracy levels. To address this issue, two approaches can be taken:[114]
  - Develop measurement protocols that avoid systematic bias. That is, focus not on the precision of a particular measurement, but on the consistency with which they can fit within a known, unbiased precision range.
  - When the accuracy of measurements for an activity is in doubt, rather take a conservative approach and discount achieved emissions to avoid over-crediting. This will clearly show that the reductions are real.
- **Monitoring methods:** There are two main types of monitoring methods and technologies, which depend on the specific activity type and the crediting mechanism of choice:
  - **Direct monitoring:** This is when monitoring devices are used for direct measurement of emissions released into the atmosphere. It can be done continuously or through periodic sampling, depending on what is established in the methodology. As a good practice, use direct monitoring procedures based on international standards such as ISO, and where "the standard error of the mean to allow quantification of uncertainty" is expected to lead to the lowest level of uncertainty, or to an estimate where the level of uncertainty is known and can be considered.
  - **Indirect or predictive monitoring:** This is where direct measurements are not possible (due to costs or technical barriers), so emissions can be quantified based on activity information, the use of validated models or accepted coefficients and default factors. Some examples are the use of fuel consumption in vehicles (because of the difficulty of directly monitoring an entire fleet) or mass balances of raw materials or products for calculating GHG emissions. It is important to note that if predictive methods are inaccurate direct measurement should be pursued.

The activity participant should be cautious with the use of default values, as a heavy reliance on them for key parameters in the methodology can lead to increased uncertainty in the emissions estimates, potentially resulting in an overestimate or underestimate of emissions reductions. In addition, many default values in the methodology can lead to a combined uncertainty, which may be larger than the individual uncertainties of the default values in the same formula.

As good practice to preserve the environmental integrity of emission reductions, when a parameter is expected to exhibit high uncertainty, adopt a conservative approach by prescribing a conservative default value that results in an underestimation of emission reductions. A conservative default value is one that is at the upper or lower limit of the uncertainty range for the specific value.

Default values from recognized, credible and geographically and temporally relevant sources may also be used for the mitigation activity context. These values should be based on well-documented and reliable sources. The range of appropriate data should be documented, and

the data chosen should be justified on the basis of criteria such as, but not limited to, data source, geography, technological specificity, conservativeness, and the process by which the data have been (preferably) peer-reviewed.

- **Source of the data used** (i.e., sample or complete records): The choice of option is expected to have a significant impact on the quality and uncertainty of the emission reduction estimates. For example, measurement of the whole population will lead to lower uncertainty compared to a sample of that population. Cost and technology needs may, however, determine which option can be used.

If sampling is chosen, make sure to follow in detail the sampling plan included in the monitoring plan and provide full details on how it was carried out. Sampling plans are commonly developed by consultants, carbon developers or other members of the technical team. For this reason, it is key that the plan described in the MAIN is fully understood by the personnel carrying out the monitoring activities.[115]

Table 10 summarizes the different sampling methods available, along with their advantages and disadvantages. The activity participant should develop the sampling plan considering the best possible assumptions about how the activity will work, although they should be aware of possible changes depending on what actually happens during implementation.

Table 10. Advantages and disadvantages of different sampling methods[116]

Sampling scheme	Advantages	Disadvantages
Simple random sampling: taking a random sample from the whole population.	Easiest method to understand and therefore use. Suitable if there is little heterogeneity amongst the units being sampled.	Requires knowledge of the entire population beforehand. If the population covers a large geographical area, then it can often lead to spread sampling units and a costly process. Only suitable if the population being studied is relatively homogeneous with respect to the parameter being studied.
Systematic sampling: taking a sample every *n* units.	Easy to apply. Commonly used as it ensures there is always sufficient distance between samples	Leads to units being spread out over a large geographic area. Such a geographic distribution can often be costly.
Stratified random sampling: Randomly sampling a different number of units from each strata according to the weight of each strata in the population.	Improves the precision of the estimate (compared to simple random sampling) if there are differences between the strata.	Complicated to calculate. What the stratification factors should be is not always obvious.

(continued)

Sampling scheme	Advantages	Disadvantages
Cluster sampling: sampling every unit in a sample of *n* clusters from the population.	The most economical form of sampling, as units are all grouped according to one criterion (often geographical). Sometimes the only approach, since a list of all households may not be available, only a list of villages. Once the villages have been selected, the households can be sampled. It saves time at a management level.	Results are not normally so "good" (i.e., standard errors of estimates tend to be high due to homogeneity of characteristics in the subgroup sampled). But a larger sample can help to compensate for this
Multi-stage sampling: randomly sampling a number of units within a number of randomly selected clusters.	Enables sampling approach at two levels. Can compare different scenarios – number of clusters and number of units within the clusters – in order to find most cost-efficient and reliable scenario.	Analysis and the sample size calculation are more difficult.

- **Quantification of leakage:** Activity participants should describe in the MADD all sources and forms of leakage (for more information on sources of leakage see sub-chapter 2.2.5) that could result from the activity. Once the activity is approved, adjustments to the leakage estimate should only be used to improve the baseline for future activities, not to revise the baselines of the activities under implementation.
- **Post-registration changes:** Although the activity and monitoring plan should be implemented as set out in the MADD, there may be occasions when modifications are introduced during the implementation phase to overcome unforeseen problems (i.e., changes in activity design or impractical monitoring plans). In this case, the activity participant should check the rules of the accreditation standard in use, as a post-registration change will likely be necessary. This process is described in sub-chapter 8.5.
- **Capacity building:** Article 6 is expected to implement activities in countries with no previous experience of implementing CDM projects. Therefore, some host parties may lack the institutional framework for MRV (e.g., accredited laboratories to perform calibration of measurement equipment), as required by most methodologies of different accreditation standards. Therefore, the activity participant should consider carrying out in-person training and capacity building activities or providing detailed manuals to household members (when implementing an activity at household level i.e., energy efficiency) with low literacy levels for monitoring an activity. Capacity building is also a contribution to sustainable development, since it is an effort to strengthen labour force for just and green economic transitions.

- **If monitoring is outsourced:** Activity participants should still follow the monitoring process and regularly receive updates on any potential issues and the data being collected.

8.2 Operationalizing the monitoring plan

Implementing the monitoring plan is a systematic process of collecting and analysing specific parameters, to provide activity participants and other stakeholders with information on mitigation outcomes and sustainable development impacts arising from the implementation of the activity. Activity participants can implement the recommendations given below to avoid failing to operationalize a monitoring plan.

8.2.1 Verify the equipment is adequate for monitoring activity performance:

When monitoring the activity requires specialized equipment for measurements and data collection, activity participants should:

- Verify that technical and commercial specifications of equipment meet the requirements of the monitoring plan
- Plan the installation of equipment in such a way as to facilitate quality control. Install the equipment in a manner that is consistent with the monitoring plan in the MADD and label it so that it is easily identifiable
- Make sure calibrations are in line with standards (industry, international, and local), but also that they meet the latest guidelines of the selected methodology. This is important, as the DOE will confirm whether the calibration frequency outlined in the monitoring plan has been followed; if it has not, the DOE might reduce the number of calculated mitigation outcomes
- Ensure that calibration is conducted by a qualified technician in consultation with the manufacturer of the instrument. The activity participant should obtain a calibration certificate after the technician's work is complete
- Ensure all meters work and are properly maintained on a frequent basis
- Establish ongoing quality control procedures for meters and other measuring devices
- Check and analyze monitoring data on an ongoing basis, so that data issues can be discovered and corrected in a timely manner
- Make sure backup meters for critical parameters in the methodology are installed as part of the quality control processes

8.2.2 Follow the monitoring plan provided in the MADD

- If testing by an independent or certified laboratory is needed, then activity participants must ensure that the specifications of the laboratory and their test methods meet those stipulated in the monitoring plan contained within the PDD.

- Provide clear evidence of the start date of a mitigation activity. The activity participant can define whether this is the date on which implementation or construction begins, or the actual action. If different parts of the mitigation activity come into operation at different times, this should be clearly stated. This will impact on the agility and speed with which mitigation results are verified for a given crediting period.
- Make sure the monitoring plan is implemented as stated in the MADD – for example, frequency of monitoring, calibration, models of monitoring equipment, use of data. This is important, as any changes or deviations in the implementation of the mitigation activity or in the monitoring plan may lead to an unfavorable verification opinion, which might jeopardize the mitigation outcomes, and cause long delays and related additional costs. If changes to the activity design or monitoring plan are required, refer to the sub-chapter 8.5 on post-registration changes.
- Make sure that all the parameters required in the MADD are monitored (even when they do not result in CO_2 output).
- Follow the monitoring frequency specified in the MADD. If the MADD does not provide details on the frequency, the activity participant should follow relevant national standards of the host party.
- Make sure that the calculations have been carried out in accordance with the formulas and methods described in the monitoring plan and the applied methodology.

