ICAT Initiative for Climate Action Transparency



Transparency for cooperative approaches under the Paris Agreement: A guide to navigating the links between Articles 6 and 13



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Executive Summary

Aim of the guide

The level of interest in voluntary cooperation under Article 6 of the Paris Agreement is significant. The effective use of Article 6 cooperative approaches, however, requires not only carefully considered changes to national climate policies but also fulfilment of appropriate and complex accounting and reporting requirements. The national transparency framework is a key safeguard to ensure environmental integrity and the early detection of major risks to national and global mitigation objectives through the use of Article 6 cooperative approaches. Therefore, monitoring and reporting of Article 6 activities need to be fully integrated into national transparency frameworks.

This guide aims to support countries exploring opportunities for engaging in activities under Article 6 of the Paris Agreement, and, in particular, understand the related reporting and accounting requirements. Article 6 sets out the basic rules for international carbon markets and non-market approaches. It has strong interlinkages with other elements of the Paris Agreement; in particular Article 13, which defines the contours of the ETF.

Another aim is to provide stakeholders with an understanding of the opportunities and risks linked to participation in Article 6, and the requirements and conditions for their participation.

Intended audience

The guide primarily targets policymakers and technical staff in developing countries, covering both governance and technical requirements.

FIGURE 0.1

The structure of the guide

PART 1

Overview of Article 6

- The Paris Agreement
- International Cooperation under Article 6
- Policy Considerations

PART 2

Linking Article 6 to Article 13

- Transparency in the Paris Agreement Carbon Markets
- Building Blocks for Transparency

ANNEXES

Key topics covered

The guide covers three main topics:

- An overview of the options for international cooperation in implementing NDCs that are available through Article 6 activities.
- The conditions for participating in various Article 6 activities, the key policy considerations and decisions to be made, and the main benefits and risks for a country when engaging in Article 6.
- How participation in Article 6 impacts the national transparency framework, i.e., the integration of the international transparency requirements and national accounting and reporting systems for different options provided by Article 6.

Structure of the guide

- As described in Figure 0.1, the guide is split into two parts to cater to a range of users, who may have different levels of knowledge and experience with Article 6. Part 1 provides an overview of the cooperative approaches in the context of the Paris Agreement, while Part 2 focuses on the link between Article 6 and Article 13. A Ghana case study is used throughout the guide to illustrate key aspects of participation under Article 6.

Part 1: Overview of Article 6

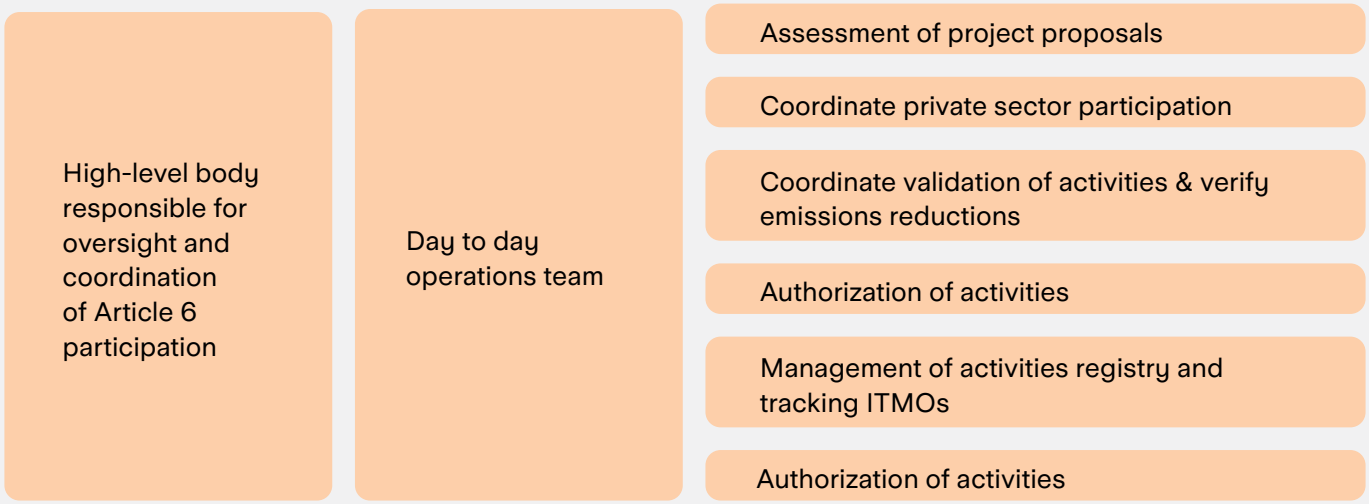
Part 1 provides an accessible and easy-to-read overview of Article 6, which enables readers of all levels of knowledge about Article 6 to use the guide. It is particularly aimed at enhancing the general understanding of Article 6 and facilitating the process of forming decisions for national participation in Article 6.

Part 1 consists of three chapters covering:

- The Paris Agreement: outlining key elements and processes, including NDCs.
- International cooperation under Article 6: in particular cooperative approaches under Article 6.2, the new mechanism under Article 6.4, and non-market approaches under Article 6.8.
- Policy considerations: providing an overview of available policy options and considerations for participation in Article 6. These include engagement decisions

FIGURE 0.2

An institutional framework for Article 6



that must be made, whether and how to use Article 6, and opportunities and risks to each approach. Additionally, the reader is guided through a suitable institutional framework – outlined in Figure 0.2 - that should be established to track all processes related to Article 6 participation.

Part 2: Linking Article 6 and Article 13

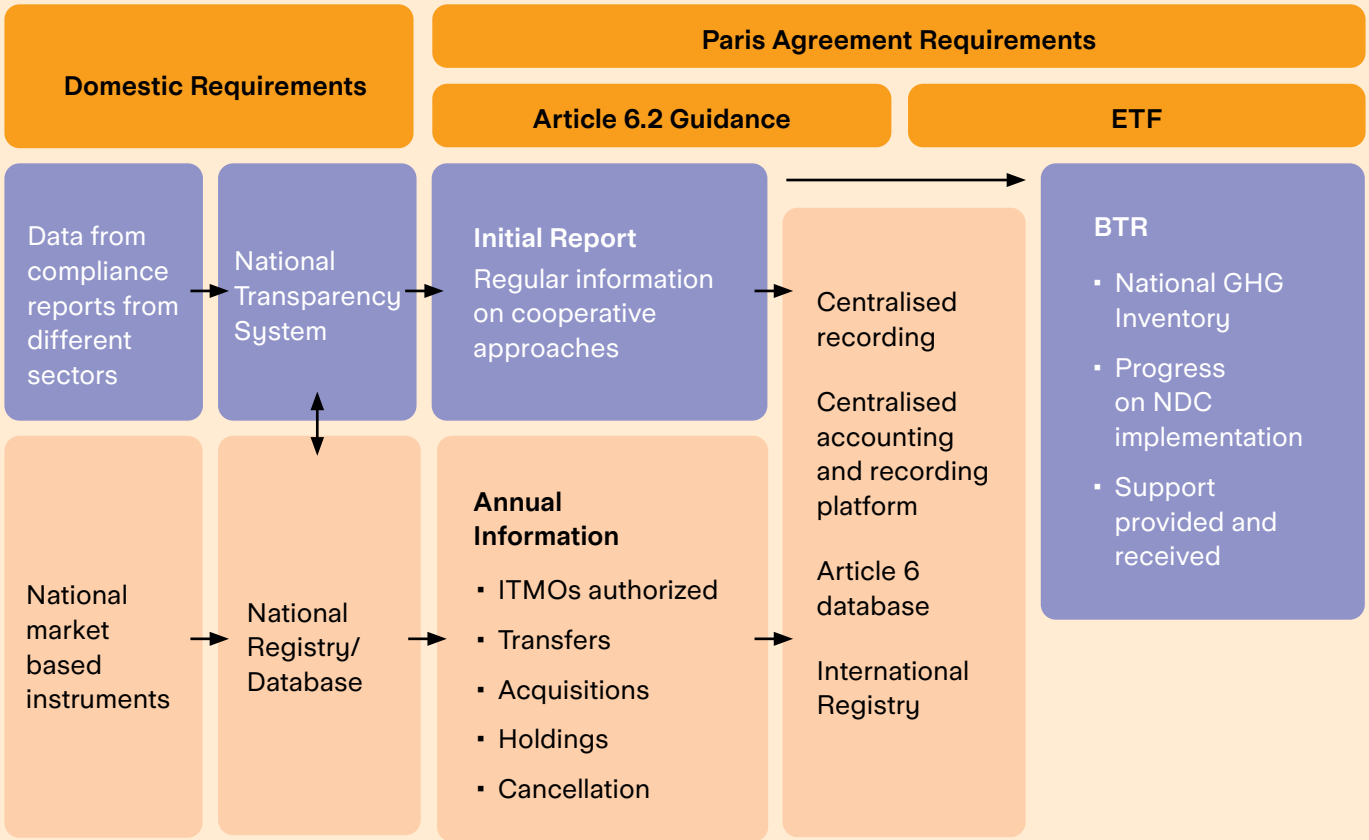
The guide's second part focuses on the links between Articles 6 and 13.

It provides an overview of Article 13 (the ETF), including rules and requirements that ensure transparency and accountability in climate actions under the Paris Agreement. Furthermore, it covers the three main reporting obligations for countries participating in Article 6 activities: the initial report, regular reporting (integrated with the Biennial Transparency Report), and annual information, and shows how they integrate with domestic and international reporting requirements. These are further described in Figure 0.3

Part 2 also has a focus on building blocks for transparency, highlighting the latest developments at COP28, COP29 and COP30. It introduces key aspects to consider for effective accounting and reporting. In addition, it provides insights on the tracking of progress of NDCs and specific implications for countries participating in Article 6.

FIGURE 0.3

Integrating reporting requirements



This is summarized in Figure 0.4.

It ends with an elaboration on the need to use robust methodologies to ensure environmental integrity. This includes explaining how the level of details and acceptance of these methodologies contribute to the transparency process.