8.2.3 Quality check all data recorded and transferred to the monitoring system

- Implement quality control-assurance processes (e.g., cross-checking manually recorded and transferred data).
- Make sure monitoring data covers the entire monitoring period.
- Establish permanent internal audits to verify that the processes of reading, recording, transcribing, and storing data are performed properly.
- Document control and data archiving should be based on a quality standard such as ISO 9001.

8.3 Prepare and submit monitoring reports

Near the end of the established monitoring period, the activity participant must prepare and submit the monitoring report and send it along with all relevant supporting documentation to the DOE. This report provides information on how the data and parameters required by the methodology have been monitored.

The monitoring report needs to be as complete and understandable as possible and supported by all relevant information, as the DOE will conduct the verification process on this basis. Activity participants are advised to check the information requirements of each

crediting standard to prepare this document. Box 7 presents an example of the information requirements of the CDM.

Box 11. Information required by the CDM for each parameter of the applied methodology

- Provide the values of the monitored parameter.
- Describe the equipment used to monitor each parameter, including details on accuracy class, and calibration information (frequency, date of calibration and validity), if applicable as per monitoring plan.
- Describe how the parameters are measured or calculated and the measurement and recording frequency.
- Provide and/or identify the source of data (e.g., logbooks, daily records, surveys, etc.).
- Provide the calculation method of the parameter, where relevant.
- Describe the QA/QC procedures applied (if applicable per monitoring plan).
- Provide information about appropriate emission factors, IPCC default values and any other reference values that have been used in the calculation of GHG emission reductions or net GHG removals.[117]

Where the mitigation activity involves several activity sites, the activity participant should check the reporting requirements of the specific crediting standard in use, as these can differ in grouping activity sites for issuance request. However, in general, activity participants can use the following guidance to carry out the reporting process for more than one activity site involved in a mitigation activity:

- Implement standardized monitoring plans across all activity sites
- If allowed by the crediting standard, group activity sites according to the monitoring period so verification will make sense from an economic point of view for all these sites
- Include in the monitoring report all activity sites with a crediting period covering the full or part of the monitoring period

8.3.1 Assess the needs of your monitoring plan and develop a management plan for its complex nature

- Do not focus solely on the "M" within MRV. Reporting and verification are an integral part of the process and not just an afterthought. The key to successful MRV is a system that responds to the needs of the organization and the activity in the long term.
- Analyze the actual capacities of the staff in your company. Although MRV is a technical and complex process and some staff training could be needed, do not rush to hire highly qualified staff, as much of the information comes from technical staff, administrative staff and executives.

- Approach MRV as a complex system. It involves several processes simultaneously, with multiple teams, in different time windows and with diverse challenges. Therefore, rather than hiring an individual expert to handle MRV, excellent management and planning across the different elements are required.

8.3.2 Establish a formal internal review process

- Ensure that data collected in monitoring, as well as data required for verification and issuance processes, are retained and archived electronically after the end of the crediting period or after the last issuance of mitigation results. The activity participant should check the particular rules of the crediting standard being used (e.g., CDM required that this data be stored for at least two years).
- Perform a quality check of calculations provided in the monitoring report (formulas, aggregation formulas, units, etc.).
- Ensure there is enough evidence to back up all aggregated data in the monitoring report.

8.3.3. Be transparent in case of changes and/or deviations in your monitoring report

- Justify minor changes or deviations in the monitoring report (e.g., higher or lower emission reduction levels with technical specifications).
- Decide on any required changes as soon as possible to avoid any delays.
- Communicate the need for a change in the monitoring plan to the parties as soon as possible.
- If the changes required to the activity or monitoring plan are considerable, the activity participant should opt for post registration changes prior to verification to avoid changes not being allowed. The process for post registration changes is covered in sub-chapter 8.5.

8.3.4 Be ready for verification

- Maintain all your monitoring information ready, organized, and easy to access, including original data collection sheets, logbooks, inventories, purchase records, laboratory analysis, etc.

8.4 Improve monitoring processes with better measurement technologies

Digital MRV can potentially improve the MRV process by streamlining the associated data collection, processing, and quality control, ultimately reducing the time to issue mitigation outcomes.[118] Digital MRV is expected to increasingly replace manual MRV processes, in which human error can lead to delays in the verification process, with automated processes powered by the internet of things, mobile technology, and cloud-based applications.

How this transformation could take place:[119]

- Monitoring: Automate collection through the internet of things, smart sensors, satellites and drones, and online applications. Storing data with cloud computing

- Reporting: Data analysis and report making with artificial intelligence
- Verification: Through blockchain encryption, and artificial intelligence

Digital MRV systems are still complex and expensive to implement but have the potential to reduce the cost of generating mitigation outcomes in the long term. Major crediting standards and large-activity participants are piloting fully digital MRV, due to the scale, or potential for scalability, of the activities.

However, there are some elements that the activity participant should consider before making decisions about digitizing the MRV of the mitigation activity:

- **Assess digitization needs and costs:** The activity participant should consider the actual needs for digitization of MRV. For example, if the mitigation activity is small or if monitoring costs are not relevant, it may not be economically sound to purchase and implement monitoring technology. If, on the other hand, the mitigation activity is large-scale or requires major monitoring efforts (e.g., data collection in different geographic areas for a significant number of facilities), the activity participant should evaluate and identify the real needs for digitization, so that the technology contributes to reducing costs and not, on the contrary, to increasing them.
- **Assess data collection needs:** The activity participant should identify the data that are essential to collect through a digitization solution. It is important to keep in mind that more data does not necessarily mean more information. This decision will also have an impact on the associated costs of digitization.
- **Assess the availability and speed of the internet at the activity site:** Some digitization solutions require the internet of things for data generation and/or blockchain for data transmission. These technologies, in turn, require a stable and fast internet connection. The activity participant must assess the state of the internet networks in the area of the mitigation activity, as in some cases the activity may be located in an unconnected area, or the connection may be intermittent or slow, missing out on the benefits of digitization.
- **Assess the status of the information technology (IT) infrastructure at the activity site:** Digitization implies a higher volume of data collected, transported and stored. The activity participant should assess whether the IT infrastructure at the activity site can support the transport and storage of digital MRV data or whether it requires investment in upgrades and renewals.
- **Assess the status of IT security:** To move forward with a digitization solution, the activity participant should consider that the basic security controls and protection of the software and hardware in use may not be sufficient for the needs of the system. Therefore, the activity participant should seek the advice of an IT security expert who will help in understanding the security and control needs of the digitization options to be implemented in order to identify appropriate solutions and not generic solutions that may create unnecessary burdens and costs. This is necessary to avoid data theft, ransomware and other security risks.

- **Backup, business continuity and disaster recovery:** The activity participant should implement backup solutions in case there is system failure, natural disaster, etc.). In addition to standard backup solutions, a secondary encrypted backup should be maintained on one of the public long-term cloud storage services, such as Amazon Glacier storage.
- **User capacity and access:** Implementing new technological solutions typically requires greater expertise from the operators of the activity. Therefore, the activity participant must consider the costs of investing in training, to develop the activity's operators' capacity so that they are able to correctly operate the new technology.
- **Upgrade slowly:** Since not all digitization solutions work for all types of activity, the activity participant should test digitization solutions step by step and evaluate whether they meet the purposes of facilitating monitoring, improving efficiency, and reducing associated costs. If digitization proves to be an effective improvement to the monitoring process, the activity participant may consider engaging in more sophisticated technologies as long as it is economically rational, and there are the necessary IT infrastructure, networks, security and capabilities to enable it.

8.5 Post registration changes

As mentioned above, activities may face a number of challenges that require design modifications during their implementation. To avoid delays or rejections in the verification and/or issuance processes, the activity participant should request a post-registration change (PRC) from MADD.

The PRC allows activity participants to make changes to the activity, as long as the change in the activity design does not affect the applicability of the selected methodology in the MADD, the eligibility criteria of the accreditation mechanism or bilateral approach, or the additionality of the mitigation activity. It includes actual or proposed changes to the operation, implementation and/or monitoring of the registered mitigation activity. Activity participants should request a PRC in the following cases:

8.5.1 Changes to the activity design

- Changes in technology: A different technology or measure to that specified in the MADD is adopted, which may lead to activity emissions that are different to those specified in the MADD, and which may not be eligible under the methodology chosen. An example of this would be a fuel switch activity where a combined cycle gas turbine was described in the MADD but an open cycle gas turbine was eventually installed (maybe due to challenges with access to finance). While this may result in emission reductions compared to the baseline scenario, it is necessary to update the MADD, as well as the monitoring plan, and to validate eligibility under the cooperative approach or the crediting mechanism.
- Changes in capacity: The capacity of the mitigation activity when implemented, expressed as, for example, MW of energy generated or m^3 of biogas recovered, is significantly different to the one specified in the MADD.
- Corrections: In case of having included inaccurate information in the MADD.

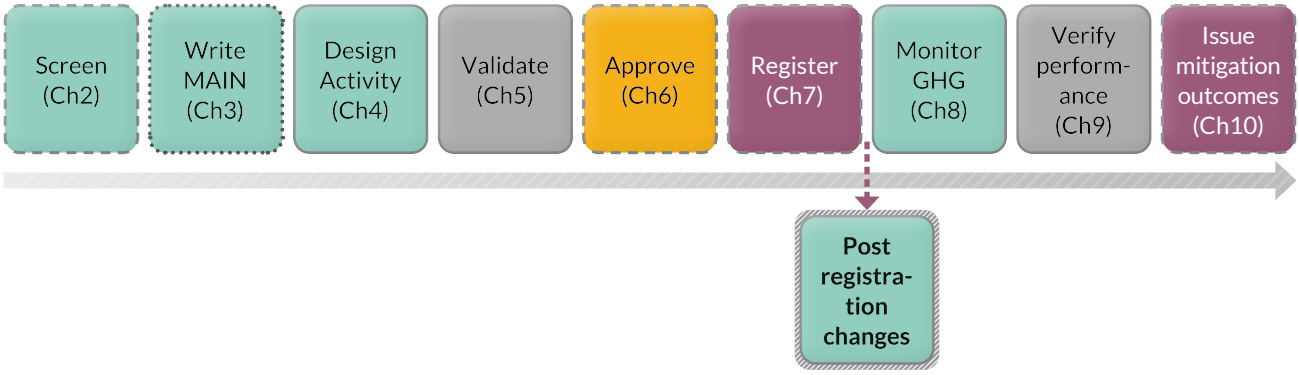
8.5.2 Changes in operation

- Changes to the start date of the crediting period, due to delays in the installation of technologies, operational difficulties or other.

8.5.3 Changes in the monitoring plan

- Temporary deviations from the monitoring plan: When, in the case of emergencies at the activity site (i.e., failure of a measuring device, delays in delivery or installation of a technology), the activity participant decides to temporarily modify the monitoring of one or several parameters (i.e., the monitoring plan requires that steam is measured directly but is temporarily being estimated).
- Permanent changes to the monitoring plan: Necessary changes to the monitoring plan due to a change in the design of the activity, or due to the adoption of an impractical monitoring plan (i.e., when the calibration frequency of devices in the MADD does not correspond to the practical or recommended calibration frequency by the manufacturer, or when the monitoring plan does not apply to the mitigation activity).

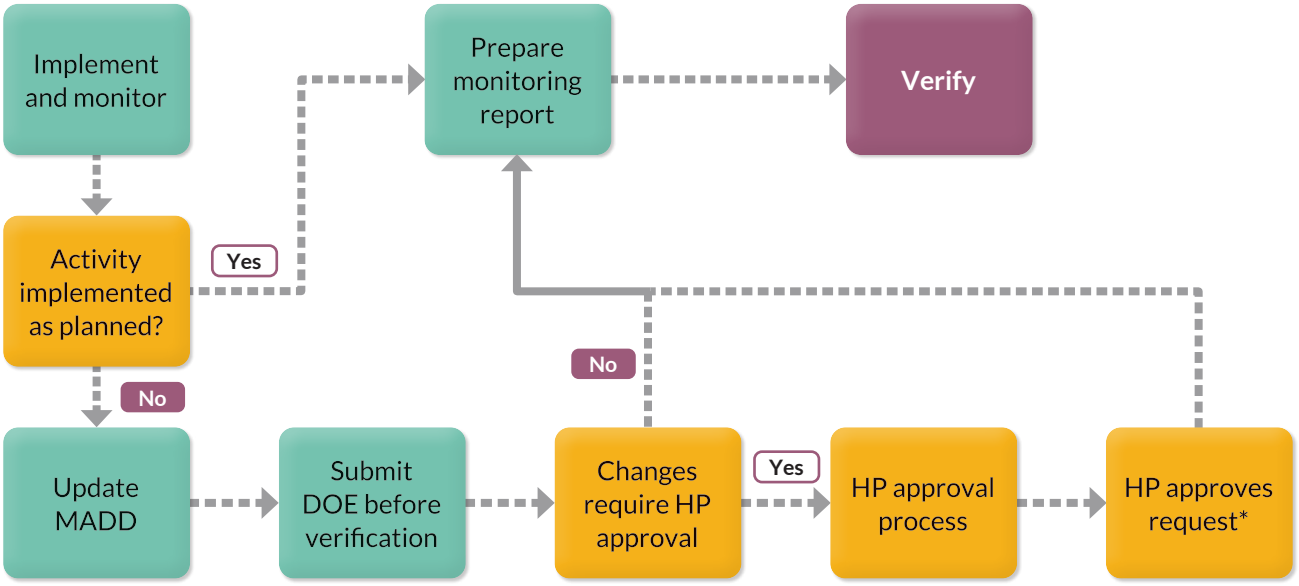
8.5.1 Post-registration changes process



In general, PRCs involve updating the MADD and the respective monitoring plan prior to verification by the DOE. Depending on the nature/extent of the changes and on the crediting standard or bilateral mechanism, these changes may or may not require host party approval.

Figure 18 presents an overview of the PRC process. Note that this process may vary considerably according to the rules of the host entity, or the crediting standard in use.

Figure 18. Overview of the general process of post-registration changes



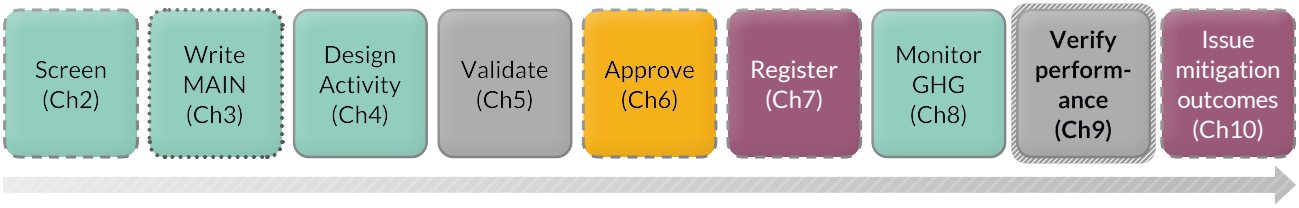
Note: *The host party may decide not to authorize the changes, resulting in the rejection of the activity, a process of merger negotiation with the host party, or a complaints and appeals process.

To move forward with PRCs the activity participant should:

- Update the MADD whenever necessary changes to the mitigation activity or monitoring plan are identified, and submit the changes to the DOE prior to the verification process
- Check the process (requirements and flow) if using an independent crediting mechanism (i.e., Gold Standard, American Carbon registry, other)
- Check the process established by the host party or inquire through formal communication channels about cases where the host party must approve PRCs
- Submit the MADD, updated monitoring plan and request to the host party
- DOE will send the host party an assessment opinion of the PRC
- If host party approval is not required, DOE will move forward with the verification process when requested by the activity participant
- If host party approval is required, the activity participant must follow the process established by the host party and await its decision

Chapter 9

Verify activity performance



9.1 Objective of verification

Verification is the systematic, independent and documented process for evaluating a GHG gas assertion against agreed verification criteria. Verification criteria are set either by compliance crediting mechanisms or voluntary independent crediting mechanisms. Recently, impacts on sustainability have also been included in verification criteria (e.g., requirements for CORSIA eligibility and the rules for Gold Standard and Verra's Verified Carbon Standard). The detailed rules for verification will depend on the crediting mechanism used as the basis for the Article 6.2 transfer (e.g., Article 6.4 mechanism, independent crediting mechanisms or bilateral mechanism).

Verification is therefore a periodic independent review and ex-post determination of monitored GHG reductions or removals (or other non-GHG metrics) that have occurred as a result of an activity, and if the outcomes set out in the activity documentation have been achieved and quantified according to the requirements of the respective crediting mechanism. A certification is the subsequent written assurance by the DOE of what has been verified.[120]

Since verification and subsequent issuance of mitigation outcomes or some other units are typically the final step before payments are made to the activity participant, verification is essential to trigger the monetary flows. The frequency of verification will depend on the need for liquidity and the cost of the verifications. Under the CDM this could vary between EUR 7,500 for small-scale activities with a simple methodology and EUR 30,000 for more complex projects. Because of the difference in costs, small-scale activities with below 100,000 tons of GHG reductions or removals may only verify once per year, while activities achieving 1,000,000 tons may even verify every month.

If an activity participant waits too long for verification, there is a risk that material problems in the actual implementation and monitoring of GHG reductions and sustainable benefits may

not be identified in time. This could lead to underperformance of the activity, or even failing verification and resultant financial losses.