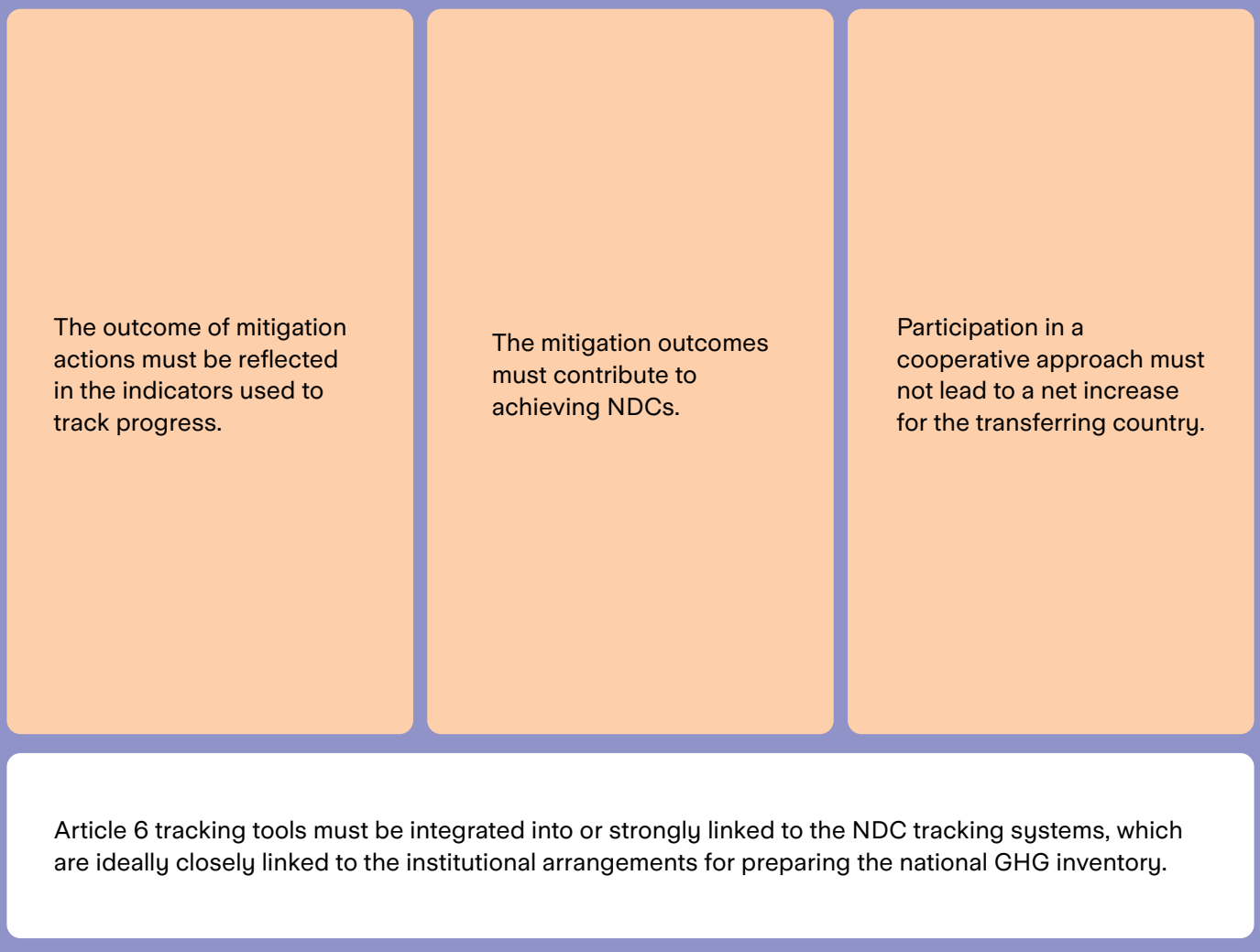
Annexes

The annexes to this guide provide deeper insights into selected topics introduced in the main text:

- Summary of COP28, COP29 and COP30 developments – highlighting the key decisions and outcomes that shaped the operationalization of Article 6.
- Technical background on Article 6 – offering a detailed explanation of its provisions and component paragraphs.
- Illustrative case study: Ghana – presenting a completed tabular reporting format for a mitigation activity in Ghana, used throughout this guide as a practical example.

FIGURE 0.4

Tracking progress of the NDCs and Article 6



A strategic approach

This guide encourages developing countries to take a strategic approach in deciding on using the various options offered by Article 6, fully integrated into the planning of NDC implementation. A strong transparency framework will provide countries with the data and information to base their strategic decisions on solid evidence and, once they decide to move ahead with Article 6 activities, it will provide a solid basis for an effective tracking of actions and ensure accountability, both domestically and internationally. This will help to raise credibility with national stakeholders and with international partners.

BOX 0.1

This guide aims to guide the reader through navigating the following:

- Countries must prepare and plan for engagement in Article 6-related activities, to make the best use of the opportunity. All activities must be integrated into NDC planning, and must be fully transparent.
- A country may choose to engage in market or non-market approaches. There are benefits and risks related to each approach that need to be well understood.
- Article 6 defines three main pathways for collaboration, which countries can choose from:
    - Article 6.2 provides an accounting framework under which countries can cooperate using international transfers of mitigation outcomes (ITMOs) for achieving their NDC targets and raising climate ambition, via the ambition cycle.
    - Article 6.4 establishes a baseline-and-crediting mechanism that countries can use for the generation of Article 6.4 emission reductions. When Article 6.4 emission reductions are internationally transferred, the accounting guidance of Article 6.2 applies.
    - Article 6.8 establishes a framework for non-market approaches.
- Stakeholder consultation is critically important to ensure the success of Article 6 activities and related mitigation efforts.
- Countries have three main reporting obligations when participating in Article 6 activities (involving ITMOs): the initial report, regular reporting and annual information. A robust national transparency framework is essential to meet these obligations.
- Tracking and reporting requires multiple aspects to be considered, including using adequate methodologies for baseline and reference points setting and the estimation of mitigation outcomes (MOs); the definition of proper accounting processes; and establishing a key indicator system for greenhouse gases (GHG) and non-GHG targets.


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1 Introduction

Guide objectives and rationale

This guide aims to support countries exploring opportunities for engaging in activities under Article 6 of the Paris Agreement and, in particular, to understand the related reporting and accounting requirements. Article 6 contains guidance and provisions for international carbon markets and non-market approaches. It has strong interlinkages with other elements of the Paris Agreement; in particular, Article 13, which establishes the ETF.

Since the publication of the first version of this guide in 2023, significant progress has been achieved in operationalizing Articles 6 and 13. Decisions adopted at COP28 (Dubai, 2023) and COP29 (Baku, 2024) have refined the reporting formats, accounting modalities and institutional arrangements that countries must follow when participating in cooperative approaches and preparing their Biennial Transparency Reports (BTRs), starting in 2024. In contrast, COP30 (Belém, 2025) made only marginal adjustments and did not introduce any major changes to the Article 6 framework. This updated version of the guide reflects these latest developments to ensure that countries are equipped with the most current guidance on implementing Article 6 activities in alignment with the ETF.

The global stocktake (GST) concluded at COP28 marked a pivotal moment for assessing collective progress towards the goals of the Paris Agreement. It also emphasized the central role of transparency and cooperative approaches in enhancing ambition and accountability. In this context, the updated ICAT Guide aims to help countries align their implementation of Article 6 and ETF processes with the outcomes of the GST and with upcoming ETF milestones, including BTR submissions and technical expert reviews.

To benefit from cooperative approaches, countries need to develop a strategy that will be informed by the outputs of their national transparency frameworks.

To be able to participate in Article 6, especially for using carbon markets, countries need to strengthen and adjust their national transparency frameworks, fulfil specific requirements under Article 6, and ensure that they take a consistent approach in tracking progress towards achieving nationally determined contributions (NDCs)[1] and their engagement in international cooperation under Article 6.

Countries will not be able to participate in activities under Article 6 that involve the international transfer of mitigation outcomes without establishing a robust transparency and accounting framework. For both transferring and acquiring countries, this is essential to reduce risks related to NDC achievement and to ensure environmental integrity.

The guide aims to provide stakeholders with an understanding of the opportunities linked to participation in Article 6, and the requirements and conditions for their participation. The guide emphasizes the importance of developing

1. NDCs represent the efforts committed by Parties to the Paris Agreement under its Article 4 to reduce national emissions and take adaptation actions. “Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve.” (Article 4.2)

a regulatory and institutional framework for implementing Article 6 of the Paris Agreement with a strong focus on transparency; that is, the data and information that countries need to collect and report on to track the implementation of their NDCs and cooperative approaches. The guide focuses specifically on the interface between Article 6, which provides for international cooperation using market and non-market approaches, and the ETF under Article 13, ensuring that participation in cooperative approaches is underpinned by transparent and credible reporting and accounting systems.

The guide describes and elaborates the following elements:

- The options for international cooperation in implementing NDCs that are available through Article 6, and the main benefits and risks of each option.
- The conditions for participating in various Article 6 activities and the key policy considerations for a country when engaging in Article 6.
- How participation in Article 6 impacts the national transparency framework, i.e., the integration of the international transparency requirements and national accounting and reporting systems for different options provided by Article 6.

The guide primarily targets policymakers and technical staff in developing countries and covers both governance and technical requirements. Specifically, the guide identifies opportunities and challenges for operationalizing Article 6 nationally, including the different requirements relating to transparency for different approaches, and the participation of both private and public sector entities in Article 6 activities. The guide also outlines the specific requirements for successful implementation and compliance with United Nations Framework Convention on Climate Change (UNFCCC) guidance, rules, modalities, and procedures as well as the requirements for national reporting and accounting systems.

Structure of the guide

The guide is structured around the key elements of the Paris Agreement, Article 6 and the Enhanced Transparency Framework. It is split into two parts, covering the following topics:

PART 1

Chapter 2 – The Paris Agreement: outlines the key elements and processes of the Paris Agreement, including the ambition cycle, NDCs and the Katowice Climate Package.

Chapter 3 – International Cooperation under Article 6: describes provisions for international cooperation under the Paris Agreement, in particular cooperative approaches under Article 6.2, the new mechanism under Article 6.4, and non-market approaches (Article 6.8). These introductory sections aim to enhance the understanding of policymakers and facilitate the process of forming decisions for national participation in Article 6.

Chapter 4 – Policy Considerations: provides an overview of the available policy options for policymakers. This section outlines engagement decisions that need to be made, particularly whether and how to use Article 6, considerations of the opportunities and risks to each approach, and an overview of other policy and wider considerations for participation in Article 6.

PART 2

Chapter 5 – Transparency in the Paris Agreement Carbon Markets: gives an overview of Article 13 (the ETF), including rules and requirements that

ensure transparency and accountability in climate actions under the Paris Agreement.

Chapter 6 – Building Blocks for Transparency: outlines key considerations for tracking NDCs, accounting and methodologies. Understanding the relationship between Article 6 and Article 13 is key for policymakers to ensure that participation in Article 6 is transparent and a subject of robust accounting. This understanding provides certainty that international cooperation contributes to the achievement of NDC targets and raises the level of ambition, supporting higher mitigation efforts over time. Enhancing the national transparency framework and having a clear strategy for participation in Article 6 will prepare the country as a credible host country and partner.