9.2 Actors in the verification process

The main actors in the verification process are usually the following:[121]

Activity participants, who own and/or operate the specific technological or natural asset and/or activity which creates the specific mitigation outcomes. Activity participants have the following tasks during verification:

- Providing access to all sites where activity activities take place
- Providing all information (e.g., monitoring process, operation and maintenance of equipment) required by the DOE
- Proving responses to any clarification requests or corrective action requests made by the DOE

If activity participants do not own or operate a series of activities generating mitigation outcomes, they may not have sufficient technical resources to manage the verification process effectively on their own. Therefore, activity participants may cooperate with specialized **carbon developers**. Carbon developers will:

- Guide the activity participants to identify and select the appropriate DOE
- Arrange for site visits (including the preparation of the activity participant's team)
- Communicate with the DOE, including leading the responses to the DOE's clarification requests and corrective action requests
- Revise monitoring reports and mitigation outcome calculations

DOEs are accredited third parties that conduct validation and verification of mitigation activities under Article 6.4, the CDM, independent crediting mechanisms, or for the host party. DOEs may hold accreditation for specific sectoral or technical scopes (e.g., energy supply, energy demand waste). A DOE may, for example, be eligible to verify mitigation outcomes from energy efficiency activities but may not be eligible to verify activities reducing emissions from fugitive emissions sources. Under the CDM, DOEs that validated an activity were not permitted to conduct the verification of the same activity, except with small-scale activities. The Article 6.4 mechanism will likely have rules related to this, as do the independent crediting mechanisms. Often DOEs need to be contracted by an entity having a legal interest in the issued mitigation outcomes (potentially including the activity participant, or the acquiring party of the mitigation outcomes). The rules to be followed by the DOEs and activity participants are set by the specific crediting mechanism where the activity is submitted. Box 8 gives an example of CDM verification rules.

Box 12. Examples of CDM verification rules

- Application of materiality (e.g., uncertainties related to measurements or deviations to the activity design)
- Means of verification
- Compliance of the monitoring report with the monitoring report form
- Compliance of the activity implementation with the registered activity design document
- Compliance of the registered monitoring plan with applied methodologies
- Compliance of monitoring activities with the registered monitoring plan
- Compliance with the calibration frequency requirements for measuring instruments
- Assessment of data and calculation of GHG reductions
- Assessment of reported sustainable development co-benefits
- Specific rules for specific activity types (small scale, nature-based solutions etc.)

9.3 Overview of the verification process

In general, the verification process (from the point of view of an activity participant) includes the steps shown in the figure below and then expanded upon.

Figure 19. Overview of the verification process

1. The activity participant identifies a suitable DOE (regionally, scopes of accreditation, logistics, timeline of verification, pricewise).
2. The activity participant contracts the DOE according to the requirements of the independent crediting mechanism.
3. The DOE carries out a desk review of existing documentation (MADD, validation report, monitoring report, supporting evidence) to identify key risks and prepare the audit plan including the on-site assessment.
4. The DOE conducts an on-site assessment that allows them to seek confirmation physically that the implemented activity complies with the verification rules of the independent crediting mechanism.
5. The activity participant receives and addresses the findings list contains the clarification requests and corrective action requests by the DOE (e.g., if not sufficient evidence is presented that measurements have been carried out according to the monitoring plan)
6. The DOE prepares the draft verification report (by the lead auditors) of the DOE and then sent to internal quality management

7. The DOE carries out an internal technical review. After a successful technical review, the final verification report including the assurance statement is issued which can then be forwarded to the respective independent crediting mechanism

In general, after contracting verification may at least take between two and six months.

9.4 Typical challenges

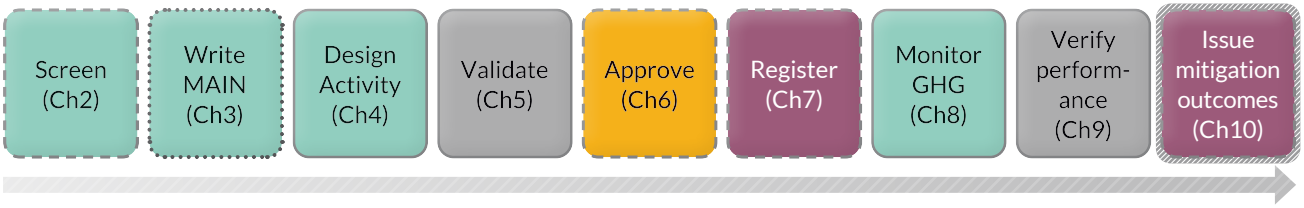
In many cases, the activity implementation may deviate from the activity design and monitoring plans as laid out in the documentation that was submitted to the crediting mechanisms for approval. Post-registration changes or deviations are common pitfalls but should be avoided to the extent possible by the activity participants, as they could lead to delays and require additional resources.

Post-registration changes or deviations can be either temporary or permanent and refer to either administrative or technical aspects, such as:

- Change of activity entities (activity participant, acquiring party etc.) nominated to the independent crediting mechanism including change of address, authorized signatories etc.
- Change of crediting period, due to delay of activity implementation or change of carbon markets
- Change of activity design (different type of equipment, different size of activity etc.)
- Change of management of monitoring system and monitoring activities
- Non-compliance of calibration of equipment according to monitoring plan, etc.

Chapter 10

Issue mitigation outcomes



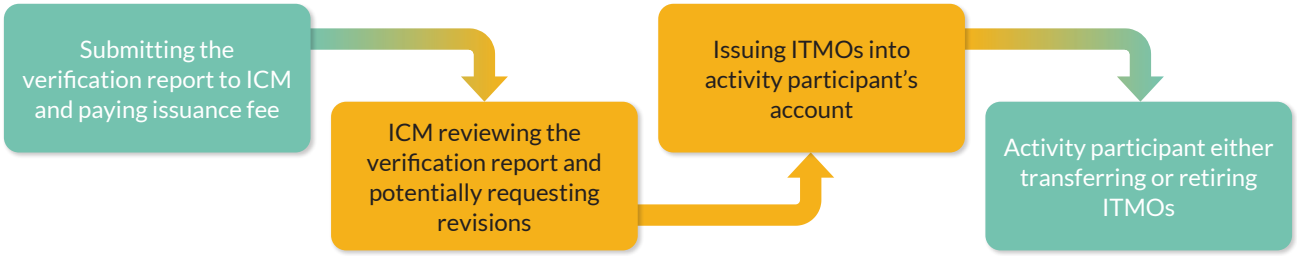
Article 6 processes: authorization and transfer

Each country participating in Article 6.2 activities can either maintain its own registry or have access to the international registry implemented and operated by the UNFCCC. The registry allows the tracking of ITMOs (including their unique identifiers, authorization, issuance, transfer, retirement, labelling, recording and accounting). Parties to the UNFCCC may authorize private sector participants to have access to the registry.

If the activity participant has an account in an Article 6.2, related registry the issuance process may involve the following steps:

- The activity participant or the DOE (if there is a DOE involved) may submit the verification report to the crediting mechanism operating the relevant registry. Additionally, the activity participant may need to pay an issuance fee.
- The independent crediting mechanism may review (which may differ based on the specific governance structure) the verification report and may require revisions to it.
- If the report is reviewed successfully, the independent crediting mechanism will allow the registry operator to issue the ITMOs to the account of the activity participant.
- The activity participant may than transfer the ITMOs to the account of the acquiring party or retire them.
- Activity participants need to take into account that host parties and or independent crediting mechanism may imply a financial or "physical" levy/tax or an insurance buffer on ITMOs.

Figure 20. Overview of the ITMO issuance process



For Article 6.4, the process of issuing ITMOs will include the requirements from Article 6.4 rules such as:

- Share of proceeds – administration
- Share of proceeds – adaptation
- Overall mitigation of global emissions cancellation levy of 2%
- Any levies or taxes imposed by the host or acquiring party (e.g., administrative, adaptation, general tax for national budget)

For Article 6.2, this could include:

- Any levies or taxes imposed by the host or acquiring party (e.g., administrative, adaption general tax for national budget)

Additionally, Article 6 participating countries and or independent crediting mechanisms may require buffer pools to insure the permanence of mitigation outcomes, or non-compliance with corresponding adjustments.

Chapter 11

Authorize and transfer mitigation outcomes

Authorization and transfer are governed by the Article 6.2 rules and are political decisions, because the international transfer could affect the achievement of the host party's NDC. If the host party has in place an overall Article 6 strategy (for more information on Article 6 strategies see Guide 1: Developing an Article 6 host party strategy) covering all sectors and activity types, the activity participant should follow the procedures set out there. If this is not the case, the host party may make decisions on the authorization and transfer of mitigation outcomes on a case-by-case basis, for which the activity participant must provide all relevant information on the activity, demonstrating that the international transfer will not pose an overselling risk (for more information on overselling risk see section 2.3.6) on the NDC or, in other words, will not affect the capacity of a host party on meeting its own NDC goals by transferring internationally mitigation outcomes that are needed for meeting these goals. This chapter provides guidance for activity participants to address the processes of authorization and transfer of mitigation outcomes.[122]

Ex-ante authorization

The timing of authorization and what type of early acknowledgement host parties may provide for activities, is still under discussion. While some countries (e.g., Ghana and Switzerland) have already publicly announced ex ante authorizations, some experts point out that, since ITMOs must be 'verified', authorization might only formally be able to happen after the mitigation outcomes are generated. This ex ante action from the host party could potentially be called 'pre-authorization', but this term does not appear in the Article 6.2 guidance.

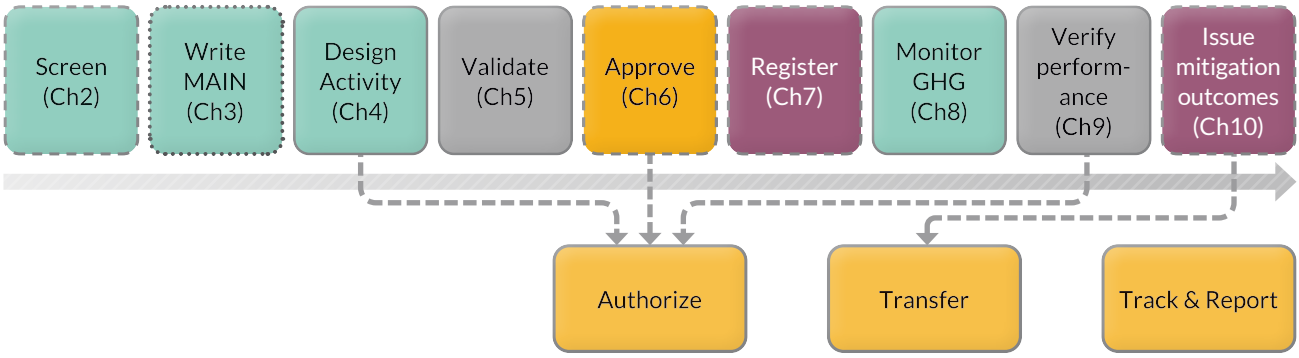
11.1 Authorization

This sub-chapter explains the requirements and evidence that must be provided by activity participants when requesting authorization of mitigation outcomes, including when authorization is requested ex ante (e.g., prior to verification) or during implementation.

Parties are at different stages in arranging domestic legal and institutional frameworks for authorization under Article 6. There are a few frontrunners, as some parties have already put forward bilateral agreements for voluntary cooperation under Article 6, but there is not yet a generally established practice on authorization processes.

Authorization is one of the specific Article 6 processes that runs in parallel with the traditional activity cycle (see Figure 21). In other words, authorization can happen before the implementation of the activity (as is happening in practice for some bilateral agreements), or during or after it.

Figure 21. Authorization, transfer and reporting as parallel processes to the activity cycle



How the activity participant approaches requesting authorization for an Article 6.2 cooperative approach depends on how clear the host party is about this process in its Article 6 strategy. Two scenarios are possible, requiring different actions for activity participants, as described below:

1. The host party has an Article 6 strategy that clearly defines the process and requirements for authorisation.
   - Find the authorization process requirements: If the activity participant does not yet have access to the authorization process defined by the host party, it should search in the host party's website or inquire through a formal communication channel.
   - Provide information on the means of verification: Chapter 2 of this guide presented the generic eligibility criteria from the Article 6.2 rules and the Article 6.4 rules. These criteria can be used by the host party to evaluate and assess requests for authorizing mitigation outcomes. Therefore, the activity participant should develop means of verification to demonstrate compliance with each of these criteria. An example list of means of verification can be found in Annex C.

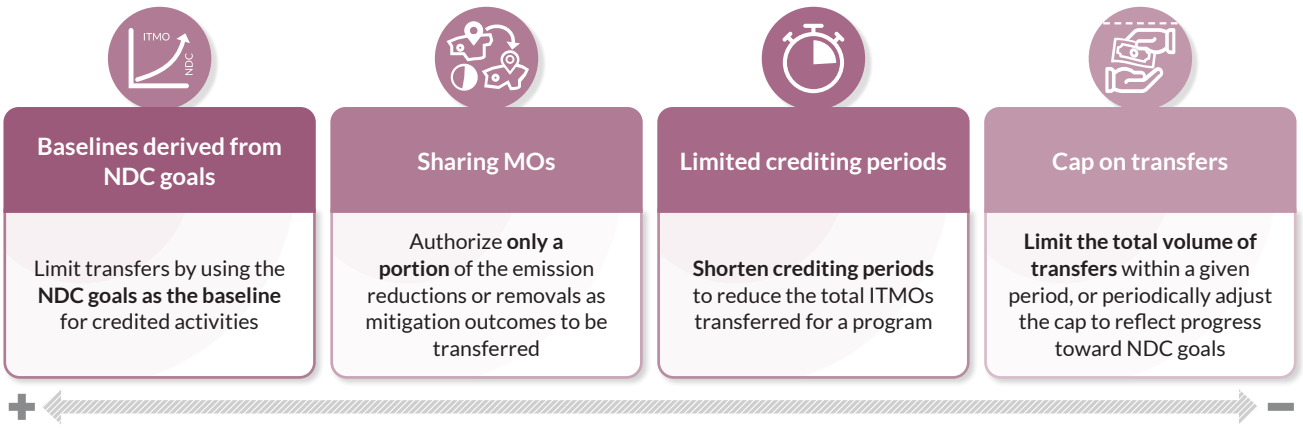
2. The host party does not have a definition of the process and requirements for authorisation, or these are unclear.
   - Provide information on the mitigation activity: The activity participant should provide all information about the mitigation activity to the host party (see Table 11).

Table 11. Minimum information to be provided on the mitigation activity to request authorization for mitigation outcomes

Information	Guidance
Name of activity/cooperative approach	Indicate the name of the activity as integrated in the design documents
Activity ID# (if there is one)	Provide the ID# that the activity received at the time of approval and registration
Sector	Enter the sector that applies to the activity (i.e., energy, IPPU, AFOLU, waste)
Methodology and version	Provide the name of the methodology used in the activity and its version number
Activity participant name and contact details	Indicate the name of the activity participant's contact person, e-mail address, and telephone number
Activity start date	Indicate the start date of the mitigation activity (DD,MM,YYYY)
Crediting period start date – crediting period end date	Provide pre-agreed start and end dates for the crediting period of the mitigation activity
Name of crediting mechanism used to generate mitigation outcomes	Indicate the name of the relevant crediting mechanism (e.g., Article 6.4, VCM standard or bilateral crediting mechanism)
Vintage years of the ERs	Indicate all years during which mitigation results will be verified and the mitigation results in each year
Volume of ERs for which authorization is requested	Indicate the total volume of MOs for which authorization is requested
Parties or entities intending to use MOs where authorization is requested for NDC use.	Provide the name of the parties or entities
Type of authorized use	Indicate whether the mitigation outcomes will be used (check all that apply): 1. Towards the NDC 2. For international mitigation purposes, or 3. For other purposes If the case is "for international mitigation purposes" or "for other purposes", specify whether the request for "first transfer" is for: • The authorization • The issuance, or • The use or cancellation of the mitigation outcome[123]
Authorized crediting period	Indicate the crediting period for the mitigation activity: DD/MM/YYYYYY to DD/MM/YYYYYY
Registry	Indicate the registry to be used to record the booking and/or effect the transfer of ERs

- Provide information on means of verification: Similarly to scenario 1, the activity participant is advised to refer to the table on means of verification in Annex C and provide information to demonstrate compliance with the eligibility criteria of Article 6.2 in section 2.1.
- Demonstrate that the mitigation activity does not jeopardize the NDC: If the host party does not have a clear authorization process in place, the activity participant is encouraged to demonstrate to the host party that the authorization and transfer of ITMOs from the mitigation activity will not affect, or present a risk to, compliance with the NDC. The activity participant can use the guide in Table 1, Table 2, Table 3, and Table 4 of sub-chapter 2.2 to assess the risk that the mitigation activity threatens compliance with the NDC and develop a justification to support the authorization.
- If the probability of success of host party approval for the activity is high: This means that the risk of affecting compliance with the NDC is low, and therefore it is possible to justify this by demonstrating that:
  - The mitigation activity is not mentioned in the NDC, or is only mentioned as a conditional action, therefore not overlapping with the unconditional actions of the NDC (one option may be because the NDC does not specify whether national targets are conditional or unconditional), and
  - The mitigation activity is visible in the NDC GHG inventory.
- If the probability of success of host party approval for the activity is medium: This means that the risk of affecting compliance with the NDC is also medium. Activity participants could, therefore, propose a mitigation strategy[124] to request authorization from the host party. To do so, the activity participant should demonstrate the status of the mitigation activity against the NDC actions by indicating that:
  - The mitigation activity is mentioned in the NDC, but whether conditional or unconditional is not clear, or, alternatively, activity is mentioned as both unconditional and conditional action (i.e., different degrees of implementation); and
  - The mitigation activity is mentioned in the NDC, but whether conditional or unconditional is not clear, or, alternatively, activity is mentioned as both unconditional and conditional action (i.e., different degrees of implementation); and
- The mitigation activity is visible in the NDC GHG inventory.
- The information of the status of the mitigation activity against the NDC should be complemented with a strategy to manage risk. The activity participant should demonstrate that this management strategy would allow the mitigation outcomes to be authorized and transferred without jeopardizing NDC compliance. Activity participants could opt to use Figure 22 to propose a strategy to manage risk to the NDC (i.e., by sharing MOs the risk of not complying with the NDC is managed, as the host party keeps a portion for NDC use).