Annex – The Annex includes a summary of key developments from COP28, COP29 and COP30 as well as a detailed description of Article 6 and its component paragraphs. Finally, the last annex gathers tabular reporting prepared by Ghana.

2 The Paris Agreement

This chapter describes the key elements of the Paris Agreement, including its objectives and building blocks: the "ambition cycle", nationally determined contributions, progress tracking and the ETF. It also introduces the Paris Rulebook, which contains a set of decisions aimed at operationalizing the Paris Agreement.

Objectives

The mitigation goals of the Paris Agreement are set out in Article 2: to hold "the increase in global average temperature to well below 2 degrees Celsius (°C) above pre-industrial levels and [to pursue] efforts to limit the temperature increase to 1.5°C above pre-industrial levels"; and Article 4: "to achieve a balance between anthropogenic emissions by sources and removals by sinks of GHGs in the second half of this century".

The Paris Agreement also aims to support Parties in increasing their ability to adapt to the adverse effects of climate change, boost climate resilience, and make technology flows consistent with pathways towards low emissions and climate-resilient development. To achieve these objectives, the Paris Agreement sets out several mechanisms and processes, including an ambition-raising process targeting NDCs, and voluntary international cooperation under Article 6; the latter is discussed in detail in this guide (chapter 3).

The Paris Agreement has emerged as a strategic shift to the preceding approach set out in the Kyoto Protocol. The Paris Agreement and Kyoto Protocol start from two different points. All countries that have signed the Paris Agreement must submit NDCs with specific mitigation targets or actions. This is fundamentally different to the Kyoto Protocol, where only developed countries (Annex I countries)[2] set national GHG emissions reduction or limitation targets.

The Kyoto Protocol and the Paris Agreement are fundamentally different in their approaches. The Kyoto Protocol is often referred to as a "top-down" climate policy regime, with a strong centralized compliance regime based on legally binding commitments for emission reductions. In contrast, the Paris Agreement can be described as a "bottom-up" (or hybrid) approach that is based on a pledge-and-review process, i.e., countries set their own targets and objectives, relevant to their national circumstances and unique needs.[3]

The ambition cycle

The Paris Agreement recognizes that its long-term goals will need to be achieved over a longer period and is designed with an ambition cycle, or "ratcheting-up mechanism", whereby countries submit updated or new NDCs every five years from 2020 onwards (Article 4.9), regardless of the implementation timeline.

To enhance the ambition over time, the Paris Agreement requires that each successive NDC that is submitted will represent a progression compared to the previous submitted NDC (Article

2. The industrialized countries were listed in Annex I of the United Nations Framework Convention on Climate Change (1992).

3. See, for instance, J. Depledge, "The "top-down" Kyoto Protocol? Exploring caricature and misrepresentation in literature on global climate change governance", International Environmental Agreements: Politics, Law and Economics (2022) DOI: 10.1007/s10784-022-09580-9. The quantified commitments for the developed countries were determined by each developed country Party in negotiations.

4.3) – meaning that countries are expected to raise their ambition in each successive NDC. The Paris Agreement's self-defined target-based approach differs significantly from the Kyoto Protocol in that it does not require amendments to the Agreement (such as adding a new commitment period) and the associated negotiations that demand time and resources.

The first Global Stocktake, held at COP28 in Dubai in 2023 under Article 14 of the Paris Agreement, marked the initial collective assessment of progress since the Paris Agreement's adoption in 2015. The global stocktake is a Party-driven process, aimed at assessing the collective effort rather than evaluating specific NDCs. Using a variety of sources from Party and non-Party stakeholders, the global stocktake assesses collective progress on adaptation and mitigation, as well as the means of implementation and support towards achieving the long-term goals of the Paris Agreement. Its central purpose is to identify corrective actions to align global emission pathways with the Paris Agreement goals of limiting warming to well below 2°C and pursuing efforts toward 1.5°C.

The 2023 Stocktake calls for a sharp acceleration of emission reductions, stronger policies across all sectors (energy, transport, buildings, agriculture, deforestation), a doubling of energy efficiency, and a tripling of renewable energy capacity by 2030.

The Stocktake also highlights the scale of the adaptation gap and the urgent need to massively increase financing—public and private—especially for vulnerable countries. A landmark political outcome was the explicit recognition, for the first time in a COP decision, of the need for a transition away from fossil fuels by 2050.

Furthermore, the GST calls on Parties that have not yet done so to review and strengthen their 2030 targets in their NDCs by 2024 to ensure alignment with the Paris Agreement's temperature goal.

The ETF (see below) plays an important role in the ambition cycle by defining the reporting requirements, the technical expert review process and the multilateral facilitative process.

A final component is the establishment of a committee for facilitating the implementation of the Paris Agreement (Article 15). This committee shall function in a "manner that is transparent, non-adversarial and non-punitive". The committee can support countries in ensuring their reporting or participation obligations are met.

Nationally determined contributions

Anchored in the implementation of NDCs, the Paris Agreement provides an overarching framework and political mandate for national climate action. NDCs are the primary operational mechanism of the Paris Agreement and are intended to reflect each country's circumstances. In their NDCs, countries set out their climate objectives and overall plans for their achievement, including mitigation and adaptation actions. Countries are requested to submit their NDCs every five years through Articles 4.2 and 4.9 of the Paris Agreement.

The NDCs are at the core of three continuous improvement processes. First, each Party to the Paris Agreement must provide information on its NDCs to facilitate clarity, transparency and understanding. This includes the targets, assumptions and methodological approaches used for the NDCs. Second, each Party must submit a BTR that includes information that allows tracking of progress towards achieving the NDCs.[4] Third, at the international level, a technical expert review is conducted of the information in the BTR, along with a facilitative, multilateral consideration of progress.

4. The BTR is further explained in Chapter 5, Transparency in the Paris Agreement Carbon Markets, and in Box 5.1.

The NDCs contain different types of goals and actions for GHGs, including, for instance:

- Absolute reduction targets compared to a base year;
- Intensity or relative targets, for instance involving GDP units;
- Reduction targets compared to a business-as-usual scenario;
- A peaking target; and/or
- Policies aiming at reducing emissions of GHG.

There are also non-GHG mitigation targets, such as the share of installed renewable energy generation capacity, energy efficiency targets and forest cover targets, as well as adaptation plans and targets.

Regardless of the targets or actions included in the NDCs, "Parties shall provide the information necessary for clarity, transparency and understanding" (Article 4, paragraph 8). The information provided by countries will vary depending on the types of targets and actions formulated in the NDCs and the national circumstances of the Party. Although Parties have been strongly encouraged to include such information in any NDC communicated or updated as of 2020, it must, in any case, be reported as of a Party's second NDC.[5]

The Paris Agreement also introduces long-term low GHG emission development strategies (LT-LEDS). While these are not mandatory, 54 countries have already submitted LT-LEDS.[6] The purpose of preparing LT-LEDS is to create a link between the shorter-term NDCs and the longer-term objectives of the Paris Agreement.

BOX 1.1

Unconditional and conditional NDCs

Many countries have defined an unconditional and a conditional part of their NDCs. This concept is not part of the Paris Agreement but is used by many developing countries.

Unconditional refers to actions that countries commit to implement with their own resources.

Conditional means actions that the country would only implement with international support.

The most common type of conditionality is financial support for additional mitigation actions. It can also refer to technology transfer or capacity-building support.

The enhanced transparency framework

The ETF (Article 13) sets out a single, universal transparency process that all Parties to the Paris Agreement must follow. The ETF requires countries to report on: their GHG emissions, progress towards their NDCs, climate change impacts and adaptation, and support needed, provided, mobilized and received. The information gathered under the ETF will provide a clear understanding of worldwide climate change actions and support, including through Article 6, and ultimately contribute to the global stocktake process and assess progress towards achieving the goals of the Paris Agreement. The requirements to operationalize the ETF, referred to as the modalities, procedures and guidelines (MPGs), are part of the Katowice Climate Package, described below.

5. Decision 4/CMA.1

6. United Nations Framework Convention on Climate Change, Long-term strategies portal. Available at: https://unfccc.int/process/the-paris-agreement/long-term-strategies (accessed 19 September 2025).

The national GHG inventory report and the information necessary to track progress made in implementing and achieving the NDCs are central components of the ETF. The national GHG inventory report allows assessment of the progress towards meeting the objectives of the Paris Agreement (i.e., to assess the levels of emissions and trends over time). This inventory report is distinct from the information on the progress towards the NDC, as NDCs may have targets and actions not formulated in quantitative GHG mitigation targets.

Both components shall be reported on in the BTR.[7] The first BTR was due in December 2024, replacing the former Biennial Update Report and Biennial Report. The report "Unfolding the reporting requirements for Developing Countries under the Paris Agreement's Enhanced Transparency Framework",[8] provides a detailed explanation of the ETF components. For the content of the BTR, see Box 5.1 in Chapter 5.

Relevant to Article 6 (voluntary international cooperation) participation, guidance on Article 6.2 and rules, modalities and procedures on Article 6.4 were agreed at COP26 in Glasgow in 2021. The guidance document incorporates specific reporting and transparency requirements for countries participating in Article 6.2. These requirements include an initial report showing that the country fulfils participation requirements, and annual and regular information to be included in the BTR. For Article 6.4, specific information needs to be submitted to the Supervisory Body of the Article 6.4 mechanism.

Beyond reporting, the ETF foresees an international technical expert review and a facilitative, multilateral consideration of progress. Further detailed reporting requirements of the ETF and for Article 6 participation are provided in Chapter 5, 'Transparency in the Paris Agreement'.

Tracking progress of NDC implementation and accounting

Tracking the progress of NDC implementation is critically important to ensuring transparency and increasing the level of confidence among Parties that each Party is working towards contributing to the achievement of the Paris Agreement goals. Article 13, paragraphs 5 and 7 highlight this as a key component of reporting under the ETF. Progress is to be tracked continuously and reported on every second year according to Article 13. This interim accounting of the achievement of the NDCs requires that countries follow up on their actions, targets and emissions levels. Accounting for NDCs under the Paris Agreement is needed to enable countries to track individual progress towards their mitigation targets, understand other countries' NDC targets and their progress towards them, and assess collective progress towards long-term mitigation goals.[9]

While intrinsically linked, the process of communicating NDCs to the UNFCCC is distinct from tracking progress towards NDC targets, and the two processes are covered by different provisions of the Paris Agreement. In communicating NDCs to the UNFCCC, Parties state their commitments (elaborated in decision 4/CMA.1) in the NDC periodic submission. In parallel, in the BTR (decision 18/CMA1), "Parties provide information on tracking progress towards their NDC, including emission levels, domestic actions for mitigating and adapting to climate change, and the status of support for financial, technology development and transfer, and capacity-building for mitigation and adaptation activities." Together, information in the NDC and the BTR, along with the technical expert review, provides a full picture of whether and how a Party is meeting its goals.