Figure 22. Potential strategies to manage risk of jeopardizing the NDC



Source: Own elaboration based on Spalding-Fecher et.al. 2020[125]

- If the probability of success of host party approval for the activity is low or very low: This means that the risk of jeopardizing the NDC is high or very high and therefore, the host party may deny the authorisation of the MOs of the mitigation activity.

Following authorization of mitigation outcomes, these units are registered in the national ITMO registry (or the UNFCCC ITMO registry), resulting in the creation of ITMOs.

11.2 Transfer

Where authorization is requested after monitoring and verification, the authorization of mitigation outcomes can be followed immediately by a request to transfer. Where authorization was requested ex ante (i.e., before verification), then activity participants will need to wait until mitigation outcomes are verified and issued (when required), before requesting transfer.

The process of transferring ITMOs can occur through the national registries of the host and acquiring party – where ITMOs will be retired and cancelled – or through independent registries (such as the core registry of the World Bank, the Gold Standard, etc.).

The activity participant should verify the rules and requirements defined by the host and acquiring parties regarding the transfer process. This means identifying who is responsible for executing the transfer in the relevant ITMO registry(ies).

Since ITMOs are reported in the ITMO registries with a serial number, it is possible for the activity participant to track the status of the ITMOs generated by the mitigation activity until they are retired by the acquiring party or entity. Finally, the transfer of ITMOs involves reporting responsibilities for the host and acquiring parties. The activity participant should check whether there are any additional reporting requirements for the mitigation activity in the future to ensure data is stored when needed.

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Glossary

Term	Definition
Acquiring party	Country government receiving authorized mitigation outcomes, ITMOs, and using them for purposes of NDC compliance
Activity	The mitigation activity (e.g., projects, programs or other actions) described in the activity documentation that can generate mitigation outcomes
Activity participant	The public or private entity that is the developer or owner of the mitigation activity and/or has the legal right to the mitigation outcomes
Additionality	Additionality means that, at the time of the decision to implement of the activity, the mitigation outcomes of an activity would not have occurred in the absence of the incentives created by the crediting mechanism (i.e. carbon revenues)
Authorization	The host party's decision to make mitigation outcomes eligible for transfer to another country or for other mitigation purposes, based on the Article 6.2 rules
Baseline	A hypothetical scenario for emissions that is predicted or assumed to occur in the absence of the incentives created by the carbon crediting mechanism and associated mitigation activities, while holding all other factors constant
Corresponding adjustment	The requirement under Article 6 that both countries involved in any transferred mitigation outcomes adjust their reported emissions (or other metric) for purposes of NDC compliance; the acquiring party subtracts the amount of the transfer to adjust their reported emissions, while the host country adds the amount of the transfer to adjust their reported emissions
Crediting mechanism	A system that issues carbon credits based on demonstration that a certain action (e.g., project, program, policy) has delivered emission reductions or removals compared to a scenario without the emission reduction incentives.
Designated operational entity	An accredited third party that conducts validation and verification of mitigation activities under Article 6.4 or the CDM
Environmental integrity	In the context of carbon markets, environmental integrity means that market-based cooperation must not lead to an increase in global net GHG emissions compared with the scenario where market-based instruments are not used
Host party	The country that hosts an activity that generates the mitigation outcomes that are transferred (also called "transferring" or "seller" country)
Independent crediting mechanism	Crediting mechanisms that are not managed by governments, such as the Verified Carbon Standard, Gold Standard, and Climate Action Reserve
International crediting mechanism	Crediting mechanisms governed by international climate treaties and are usually administered by international institutions, such as the UNFCCC (e.g. the CDM and the Article 6.4 mechanism)

(continued)

Term	Definition
Internationally transferred mitigation outcomes (ITMOs)	Mitigation outcomes that are authorized and transferred out of the host party, for use by another country towards its NDC, for use in other international mitigation systems (e.g., CORSIA for international aviation) or for use for other purposes (e.g., voluntary carbon markets)
Issuance	Creation of emission reduction units for an Activity in a registry account based the protocols or procedures of the relevant crediting mechanism or framework
Leakage	Unintended increases in emissions attributable to the mitigation activity outside of its boundaries
Mitigation activity design document (MADD)	The formal documentation of an Article 6 mitigation activity, which is likely to include technical issues such as baselines, additionality, quantification of emission reductions, and an MRV plan
Mitigation outcome purchase agreement (MOPA)	A legal contract for the purchase and transfer of mitigation outcomes authorized under the rules of Article 6.2 of the Paris Agreement
Mitigation outcomes	Emission reductions and emissions removals, generally measured in tonnes of carbon dioxide equivalent (tCO_2e)
Non-permanence	When the mitigation outcomes generated by an activity are later reversed (e.g., for activities storing carbon in forest biomass, if these forests are disturbed or logged)
Registry	A database that records serialized carbon units and any other information specific to a carbon credit, including changes in ownership
Transfer (of ITMOs)	The change of legal ownership of mitigation outcomes from one party (current country with ownership) to another party or another owner (e.g., an international airline under CORSIA)
Validation	Systematic, independent, and documented process for the ex ante evaluation of the contents of the mitigation activity design document.
Validation and verification bodies	A generic term for accredited third party that conducts validation and verification of mitigation activities – often used in voluntary carbon market standards
Verification	Systematic, independent, and documented process for the ex post evaluation of emission reductions according to the monitoring plan

Annex A. Typical means of verification for authorization

Criteria	Means of verification
Article 6.2 rules	
Additional & verified	Mitigation outcomes (MOs) are considered additional if the host party applies and demonstrate the implementation of a validated additionality tool (e.g., the mitigation activity design document under Article 6.4, validated by a verification body or designated operational entity) or the host party develops a positive list of activity types that included additionality testing among their criteria. MOs must be verified by accredited third parties in the host party.
MOs from 2021 onward.	Information on the "vintage" of ITMOs (i.e., the year in which the mitigation occurred) should be provided.
Environmental integrity: Robust, transparent governance and good quality mitigation outcomes	There are two broad options for ensuring the environmental integrity of mitigation activities authorized to generate ITMOs: • The use of a 6.4 methodology. • If a methodology other than a 6.4 methodology, is used, then activity participants should demonstrate how the methodology sets conservative baselines below BAU and addresses leakage.
Environmental integrity: The risk of non-permanence is minimized	Same as above – i.e., if using Article 6.4M methodology, the host party can outsource verification of environmental integrity. If non-Article 6.4M, then activity participants should demonstrate or justify how non-permanent risk is minimized.
Negative environmental, economic, and social impacts are minimized or avoided	Application of a safeguard system that includes environmental and social risks assessment and a mitigation plan to prevent negative social and environmental impacts should be required.
Respect for human rights	Existing safeguard systems that include human rights are available, such as the guidance on the Article 6.4 mechanism,[126] the World Bank's Environmental and Social Framework,[127] the International Finance Corporation's Performance Standards on Environmental and Social Sustainability,[128] among others. Application of a safeguard system, that includes the host party's regulatory framework, against human rights violations should be required.

(continued)

Criteria	Means of verification
Sustainable development goals are consistent with the host party's priorities	Host parties should clearly identify the contributions to the SDGs and could require as means of verification one or more of the following items: • Output of the Article 6.4 sustainable development (SD) tool • Output of the CDM SD tool • Output of the Gold Standard SD tool/approach (Gold Standard's SDG impact tool)[129] • Output of the SDG impact assessment tool, developed by the Gothenburg Centre for Sustainable Development.[130] • This list of examples is not exhaustive. • Monitoring of SD impacts may also be required; this would mean that they should be included in regulation verification reports.
Contribute to the mitigation of GHGs and the implementation of the NDC	The host party could require one or more of the following items to verify the contribution to the implementation of their NDC: • The activity is the same as a conditional NDC action. • The activity has a spillover effect that supports an unconditional action. • The activity has a longer or larger mitigation impact than the ITMO transfer (e.g., a technical life longer than the crediting period, or maybe the baseline is very conservative and allows some MOs to stay in the country and support its unconditional NDC). • Host parties could include in their authorization request form a section that requires activity participants to describe how the activity contributes to NDC implementation (e.g., referencing the mitigation activity's place in the NDC or NDC implementation plan or sectoral assessments). This would allow the host parties to verify that the activity contributes to NDC implementation.
Article 6.4 rules	
Emission reductions in host party	The location of the mitigation activity should be stated in the authorization request form. Host parties can verify the location of the mitigation activity in the verified design documentation.
Measurable, long-term reductions	The use of Article 6.4 mechanism methodologies will help ensure that mitigation activities contribute to reducing emissions levels in the host party and are aligned with the long-term temperature goal of the Paris Agreement.[131] Host parties may wish to outsource verification of this criterion to the Article 6.4 supervisory body.
Avoid leakage	Using Article 6.4 mechanism methodologies will help ensure that mitigation activities avoid leakage.[132] Host parties may wish to outsource verification of this criterion to the Article 6.4 supervisory body.

(continued)

Criteria	Means of verification
Consultation with stakeholders	Activity participants must arrange consultation processes to ensure full participation of stakeholders, ranging from high-level government to local communities, and the integration of different interests and perspectives into the Article 6 strategy.
Alignment with long-term goals of the Paris Agreement and LT-LEDS	Host parties could require activity participants to show that the technology of the activity is part of the country's low-GHG emissions development strategy, LEDS, as this is something that has to be in place for a country to be on the LT-LEDS pathway.
Avoid locking in of emissions-intensive technologies	The use of Article 6.4 mechanism methodologies will help ensure that mitigation activities are additional, including by assessing that the activity avoids locking in emissions-intensive technologies or practices.[133] Host parties may wish to outsource verification of this criterion to the Article 6.4 supervisory body.
Encourage ambition over time	Host parties could require activity participants to demonstrate how the activity encourages ambition over time – e.g., demonstrating scaling-up potential.
Contribution to OMGE	Host parties are to mandate (optional under Article 6.2 rules) the cancellation of at least 2 per cent of the issued A6.4ERs from the overall mitigation. This is to be implemented by the host party during the transfer process.
Contribution to adaptation fund (share of proceeds	Host parties are to mandate (optional under Article 6.2 rules) a levy corresponding to 5 per cent of A6.4ERs at issuance.

Endnotes

1 This guide uses the term "activity participant" because this is the formal term used in the Article 6.4 rules for the entity that has the responsibility and ownership of the mitigation outcomes that result from an activity. This entity may also work with consultants, project developers, or even the owner of the underlying asset (e.g., the landowners) to realize the activity, but ultimately it is the activity participant that is responsible for ensuring that the activity complies with all relevant rules.

2 The CDM PDD is the precursor to the Article 6 MADD.

3 The rules for Article 6.2 are established by mutual agreement of the Host and Acquiring Parties, while the rules for Article 6.4 are established by the supervisory body. Therefore, the eligibility criteria for the latter are more demanding, as reflected in the decisions of A 6.4 rules.

4 Decision 2 CMA 3, para 1.a.

5 Decision 2 CMA 3, para 1.e.

6 Decision 2 CMA 3, para 1.d.

7 Decision 2 CMA 3, para 1.f.

8 Decision 2 CMA 3 para 18.h.ii.

9 Decision 2 CMA3 para 18.h.iii.

10 Decision 2 CMA 3 para 18.i.i.

11 Decision 2 CMA 3 para 18.i.iii and 22.b.

12 Decision 2 CMA 3 para 22.a.

13 Assuming all other factors of the activity are constant.

14 The 17 Sustainable Development Goals were adopted by all UN member states in 2015, as part of the 2030 Agenda for Sustainable Development. See https://sdgs.un.org/goals.

15 Decision 3 CMA 3 para 31a.

16 Decision 3 CMA 3 para 31c.

17 Decision 3 CMA 3 para 31.d.i.

18 Decision 3 CMA 3 para 31.d.ii.

19 Decision 3 CMA 3 para 31.d.iii.

20 Decision 3 CMA 3 para 31.d.iv.

21 Decision 3 CMA 3 para 31.e.

22 Decision 3 CMA para 32 and para 33.

23 Decision 3 CMA para 33.

24 Decision 3 CMA para 38.

25 "Carbon lock-in" refers to a set of high-emitting, long-lived technologies or infrastructure that "lock-in" their associated GHG emissions for years or decades, prolonging the status quo and making future emission reductions even more difficult.

26 There were some CDM projects whose emission reductions occurred in another country, but under Article 6 this may be not eligible.

27 The integrity council for the voluntary carbon market, "Part 4: Assessment Framework."

28 {Citation}

29 Citation

30 See the full list of Article 6.4 DNAs here.

31 The DNA for Article 6.4 is likely to be the same as for 6.2. However, it is suggested to check on the UNFCCC website or with the host party.

32 The activity participant can find a database on international climate change policies here: Law and Policy Search – Climate Change Laws of the World (climate-laws.org)

33 Risks that host parties face by transferring MOs that might jeopardize their own NDC goals are referred to as "overselling risks". The most common overselling risks include transferring MOs from activities that are (1) based on low-cost activities that are needed for the unconditional NDC; (2) not additional; (3) not properly captured in the national inventories (lack of inventory visibility); or (4) outside of the scope of the NDC. Sub-chapter 1.2 goes into more detail about the various types of overselling risks and their implications for host parties.

34 Host parties' NDCs are listed in the NDC registry.

35 This can happen, for example, when activity reduces emissions from sources that, while they are in the a sector covered by the NDC, those specific sources are not included in the NDC GHG inventory, or from a sector/sub-sector that has a highly aggregated NDC GHG inventory, so the mitigation impact may not be reflected. A common example is activities that reduce the use of non-renewable biomass (e,g., energy efficiency cookstoves, biodigester for household cooking), where even though these activities do reduce deforestation and degradation of forests, the national GHG inventories are not detailed enough to capture this change in forest biomass.

36 An unconditional NDC is what countries could implement without any conditions and based on their own resources and capabilities; a conditional NDC is one that countries would undertake if international means of support are provided, or other conditions are met.

37 See the full list of Article 6.4 DNAs here.

38 Decision 2/CMA.3, Annex, para 1(d) and para 1(g). Note that parties could also potentially acquire ITMOs and cancel them as part of voluntary goals such as a national net zero target – in other words, rather than using the ITMOs to meet their current NDC, then ITMOs would be cancelled as part of a voluntary goal to go beyond the NDC. This is case for Sweden, for example, that has a voluntary net zero target that it more stringent than their current NDC.

39 Decision 2/CMA.3 para 1(f)–(g) and Decision 3/CMA.3 Annex, paras 42–43.

40 World Bank, "State and Trends of Carbon Pricing 2023."

41 SBTi, "SBTi Launches World-First Net-Zero Corporate Standard."

42 Voluntary Carbon Markets Integrity Initiative, "VCMI Claims Code of Practice."

43 Integrity Council on Voluntary Carbon Markets, "The Core Carbon Principles – Plus the Program-Level Assessment Framework and Assessment Procedure."

44 For Japan, the purchase of credits is undertaken thought the joint crediting mechanisms (https://www.mofa.go.jp/ic/ch/page1we_000105.html#:~:text=The%20JCM%20is%20a%20system,both%20partner%20countries%20and%20Japan). For Sweden, the purchase of credits is administered by the Swedish Energy Agency (https://www.energimyndigheten.se/en/cooperation/swedens-program-for-international-climate-initiatives/paris-agreement/bilateral-climate-agreements/).

45 Greiner et al., "Article 6 Piloting: State of Play and Stakeholder Experiences."

46 Swedish Energy Agency, "Bilateral Climate Agreements."

47 ICAO, "CORSIA Emissions Unit Eligibility Criteria."

48 ICAO, "CORSIA Eligible Emissions Units."

49 American Carbon Registry, California Air Resources Board, City Forest Credits, Clean Development Mechanism, Climate Action Reserve, Global Carbon Council, Gold Standard, Plan Vivo, UK Peatland Code, UK Woodland Carbon Code y Verified Carbon Standard.

50 Or, in other words, they would not meet the additionality criterion of Article 6.

51 For example https://carboncredits.com/carbon-prices-today/.

52 World Bank, "State and Trends of Carbon Pricing 2023."

53 The information was collected by Ecosystem Marketplace based on confidential reporting by activity developers and project intermediaries in more than 80 countries.

54 Opanda, "Carbon Credit Pricing Chart: Updated 2023."

55 Woodall and McCormic, "Assessing the Optimal Uses of Biomass: Carbon and Energy Price Conditions for the Aines Principle to Apply."

56 Fuss, "Negative Emissions—Part 2: Costs, Potentials and Side Effects."

57 Where corporations can voluntarily buy carbon credits to contribute toward meeting their climate targets, to compensate for emissions, or to remove unabated emissions.

58 World Bank, "State and Trends of Carbon Pricing 2022."

59 In the case of Peru, for example, the bilateral agreements on Article 6 that the Government has signed can be found on the Peruvian government's unique digital platform: https://www.gob.pe/institucion/minam/noticias/308992-peru-y-suiza-firman-acuerdo-de-cooperacion-que-busca-reducir-efectos-del-cambio-climatico.