7. The GHG inventory report can also be submitted as a stand-alone document. Decision 18/CMA.1, Annex, paragraph 12.

8. Mirko Dal Maso and Federico Antonio Canu, "Unfolding the reporting requirements for Developing Countries under the Paris Agreement's Enhanced Transparency Framework", ICAT and CBIT (2019).

9. Christina Hood and Carly Soo, "Accounting for mitigation targets in Nationally Determined Contributions under the Paris Agreement", OECD/IEA Climate Change Expert Group Papers, No. 2017/05, OECD Publishing, Paris (2017). Available at: https://doi.org/10.1787/63937a2b-en (accessed 19 September 2025).

To track progress towards the Parties' NDCs, information is needed on progress in NDC implementation and achievement. This includes selected indicators for comparing the present situation with a projected or reference level, as well as information that supports an understanding of the NDC targets, such as the scope and coverage of the NDCs. Qualitative indicators, such as information regarding the implementation status of policies, as well as quantitative indicators, are necessary to ensure a clear understanding of the progress towards NDC achievement.

The diversity of targets that may be included in Parties' NDCs means that different types of data must be monitored to track their progress. For example, for an economy-wide absolute GHG target, data will need to specify emissions and removals at a base year. For intensity targets for emission reductions per unit of GDP, or per capita, data will need to include information on emissions and removals per unit.[10] It is important to note that countries select, at their discretion, which indicators they will communicate in their NDCs, including when tracking the progress and accounting of their NDCs. Such indicators can use GHG or non-GHG metrics. Similarly, the information on the outcomes of a Party's accounting (i.e. whether a Party is making progress in implementing, or has achieved its NDCs) is drawn from that Party's choice of accounting approach(es). The report "Proposed indicators for domestic MRV[11] purposes and tracking progress of NDCs", provides guidance and examples of possible indicators.[12]

Emission accounting can be defined as the process of determining the quantity of emissions, removals, including the transactions related to international transfers of mitigation outcomes, and land sector emissions and removals that may be applied toward a mitigation outcome[13] within an NDC. Emission accounting involves calculating the target level of emissions specified by the mitigation contribution and comparing the two quantities to evaluate NDC progress and achievement.[14] For non-GHG metrics, accounting will involve determining quantities of non-GHG metric indicators and comparing outcomes against those indicators. Accounting for NDCs when engaging in Article 6 is described in detail in Chapter 3 and in technical detail in Chapter 5.

The Katowice Climate Package (Paris Rulebook)

The Katowice Climate Package is a set of implementing decisions that unpack and provide further guidance to the Paris Agreement. These decisions were concluded in December 2018, during COP24 in Katowice, Poland.[15] The implementation rules and guidelines for each section of the Paris Agreement cover:

- Information to be included in NDCs and accounting of NDCs (Article 4)
- The role of forests (Article 5)
- Adaptation (Article 7)

10. Manasvini Vaidyula and Marcia Rocha, "Tracking progress towards NDCs and relevant linkages between Articles 4, 6 and 13 of the Paris Agreement", OECD/IEA Climate Change Expert Group Papers, No. 2018/04, OECD Publishing, Paris (2018). Available at: https://doi.org/10.1787/358aae24-en (accessed 19 September 2025).

11. MRV refers to the systematic process of GHG emissions or reductions (measurement), documenting and communicating the results (reporting), and independently assessing their accuracy and compliance (verification) to ensure transparency, consistency, and credibility in climate action and mitigation outcomes.

12. Federico Brocchieri and others, "Proposed indicators for domestic MRV purposes and tracking progress of NDCs", ISPRA Raporti 340/2021 (2021).

13. A mitigation outcome is an emission reduction compared to the baseline scenario or enhanced removal

14. Kelly Levin, "The interplay between accounting and reporting on mitigation contributions under the Paris Agreement", Carbon & Climate Law Review, Volume 12, Issue 3 (2018), pp. 203–208.

15. United Nations Framework Convention on Climate Change, Katowice climate package. Available at: https://unfccc.int/process-and-meetings/the-paris-agreement/the-katowice-climate-package/katowice-climate-package (accessed 19 September 2025).

- Loss and damage (Article 8)
- Financial support (Article 9)
- Technology transfer (Article 10)
- Capacity-building (Article 11)
- Detailed provisions for the ETF (Article 13)
- The global stocktake (Article 14)
- The mechanism to facilitate the implementation of and promote compliance with the Paris Agreement (Article 15).

Article 6 is closely interconnected with the other elements of the Paris Agreement, particularly regarding the requirements of NDCs and reporting and accounting rules under the ETF. However, specific contentious issues around Article 6 were difficult to solve in the allotted time at COP24. The Katowice Climate Package therefore sets out only the broad scope of actions that are required for participation in Article 6.

Despite the uncertain timeline for the adoption of further guidance on Article 6, Parties agreed in Katowice to list the information that should be reported by Parties participating in Article 6 and an approach for operationalization of robust accounting through the introduction of an "emissions balance".[16]

An emissions balance represents the anthropogenic emissions by sources, and removals by sinks, that are covered by mitigation targets or actions in the NDCs. The emissions balance serves as the tool for tracking how transfers of mitigation outcomes impact the achievement of the NDCs.

Specific rules governing Article 6 were finalized at COP26 in Glasgow in November 2021 and were further operationalized at COP29 in Baku in 2024 (see chapter 3).

Key Messages

- The Paris Agreement is a legally binding regime that includes self-defined contributions by every country.
- An ambition cycle is established to ensure that ambition is enhanced over time, including a global stocktake for an assessment of the global progress of efforts towards the Paris Agreement goals.
- NDCs are the key operational instrument of the Paris Agreement. They are subject to updates every five years and comprise a variety of targets and actions.
- The ETF introduces a unified approach to tracking progress towards NDC targets, reporting and accounting by countries.
- Accounting and tracking NDC implementation is critical to allow countries to track their progress towards their mitigation targets, understand other countries' NDC targets and their progress towards them, and assess collective progress towards the long-term mitigation goal.[17]
- Participation in Article 6 requires countries to understand their progress towards the achievement of NDC targets to ensure that cooperation with other countries does not jeopardize their efforts to strive towards higher ambition.

16. Decision 18/CMA.1, paragraph 77(d).

17. Hood and Soo, "Accounting for mitigation targets in Nationally Determined Contributions under the Paris Agreement" (2017).

3 International Cooperation under Article 6

This chapter describes the role of international cooperation under Article 6 to meet Paris Agreement goals and sustainable development objectives. The chapter introduces the different approaches and mechanisms under Article 6, including: cooperative approaches; the new mechanism under Article 6.4; and non-market approaches, and it discusses the new role of developing countries in the operation of these approaches and mechanisms.

The role of international cooperation in the Paris Agreement

International cooperation often plays an important role in the achievement and implementation of NDCs, promoting higher ambition in mitigation, and enabling benefits such as ensuring the cost-effectiveness of climate actions. For instance, one study shows that the use of Article 6 can reduce the global cost of delivering the emission reductions identified in current NDCs 2.0 by about 30 per cent by 2030 and by more than 50 per cent by 2050.[18] This could save an estimated US$250 billion annually by 2030. The study also shows that if these cost savings are invested in enhanced ambition, additional emissions abatement could increase by 50 per cent or approximately 5 gigatonnes of carbon dioxide (CO2) by 2030. For Parties that are already engaging in international cooperation through carbon markets, these cost savings are a key consideration when developing their policy strategies.

The Paris Agreement emphasizes that international cooperation is voluntary and should lead to higher ambition in both mitigation and adaptation, for all Parties, by creating flexibility. This marks a significant change from the Kyoto Protocol, where the aim of international carbon market cooperation was primarily to create flexibility for developed countries, to enable them to comply with their quantitative targets.

Article 6 presents a range of options that Parties can employ to cooperate internationally and achieve their NDCs. In their NDCs, 96 Parties have explicitly mentioned an interest in using international carbon markets, while 21 have mentioned regional cooperation and 27 have mentioned bilateral cooperation.[19] This indicates strong support among Parties for the use of international cooperation approaches to raise the level of ambition and comply with their NDC targets.

The outcome of COP26 in Glasgow provides guidance and support for the operationalization of Article 6. Three key elements that conclude the long-awaited decisions that cover the three operational paragraphs in Article 6 were adopted: i) guidance on cooperative approaches (Article 6.2); ii) rules, modalities and procedures for the mechanism established in paragraph 4 of Article 6 (Article 6.4); and iii) a work programme that supports the implementation of non-market approaches between Parties (Article 6.8). It is of paramount importance that policymakers are engaged in preparing for national decisions required for participation in international cooperation pathways.

18. Jae Edmonds and others, “, International Emissions Trading Association, University of Maryland, and Carbon Pricing Leadership Coalition, Washington, DC (2019).

19. Institute for Global Environmental Strategies, IGES NDC Database. Available at: https://pub.iges.or.jp/pub/iges-ndc-database (accessed 19 September 2025)

At COP29 in Baku in 2024, the Parties finally reached agreement on the remaining elements, completing the full operationalization of Article 6. Article 6.2 has been operational since 2021, following the adoption of the Glasgow decision, which was subsequently complemented by the outcomes of COP27 in Sharm el-Sheikh. The new decisions adopted in Baku complete the initial set of rules required for the full implementation of Article 6.2, particularly with regard to the authorization and transfer of ITMOs and the establishment of transparent national and international registries.

Article 6.4 was not operational prior to COP29 in Baku due to the absence of the required standards. The methodologies and standards for carbon removals, adopted by the Supervisory Body[20] before COP29, were subsequently endorsed by the COP, marking the formal full operationalization of the Article 6.4 mechanism, also referred to as the Paris Agreement Crediting Mechanism (PACM). These standards also include rules for transitioning Clean Development Mechanism (CDM) projects into the new system. Finally, Article 6.8 received guidance for non-market approaches, including the creation of a cooperation platform to facilitate collaboration without direct credit trading.

However, the enforcement mechanisms under Article 6.2 remain limited—particularly due to the voluntary nature of addressing inconsistencies and the non-mandatory aspects of certain disclosure requirements—these elements continue to shape the operational landscape of the framework. The treatment of legacy units, including credits transitioned from the Clean Development Mechanism, also remains an area of ongoing attention within the mechanism's implementation. Overall, the decisions adopted at COP29 mark continued progress in the development of global climate governance frameworks, while underscoring the importance of sustained cooperation and technical work to further refine operational modalities. This is particularly relevant given the bottom-up flexibility inherent in the Paris Agreement, as reflected in Article 6. The framework established under Article 6 is intended to evolve over time. According to the UNFCCC Secretariat[21], no additional negotiations on the existing guidance are expected before 2028, when the review process, including consideration of outstanding issues, is scheduled to resume[22].

20. The Supervisory Body is the UNFCCC institution established under Article 6.4 of the Paris Agreement to oversee the operation of the Article 6.4 mechanism. It is responsible for approving methodologies, accrediting validation and verification entities, supervising the issuance of Article 6.4 Emission Reductions (A6.4ERs), and ensuring that activities meet the principles of environmental integrity, transparency, and sustainable development.

21. UNFCC Secretariat, Mitigation Division. Available at: https://unfccc.int/sites/default/files/resource/COP29%20outcomes_A6.2_6.4_6.8.pdf (accessed 13 November 2025)

22. Decision 2/CMA.3 paragraph 14.

Carbon crediting key principles

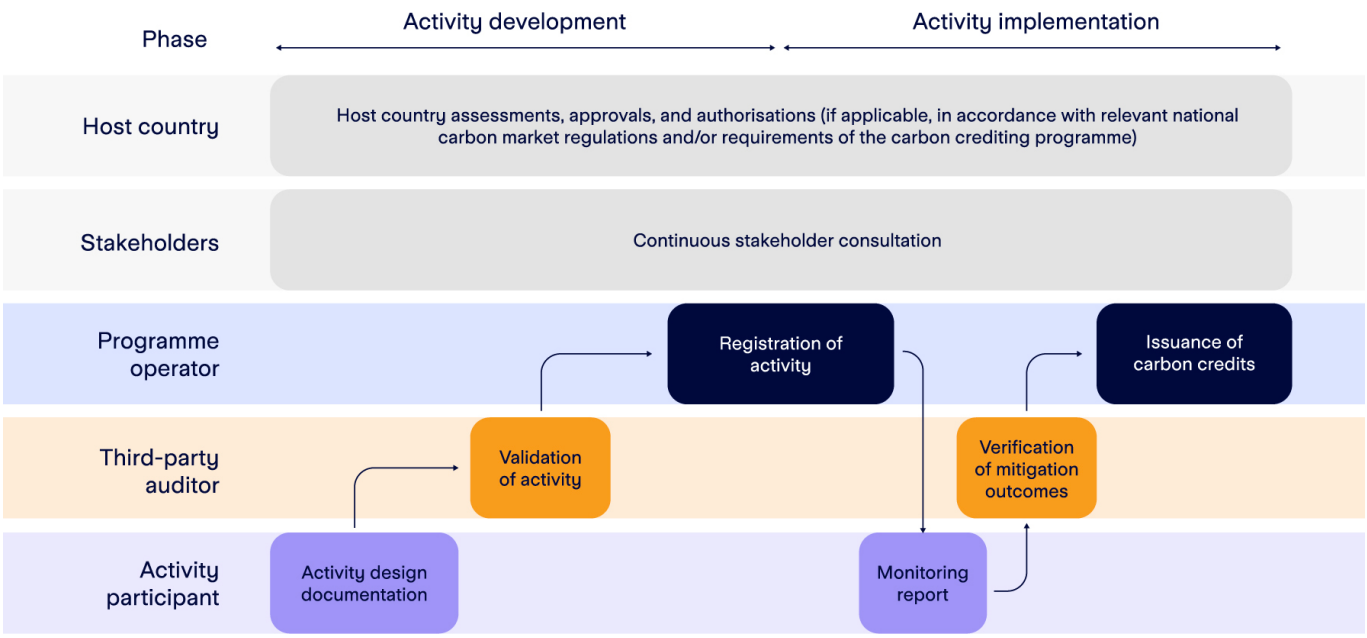
A carbon credit represents one metric tonne of CO_2 equivalent resulting from a mitigation outcome that meets defined criteria, including additionality, quantification against a baseline, verification, permanence and others. A mitigation outcome that satisfies these criteria becomes carbon credit once it is formally issued under a recognized carbon crediting programme. Issuance occurs following confirmation of compliance with the relevant carbon credit criteria, as demonstrated through successful validation, registration, and verification processes.

For a mitigation activity to be eligible for the issuance of emission reduction certificates, it must undergo a defined activity cycle, commonly referred to as the carbon crediting cycle (see figure 3.1). As illustrated in the figure below, the carbon crediting cycle consists of two main phases — activity development and activity implementation — each comprising a series of key steps:

- **Activity design documentation**: the carbon crediting cycle starts with the design of the proposed activity. Activity developers select an applicable methodology and carbon crediting programme for the activity. It is also a time for stakeholder consultation.
- **Validation of the activity**: validation refers to an independent assessment of the activity to confirm its conformity with the applicable requirements. It is conducted by an accredited third-party auditor, based on the project design document and accompanying evidence submitted under the carbon crediting programme.
- **Registration of the activity:** following a successful validation, the activity developer may apply for the registration of the activity under the carbon crediting programme. Once approved, the activity is formally registered and publicly listed in the programme's associated registry.
- **Monitoring report**: once a registered activity begins operation, its key parameters must be monitored in line with the applicable monitoring methodology and the approved monitoring plan. Monitoring enables the quantification of emissions, emission

FIGURE 3.1

Carbon crediting cycle



Source: Adapted from A6IP – Article 6 Decision Making: Training for Practitioners

reductions relative to the baseline, and any enhanced removals achieved by the activity. The activity developer is responsible for implementing the monitoring process, including ensuring appropriate equipment, data collection and storage, quality assurance procedures, and reporting. In certain cases, the activity may have started operation prior to its registration under a carbon crediting programme.

- Verification of mitigation outcomes: verification involves an independent review of the monitored emissions, removals, and estimated mitigation outcomes over a defined monitoring period to ensure compliance with the applicable requirements. It is conducted by an accredited third-party auditor, based on the monitoring report and accompanying documentation submitted under the carbon crediting programme.

- Issuance of carbon credits: following a successful verification, the activity developer may submit a request for the issuance of carbon credits under the carbon crediting programme. The programme operator reviews the request for completeness and may seek additional information from the developer if necessary. Once approved, the programme operator issues the carbon credits in the designated registry, assigning a unique identifier to each unit.

Article 6 of the Paris Agreement offers multiple pathways for developing mitigation activities and generating carbon credits. Activity developers may register their activities and issue carbon credits under the PACM, established pursuant to Article 6.4. Alternatively, mitigation outcomes may be authorized by Parties as ITMOs under Article 6.2, which provides the framework for Parties to authorize the international transfer of mitigation outcomes — including, but not limited to, credits issued under the PACM or other recognized carbon crediting programmes.

Cooperative approaches (Article 6.2)

Article 6.2 of the Paris Agreement sets out an accounting framework and a set of environmental integrity principles that enable international cooperation for the achievement of NDCs through the transfer of mitigation outcomes, called ITMOs. These cooperative approaches involve a host country and buyers which could be acquiring country governments or public or private entities.

It is important to note that Article 6.2 is not a mechanism. Article 6.2 does not prescribe the type of cooperation between Parties, rather, Article 6.2 guidance must be observed when mechanisms and approaches defined and led by Parties involve the international transfer of mitigation outcomes. The Article 6.2 guidance addresses participation requirements, rules for accounting, recording and tracking ITMOs, as well as procedures for reporting and reviewing.

The Article 6.2 guidance provides flexibility to participating countries in designing their national authorization process, including required steps and their timing and sequencing. Countries have the discretion to determine whether to integrate a carbon crediting cycle into their national ITMO authorization processes, and how to make use of the PACM's crediting cycle (described in the section below) and/or other crediting systems — whether private, national, or bilateral. Accordingly, they could require that authorization requests be supported by documentation verified under an approved carbon crediting programme or by a recognized third-party auditor. Countries may also establish bilateral or multilateral arrangements with partner nations to coordinate and harmonize

their respective authorization processes. For instance, Sweden and Ghana have set up a bilateral framework for the authorization and transfer of mitigation outcomes, which includes the application of a carbon crediting cycle and mutually recognized crediting programmes (see figure 3.2). Similarly, Japan has entered into a series of bilateral carbon crediting partnerships with several countries.

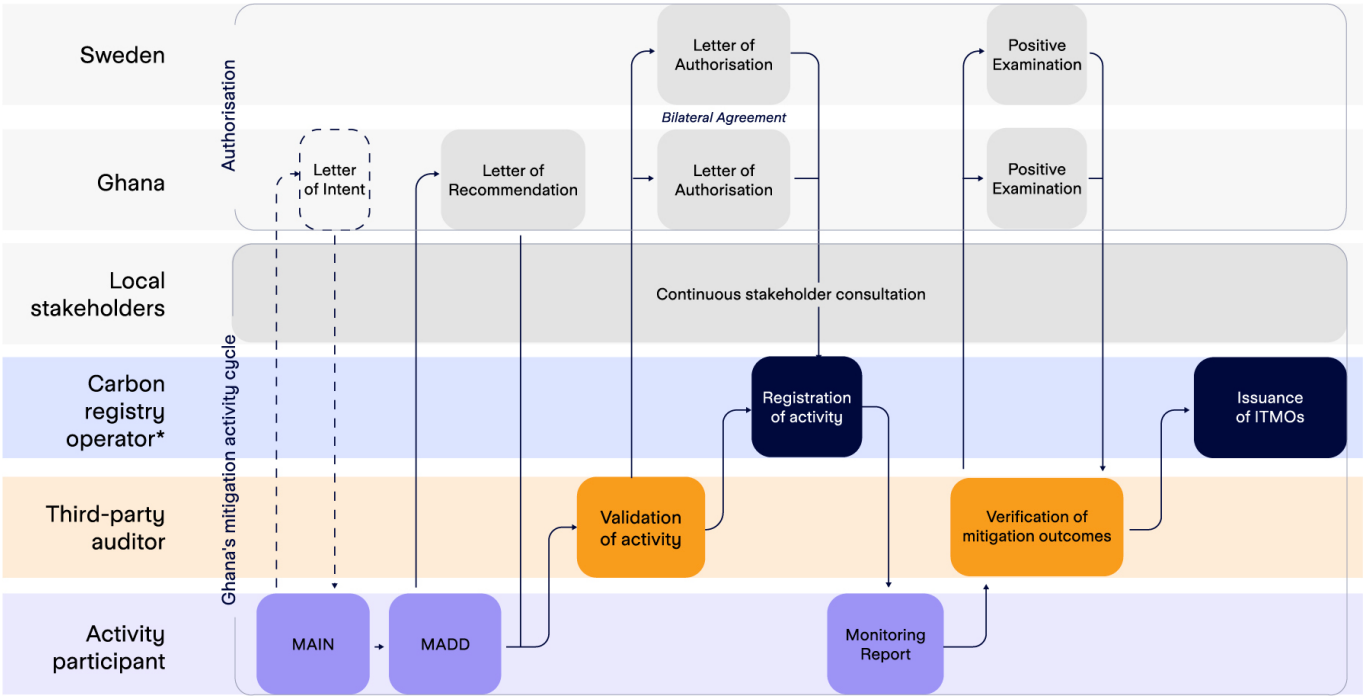
Under Article 6.2, countries can authorize mitigation outcomes as ITMOs, if they meet relevant participation requirements, including the establishment of a national process that is consistent with international guidance (see section National processes for Article 6.2).