60 In the case of Switzerland, for instance, the bilateral agreements on Article 6 that have been signed by the Swiss Government can be found on the website of the Federal Office of Environment: https://www.bafu.admin.ch/bafu/en/home/topics/climate/info-specialists/climate--international-affairs/staatsvertraege-umsetzung-klimauebereinkommen-von-paris-artikel6.html.

61 Simplified list of criteria adapted from CDM methodology "AMS-II.Q.: Energy efficiency and/or energy supply projects in commercial buildings"

62 For example, for Article 6.4: "a maximum of 5 years, renewable a maximum of twice, or a maximum of 10 years with no option of renewal, that is appropriate to the activity, or, in respect of activities involving removals, a crediting period of a maximum of 15 years renewable a maximum of twice".

63 UNFCCC, "Tool for the Demonstration and Assessment of Additionality Version 07.0.0."

64 Verra, "Methodologies."

65 AMMADOL BIO, "MADD Template, AMMADOL BIO Waste to Value – Biogas and Bio Fertilizers."

66 Cruz, "Developing Article 6 Activities, SPAR6C Article 6 Implementation Toolbox, Guide 5."

67 See more on transformational change in sub-chapter 4.13 and in Guide 1: Increasing ambition and promoting transformational change through Article 6.

68 UNFCCC, "List of Sectoral Scopes."

69 The attribution of mitigation outcomes is discussed in more detail in section 4.9 (Finance).

70 UNFCCC, "Glossary: CDM Terms Version 11."

71 II-AMT, "Tool for Robust Baseline Setting: Concept Note."

72 Available at https://cdm.unfccc.int/Reference/tools/index.html.

73 II-AMT, "Tool for Robust Baseline Setting: Concept Note."

74 SEA MADD template completion guidance

75 II-AMT, "Tool for Robust Baseline Setting: Concept Note."

76 Decision 2/CMA.3, Annex. Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement.

77 Decision 2/CMA.3, Annex, paragraph 18.

78 I I-AMT, "Tool for Robust Baseline Setting: Concept Note."

79 Decision 2/CMA.3, annex, paragraph 1.

80 Decision 3/CMA 3, Annex. Rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement.

81 The description of additionality criteria is partially based on II-AMT (2022): TOOL01 – Tool for the demonstration and assessment of additionality. Concept Note. Perspectives Climate Research, Freiburg. https://www.perspectives.cc/public/fileadmin/user_upload/II-AMT__2022__TOOL01_-_Tool_for_the_demonstration_and_assessment_of_additionality_Concept_Note._Version_April_2022__Perspectives_Climate_Research__Freiburg.pdf (accessed 27 July 2023)

82 All CDM tools are available at https://cdm.unfccc.int/Reference/tools/index.html.

83 Salway et al., "Additionality under Article 6.2 of the Paris Agreement."

84 Michaelowa et al., "II-AMT TOOL01 Tool for the Demonstration and Assessment of Additionality."

85 The activity participant can access the CDM activity search to view the sections on leakage in the PDDs of different projects.

86 For example, for forestry projects activity participants may use CDM Methodological Tool "Calculation of the number of sample plots for measurements within A/R CDM project activities"

87 Partnership for Market Readiness, "A Guide to Developing Domestic Carbon Crediting Mechanisms."

88 Perspectives Climate Research, "Tool for Monitoring, Reporting and Verification of Emissions, Reductions and Removals."

89 European Commission, "Unreasonable Costs Determination Tool."

90 National NDC GHG inventory report submissions are published annually at the UNFCCC official website: https://unfccc.int/ghg-inventories-annex-i-parties/2023.

91 IPCC, "IPCC Guidelines for National Greenhouse Gas Inventories."

92 Decision 2/CMA.3, Annex, paragraphs 18.i.iii and 22.b.

93 Decision 3/CMA 3, Annex, paragraph 40.a.

94 Decision 2/CMA.3, Annex, paragraphs 18.i.iii and 22.b.

95 Decision 3/CMA 3, Annex, paragraph 40.a.

96 Sustainable Development co-Benefits Tool, available at https://www4.unfccc.int/sites/sdcmicrosite/Pages/SD-Tool.aspx. Instead of the online SD Tool (which requires registration), it is recommended to use the version in a Word document.

97 The SDG IMPACT TOOL can be found at https://www.goldstandard.org/project-developers/standard-documents.

98 Perspectives Climate Research, "Tool for Monitoring, Reporting and Verification of Emissions, Reductions and Removals."

99 The definition of the start date that was used in CDM can be found in the CDM Glossary https://cdm.unfccc.int/Reference/Guidclarif/glos_CDM.pdf. Draft II-AMT TOOL01 provides a similar definition of MA start date: "The date on which the activity participants commit to making expenditures for the construction or modification of the main equipment or facility, or for the provision or modification of a service, for the activity. Where a contract is signed for such expenditures, it is the date on which the contract is signed. In other cases, it is the date on which such expenditures are incurred. Activities incurring minor pre-project expenses (e.g., feasibility studies, preliminary surveys) are not considered in the determination of the start

date." The Article 6.4 Supervisory Board may provide its definition, but it is likely to be in line with the above.

100 Decision 3/CMA.3, annex, paragraph 31(f).

101 Perspectives Climate Research, "Tool for Monitoring, Reporting and Verification of Emissions, Reductions and Removals."

102 https://www.ifc.org/en/what-we-do/sector-expertise/sustainability/policies-and-standards/environmental-and-social-categorization

103 Spalding-Fecher et al., "Attribution: A Practical Guide to Navigating the Blending of Climate Finance and Carbon Markets."

104 Fuessler, Kansy, and Spalding-Fecher, "Blending Climate Finance and Carbon Market Mechanisms: Options for the Attribution of Mitigation Outcomes. CPF/TCAF Discussion Paper."

105 For example, CDM Investment analysis tool (TOOL27) suggests that variables that constitute more than 20% of either total project costs or total project revenues should be subjected to 10% variation. TOOL27 can be found at https://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-27-v12.pdf.

106 Gold Standard, "Stakeholder Consultation and Engagement Guidelines."

107 UNEP DTU and World Resources Institute, "Transformational Change Methodology: Assessing the Transformational Impacts of Policies and Actions."

108 Decision 1 CMA 3 Chapter C

109 For more information on governance processes, see Guide 3: Designing governance frameworks.

110 VI. Mechanism Registry. Decision 3/CMA.3. Rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement.

111 III.26 of the Annex I. Elaboration of the processes defined in the rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement. FCCC/PA/CMA/2022/10/Add.2.

112 Decision 3/CMA.3. Rules, modalities and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement.

113 Draft Procedure Article 6.4 mechanism activity cycle procedure for projects. 5.1.2.

114 UNCTAD, "The Clean Development Mechanism: Building International Public-Private Partnerships under the Kyoto Protocol."

115 ADB, "Monitoring, Reporting and Verification Manual for Clean Development Mechanims Projects."

116 UNFCCC, "CDM-EB67-A06-GUID."

117 UNEP and DNV, "CDM PDD Guidebook: Navigating the Pitfalls."

118 The World Bank, "What You Need to Know About the Measurement, Reporting, and Verification (MRV) of Carbon Credits."

119 Hewlett, "Unlocking the Potential: Digital MRV."

120 Also known as validation/verification bodies.

121 Aalders and Lehmann, "MRV Manual for CDM Programme of Activities: Navigating the Monitoring, Reporting and Verification Pitfalls of Programmatic CDM Project Activities."

122 Lo Re, Ellis, and Greiner, "The Birth of an ITMO: Authorisation under Article 6 of the Paris Agreement."

123 Paragraph 2.b of Decision 2/CMA.3.

124 Spalding-Fecher et al., "Practical Strategies to Avoid Overselling."

125 Spalding-Fecher et al.

126 Article 6.4 safeguards tools are not yet published as of August, 2019.

127 The World Bank Group, 2017. "The World Bank Environmental and Social Framework". https://www.worldbank.org/en/projects-operations/environmental-and-social-framework

128 International Finance Corporation, 2012. "Performance Standards". https://www.ifc.org/en/insights-reports/2012/ifc-performance-standards

129 Gold Standard, 2023. "SDG Impact Tool". https://globalgoals.goldstandard.org/sdg-impact-tools/.

130 Gothenburg Centre for Sustainable Development, 2020. "SDG Impact Assessment Tool – Guide 1.0". https://irp-cdn.multiscreensite.com/be6d1d56/files/uploaded/SDG-Impact-Assessment-Tool-Guide-1-0_final_ver02_mini.pdf.

131 Article 6.4 guidance, paragraph 33.

132 Article 6.4 guidance, paragraphs 33-34.

133 Article 6.4 guidance, paragraph 38.

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