As Article 6.2 provides guidance rather than a rigidly defined framework, Parties retain some flexibility to design their own procedures and timelines leading to the issuance of ITMOs. One of the key steps in the process for Article 6.2 participation is the authorization process, which is essential for ITMO issuance.

Unlike the more prescriptive approach under Article 6.4, Article 6.2 offers greater flexibility for Parties in defining baseline and monitoring methodologies. The participating Party shall however provide for each cooperative approach, a description of how environmental integrity is ensured. Given that there is no universally agreed definition of environmental integrity, participating

FIGURE 3.2

Carbon crediting cycle developed between Ghana and Sweden



Source: Adapted from A6IP – Article 6 Decision Making: Training for Practitioners

Parties are required to include the following elements in their description[23]:

- "How there are no net increase in global emissions within and between NDC implementation periods;
- How there are robust, transparent governance and the quality of mitigation outcomes, including through conservative reference levels, baselines set in a conservative way and below 'business as usual' emission projections (including by taking into account all existing policies and addressing uncertainties in quantification and potential leakage);
- How it has minimized the risk of non-permanence of mitigation across several NDC periods and how, when reversals of emission reductions when reversals of emission reductions or removals occur, the cooperative approach will ensure that these are addressed in full."

One of the first steps in a well-designed Article 6.2 framework is validation. Validation refers to an ex-ante (pre-implementation) assessment of whether a proposed mitigation activity or program is appropriately designed to deliver real, measurable, and additional emission reductions, and whether it aligns with the host Party's national strategy and regulatory requirements. This step is carried out by a Designated Operational Entity (DOE) or another accredited independent third-party validator, and can be regarded as a form of project design audit. A central element of this process is the Letter of Authorization (LoA) — a formal document issued by a participating Party (typically the host and/or acquiring country) that authorizes an entity, such as a project developer, company, or government agency, to take part in a cooperative approach under Article 6.2.

Once the LoA is issued, the activity can be registered[24], implemented, and monitored. A monitoring report must then be prepared to support the verification process, in line with the requirements established by the Parties involved in the cooperative approach. Verification is an ex-post (post-implementation) assessment of the actual emission reductions achieved by the activity, based on monitored data. This step is conducted by an independent accredited verifier. Once verified, these reductions become recognized mitigation outcomes within the host Party's accounting or tracking system.

Following verification, authorization constitutes a sovereign act by the host Party to formally approve the use of verified mitigation outcomes as ITMOs under Article 6.2. This decision is typically taken by the national government through its Article 6 Designated National Authority (DNA) or focal point. The authorization determines whether the mitigation outcomes can be used internationally, by whom (authorized entities), and for what purpose (e.g. towards another NDC, for other international mitigation purposes, or other uses). Once issued, the authorization renders the mitigation outcomes eligible for international transfer — and if transferred, triggers a corresponding adjustment in the affected NDCs.

ITMOs must be followed by robust accounting – a corresponding adjustment – whereby the export of authorized mitigation outcomes will be reflected in the transferring country's emissions balance. This is to avoid double counting: where the mitigation outcomes that are authorized and transferred are counted towards the achievement of the NDC of both the transferring and the acquiring country.

23. Decision 2/CMA.3, annex, paragraph 18(h).

24. Parties may opt to use their own registries to register the mitigation activity and to track ITMOs or use other Parties' and/or international registries. It should be noted that the UNFCCC secretariat is in the process of developing an international registry and an interim solution for participating Parties until the international registry becomes operational. See Chapter 5 for more insights on registries.

BOX 3.1

First transfer of ITMOs

The first transfer refers to the earliest point at which a mitigation outcome becomes eligible for international use, triggering the application of corresponding adjustments to the host Party's GHG inventory. It ensures that emission reductions are counted only once, maintaining environmental integrity and market credibility.

COP29 clarified that the first transfer occurs at the earliest of the following events: the authorization of the mitigation outcome, its issuance, its international transfer, or its use/cancellation by the first transferring Party. This clarification addresses risks of delayed accounting or "zombie ITMOs" and requires Parties to establish robust frameworks to standardize accounting and reporting and safeguard against double counting.

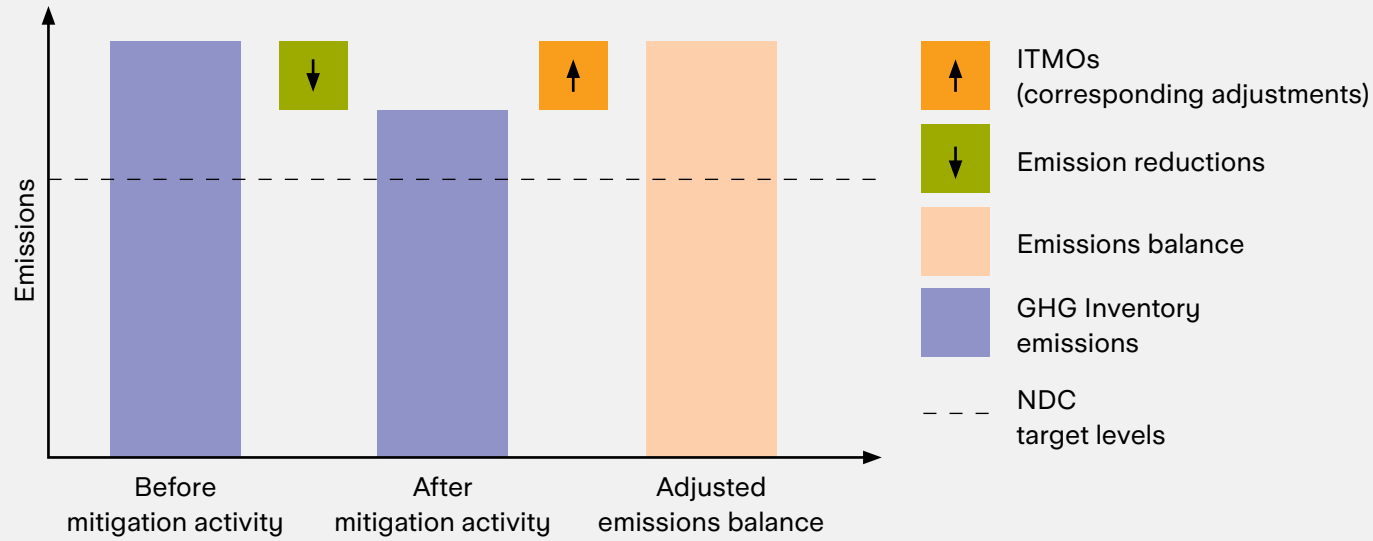
Figure 3.3 shows i) how greenhouse gas (GHG) emissions are reduced in the country through the implementation of a mitigation activity; ii) how ITMOs representing the emission reductions achieved are transferred; and iii) how a corresponding adjustment neutralizes the emission reductions by adding to the emissions balance.

In the process shown in Figure 3.3, the transferring country should ensure that their transferred units are not needed for the achievement of their own NDCs (the unconditional part of the NDCs, for countries that differentiate between conditional and unconditional targets and actions). It is important to note that ITMOs generated under a cooperative approach should be used under the ongoing NDC period (i.e., the period a country has defined for its NDCs). Most countries have communicated an NDC 2.0 implementation period from January 2021 until 2030, while a few have communicated a shorter implementation period of 5–9 years[25].

25. United Nations Framework Convention on Climate Change Nationally determined contributions under the Paris Agreement. Synthesis report by the secretariat. FCCC/PA/CMA/2022/4 (2022).

FIGURE 3.3

Corresponding Adjustments for the Transferring Country



The concept of corresponding adjustments is further described in Annex 2, which also contains an introduction to the topic of the timing of corresponding adjustments.

Cooperative approaches can be highly attractive for a variety of reasons, including:

- Providing co-funding for priority projects with high-cost technologies that the country could not finance domestically;
- Kick-starting projects that can be scaled up to promote transformational change;
- Creating direct revenues;
- Increasing private sector participation in the achievement of climate objectives;
- Supporting progress towards achievement of the sustainable development goals.

For a transferring country, having a robust governance and regulatory framework for ensuring environmental integrity and promoting transparency are key to attracting the interest of acquiring countries. Acquiring countries demand enhanced transparency from transferring countries to ensure credibility on the purchased ITMOs.

BOX 3.2

Current examples of concepts of collaboration under Article 6.2.

Switzerland

Agreements are in place with Norway, Kenya, Chile, Tunisia, Sweden, Uruguay, Malawi, Iceland, Dominica, Georgia, Ghana, Morocco, Peru, Senegal, Thailand, Ukraine and Vanuatu.

Switzerland has signed agreements to fund “climate protection projects abroad”, through bilateral treaties that set out a framework for cooperation and requirements under Article 6 of the Paris Agreement. Switzerland sets out stringent requirements for transparency, MRV and accounting in these agreements, and countries must develop their own frameworks and processes to support Article 6 transfers.

Ghana

Agreements are in place with Sweden, Singapore, South Korea, Liechtenstein and Switzerland.

Ghana aims to mobilize USD 4.9 billion from international cooperation, including the carbon market, to achieve its conditional target and beyond. These investments are expected to align Ghana's development along a low-emission pathway and mobilize green investments to benefit the wider economy.

Ghana has published its own national framework and processes to support Article 6.2 and 6.4 implementation.

The bilateral agreements for cooperative approaches signal a strong interest in honouring robust accounting and a stringent approach to the creation of mitigation outcomes for transfer.

Bilateral agreements towards the implementation of Article 6.2 activities had been signed between countries prior to the final decisions at COP26 in Glasgow. A prominent example is Switzerland's bilateral approach (see Box 3.1). Another example is the Joint Crediting Mechanism (JCM) initiated by Japan, which includes agreements signed with 15 countries[26]. The JCM was developed before the Paris Agreement but is now being transformed into a cooperative approach under Article 6.2.

While these agreements are non-binding, they represent important steps towards the operationalization of Article 6.2. Broadly, they include information on the objectives that are to be achieved through the cooperative approach, environmental integrity and sustainable development provisions, rules on authorization, measurement, reporting and verification (MRV), accounting (including registry and corresponding adjustment requirements), and other provisions, such as entry into force and settlement of disputes. Plurilateral agreements, for instance through a carbon market club, are also possible under Article 6.2.

Parties have shown significant interest in the implementation of Article 6.2. According to a 2025 analysis conducted by the Paris Agreement Article 6 Implementation Partnership Center (A6IP)[27], 72 out of 90 countries assessed have authorization and/or tracking arrangements either established, under development, or under consideration. Among them, 11 Parties have fully operational authorization and tracking systems. In addition, nine Parties had submitted their initial reports at the time of the analysis.

The Paris Agreement Crediting Mechanism (Article 6.4)

Article 6.4 establishes a new centralized mechanism under the UNFCCC. Article 6.4 offers i) a baseline reference level against which emission reductions are calculated and ii) a crediting mechanism: a set of rules for trading certificates equivalent to the emission of one tonne of CO2e (also called Article 6.4 emission reductions or A6.4ERs), for private and public sector entities to carry out emission reduction and removal projects and earn carbon credits.

The rules for the crediting mechanism, as agreed at COP26, include provisions for the development and approval of methodologies, validation, registration, monitoring, verification and certification, issuance, crediting periods, voluntary cancellation and other processes. The rules also provide for the establishment of a UNFCCC authority – the Supervisory Body – to oversee the functioning of the mechanism. The establishment of this body, and its work on the details of the modalities and procedures of the mechanisms, combined with the rules agreed at COP26, ultimately operationalized the new mechanism. The Supervisory Body held its first meeting at the end of July 2022.[28]

The new mechanism is presented by some as a key approach for facilitating the private sector's participation[29], producing credits that can be purchased by individuals, companies and organizations, as well as governments. It is important to note that the international transfer of authorized Article 6.4 emission reductions will be subject to Article 6.2 guidance on robust accounting, including the requirement to perform corresponding adjustments. Thus, the international transfer of Article 6.4 emission reductions is a kind of cooperative approach under Article 6.2, and the transfer will render corresponding adjustments and subsequently impact the emissions balance of the transferring country.

26. UNEPCCC, Article 6 Pipeline, JCM. Available at: https://unepccc.org/article-6-pipeline/ (Accessed 13 November 2025)

27. A6IP - Article 6 Decision Making: Training for Practitioners https://a6partnership.org/article-6-decision-making-training-for-practitioners

28. United Nations Framework Convention on Climate Change. Article 6.4 Supervisory Body. Available at: https://unfccc.int/process-and-meetings/bodies/constituted-bodies/article-64-supervisory-body (accessed 13 November 2025).

29. See, for instance: Jürg Füssler and others, "Incentives for Private Sector Participation in the Article 6.4 Mechanism", Discussion Paper, German Environment Agency (2019)

Under Article 6.4 of the Paris Agreement, a credit originates from a registered mitigation activity—for example, a renewable energy or reforestation project—that reduces or removes GHG emissions beyond what would have occurred otherwise. The project's performance is monitored according to approved methodologies and then verified by an accredited third-party entity (DOE) under the oversight of the Article 6.4 Supervisory Body (SB) (see Chapter 5 on Technical Review under Article 6). Once the verified emission reductions are confirmed, the SB issues A6.4ERs into the UNFCCC registry. These A6.4ERs represent the official, verified carbon credits under the mechanism and can later be either authorized for international transfer or retained domestically by the host Party.

BOX 3.3

Interoperability with Article 6.2

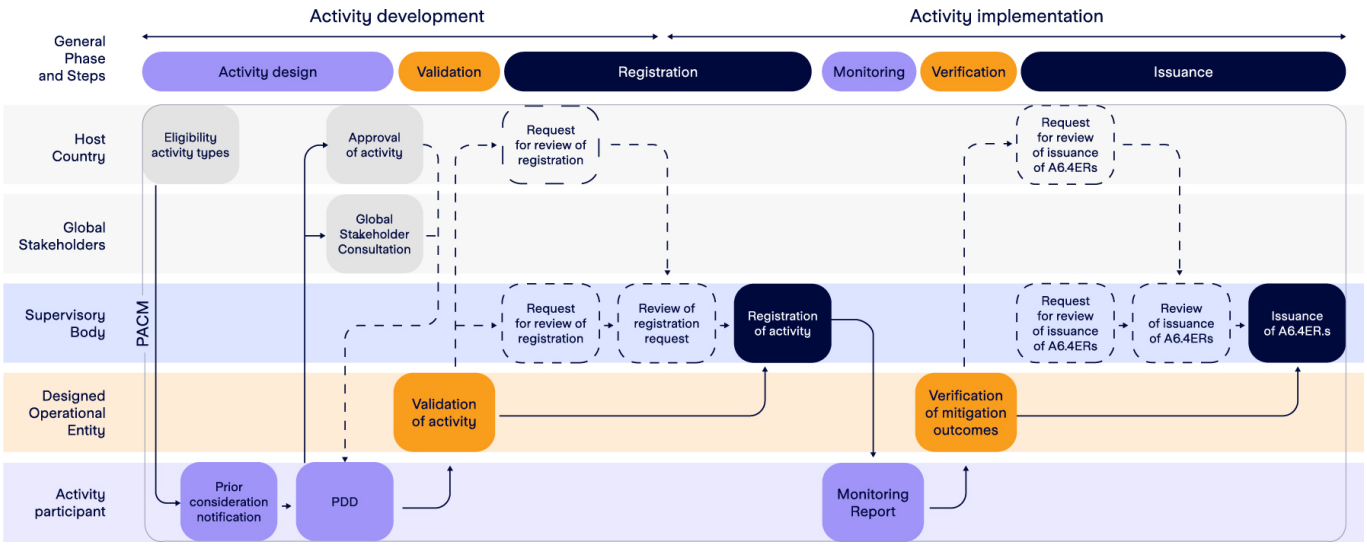
Emission reductions within the PACM may also be transferred internationally from the Article 6.4 mechanism to another Party, for example, for use in accounting towards its NDC. Such transfers require a corresponding adjustment in line with Article 6.2 provisions. Accordingly, the Article 6.2 and Article 6.4 mechanisms have been designed to ensure interoperability between the two frameworks (see figure 3.4).

At COP29, decisions strengthened the interoperability between the Article 6.4 mechanism registry, host Party registries, and the Article 6.2 international registry, facilitating the smooth transfer of authorized A6.4ERs as ITMOs and enabling access to information on holdings and transaction histories. The guidance on authorization for Article 6.4[30] was also aligned with the corresponding elements under Article 6.2 through cross-

30. Decision 5/CMA.6 Annex III

FIGURE 3.4

Lifecycle of an A6.4ERs from mitigation activity to an A6.4ERs



Source: Adapted from A6IP – Article 6 Decision Making: Training for Practitioners

references, promoting consistency across both frameworks. The Article 6.4 decision text from COP29 reflects this approach, allowing participating Party registries to voluntarily connect to the Article 6.4 mechanism registry, provided that such a connection permits the transfer of authorized A6.4ERs and the ability to access relevant data and information. Collectively, these decisions establish a more integrated and coherent framework for the management of carbon credits.

To a large extent, the responsibilities for operationalizing Article 6.4 will be placed centrally within the UNFCCC, reducing the burden of implementation on participating Parties. This means that Article 6.4 is likely the approach best suited to countries with limited capacity for public-sector involvement.

In addition, the PACM is structured to facilitate the transition of Clean Development Mechanism activities to the Article 6.4 mechanism. According to decisions made by Parties to the Paris Agreement, specifically decision 3/CMA.3 (annex, chapter XI.A), decision 7/CMA.4 (annex I), and decision 6/CMA.6, projects and PoAs registered under the CDM can transition to the Article 6.4 mechanism if they meet all required conditions. This includes projects listed as provisional under temporary measures by the CDM Executive Board. The deadline for project participants to submit a transition request for a registered CDM project or PoA (excluding CDM A/R projects and PoAs) to the secretariat and to the designated national authority was 31 December 2023. The processes for such transitions were initially established at COP27 in Sharm el-Sheikh, although the decision did not specify which types of CDM activities could be eligible.

At COP29, it was formally confirmed that afforestation and reforestation projects under the CDM are eligible to transition to the PACM, following the process defined at COP27. Project developers must submit transition requests for eligible CDM afforestation and reforestation projects (including PoAs and CPAs) by December 31, 2025, with host Party approval and in compliance with the updated Article 6.4 removal standards[31]. The COP29 decision did not address other activity types, such as renewable energy or energy efficiency projects, and their potential eligibility for transition to Article 6.4 remains to be determined. At the time of this guide, CDM transition requests were submitted for 1,388 Project Activities (PA), and 119 Programmes of Activities (PoA), with one approved and 14 registered. At COP30, the deadline for the designated national authority for the Article 6.4 mechanism to submit to the Supervisory Body its approval for the transition of CDM project activities or programmes of activities was extended to 30 June 2026.[32]

Furthermore, Parties may use Certified Emission Reductions (CERs) from the Clean Development Mechanism towards their first or first updated nationally determined contributions, subject to conditions ensuring environmental integrity and transparency. Only CERs generated from CDM project activities or programmes of activities registered on or after 1 January 2013 are eligible for NDC use. These units must also be transferred to and held in the mechanism registry, where they are clearly identified as pre-2021 emission reductions. Their use is limited exclusively to the achievement of the first NDC and does not extend to subsequent NDC implementation periods.

In line with CMA decisions, the host Party of the CDM activity is not required to apply a corresponding adjustment for these CERs and is not subject to the share of proceeds for adaptation or administrative expenses normally applicable

31. A standard of requirements for activities involving removals under the Article 6.4 mechanism has been approved during CMA6 : https://unfccc.int/sites/default/files/resource/A6.4-SBM014-A06.pdf

32. Draft decision -/CMA.7, paragraph 25 (accessed on 15 December 2025).

under the mechanism established by Article 6, paragraph 4. CERs that do not meet the above eligibility conditions may only be used once future CMA guidance is adopted, and temporary CERs (tCERs) and long-term CERs (lCERs) are explicitly excluded from use toward NDCs.

When a Party decides to use CERs, it must retire the units in the mechanism registry, following modalities to be adopted by the CMA or requirements established by the Article 6.4 Supervisory Body. For accounting purposes, the using Party applies the ITMO accounting guidance mutatis mutandis: the quantity of CERs retired is subtracted from the Party's emissions balance for the NDC implementation period, in accordance with paragraphs 7–8 of the annex to decision 2/CMA.3. This subtraction is performed without any corresponding adjustment by the host Party, consistent with the provisions of the Article 6.4 rules, modalities and procedures.

Parties using CERs must also comply with ETF reporting requirements. For each year of the NDC implementation period, they must report the quantity of CERs used in the row "Any other information consistent with decisions adopted by the CMA on reporting under Article 6 (para. 77(d)(iii) of the MPGs)" of Table 4 of Annex II to decision 5/CMA.3. In addition, Parties must reflect the subtraction applied to their emissions balance in the row "Total quantitative corresponding adjustments used to calculate the emissions balance…", ensuring consistency with decision 2/CMA.3 and the Party's chosen method for applying corresponding adjustments.

Together, these provisions allow for a controlled and transparent transitional use of CERs toward the first generation of NDCs, enabling Parties to recognise emission reductions achieved under the Kyoto Protocol, while safeguarding the integrity of the Paris Agreement's accounting system and avoiding double counting.

BOX 3.4

Additionality requirement under the PACM

Under the PACM, the general requirements for demonstrating additionality are provided in the Methodology Standard, as follows:

- Prior consideration of the benefits of the mechanism: demonstrating that the benefits of the PACM were considered necessary in the decision to implement the activity, by notifying (no later than 180 days after the start date of the project), the UNFCCC Secretariat.
- Regulatory analysis: demonstrating that the proposed activity represents mitigation that exceeds any mitigation that is required by law or regulation.
- Analysis of lock-in risk: demonstrating that the proposed activity avoids locking in levels of emissions, technologies or carbon-intensive practices through an assessment of the scale, lifetime, and emissions intensity of the activity.
- Investment analysis: demonstrating that the proposed activity would not have occurred in the absence of the incentives from the mechanism.
- Barrier analysis: assessing barriers to the implementation of the activity (information, financial or institutional barriers) and how the crediting mechanism will help overcome these barriers.
- Common practice analysis: demonstrating that the measure or technology is not already widespread in the relevant sector or region.

- Performance-based approaches can also be used as an alternative to the investment, barrier or common practice analysis to specific conditions.

Further guidance can be found in the Additionality Standard[33] released by the SB in February 2025.

The Article 6.4 mechanism could be attractive for Parties and private entities with experience operating in the CDM, as well as those Parties that were previously unable to benefit significantly from the CDM. New opportunities are arising where several middle-income countries, which hosted the largest share of CDM activities in the early period, are now implementing domestic carbon pricing schemes that may limit the scope for the export of ITMOs.

Article 6.4 also contains specific rules aimed at raising climate ambition, through a provision stating that the mechanism "shall aim…. to deliver an overall mitigation in global emissions" (Article 6.4, d). The concept of 'overall mitigation in global emissions' was introduced to ensure that carbon crediting under the mechanism goes beyond pure offsetting; that is, that some of the emission reductions are counted solely for the benefit of the atmosphere.[34] In decision 3/CMA.3 (paragraph 59), it was agreed that 2 per cent of the mitigation outcomes that are produced by the Article 6.4 mechanism are to be cancelled at issuance. The decision at COP26 in Glasgow also introduced a share of proceeds for adaptation, where 5 per cent of proceeds coming from the Article 6.4 mechanism issuances will be taken to support the Adaptation Fund.

BOX 3.5

Methodologies under Article 6.4

Methodologies, standardized baselines, and methodological tools form the framework for achieving emission reductions and removals consistent with the goals of the Paris Agreement. At time of this guide, the following mechanism methodologies[35] and methodological tools have been approved under the PACM:

- **A6.4-AMM-001**: Flaring or use of landfill gas: This methodology quantifies emission reductions achieved by capturing methane from landfill sites and either flaring it or using it for energy generation, instead of allowing it to be released into the atmosphere.
- **A6.4-AMT-001**: Common practice analysis: Provides guidance for assessing the additionality of an activity by comparing it to common practices in the relevant sector and region, ensuring that the activity is not already standard or business-as-usual.
- **A6.4-AMT-002**: Investment analysis: Outlines methods to evaluate whether a mitigation activity is financially or economically viable without Article 6.4 incentives, helping to establish that emission reductions are truly additional.
- **A6.4-AMT-003**: Emissions from solid waste disposal sites: Offers a standardized approach to estimate baseline and project emissions from solid waste disposal, particularly methane emissions from decomposing organic waste.

33. UNFCCC, Standard – Demonstration of additionality in mechanism methodologies (2025). Available at: https://unfccc.int/sites/default/files/resource/A6.4-SBM015-A11.pdf (accessed 14 November 2025).

34. Asian Development Bank, "Decoding Article 6 of the Paris Agreement", Manila (2018). Available at: http://dx.doi.org/10.22617/TIM189218-2 (accessed 3 March 2023).

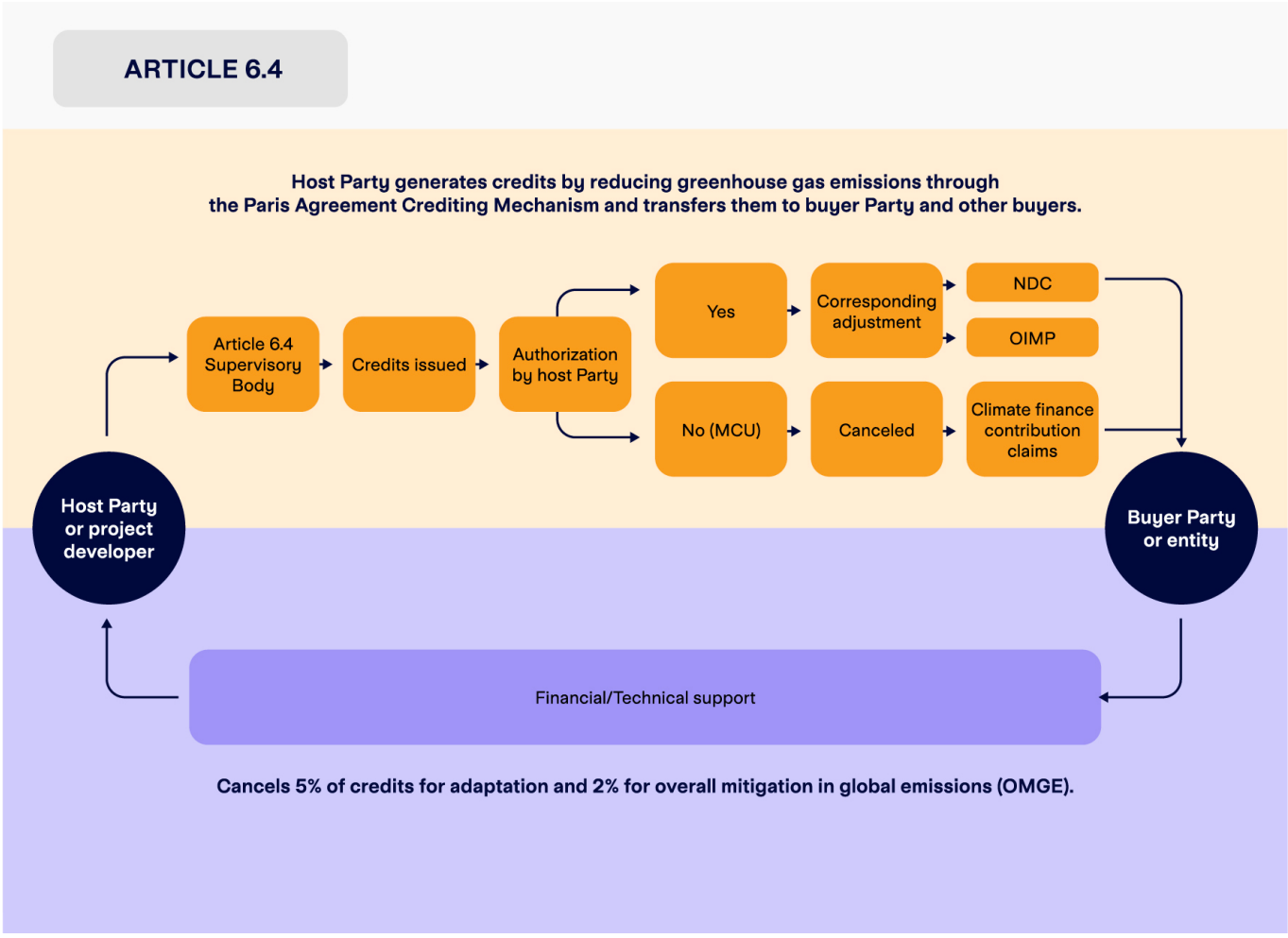
35. All PACM methodologies are available on the UNFCCC website: https://unfccc.int/process-and-meetings/the-paris-agreement/article-6/article-64-pacm/methodologies#Development-of-A64-methodologies-and-methodological-tools- (accessed 13 November 2025)

- **A6.4-AMT-004**: Project emissions from flaring: Provides procedures for quantifying emissions resulting from the flaring process itself, including combustion efficiency and gas composition, to ensure accurate net emission reduction accounting.
- **A6.4-AMT-005**: Mass flow of a greenhouse gas in a gaseous stream: Details how to determine the flow rate and composition of GHGs in gaseous streams, improving measurement accuracy for emission reductions in industrial and energy processes.

The figure below illustrates the different pathways of a mitigation outcome under the PACM. A mitigation outcome becomes an A6.4ER once it has been verified through the Article 6.4 verification process overseen by the SB. From there, different pathways apply depending on the intended use of the emission reduction. If the reduction is authorized for international transfer or use, it becomes an Authorized Emission Reduction (AER) and may subsequently be transferred as an ITMO, in line with the interoperability arrangements between the Article 6.2 and 6.4 mechanisms described above. If the reduction is retained for domestic use, it remains as a Mitigation Contribution Unit (MCU) and contributes toward the host Party's NDC.

FIGURE 3.5

Different pathways of a mitigation outcome under the PACM



Source: Adapted from the UN Climate Change

Non-market approaches (Article 6.8)

Article 6.8 of the Paris Agreement addresses non-market approaches (NMAs) to international climate cooperation. In contrast to Articles 6.2 and 6.4, which establish market-based systems involving carbon credit trading, Article 6.8 promotes forms of collaboration that do not rely on financial exchanges or the transfer of mitigation outcomes. Its objective is to advance sustainable development and support mitigation and adaptation through initiatives such as capacity building, technology transfer, and coordinated policy action. Following the decisions adopted at COP27, Article 6.8 has now entered its implementation phase, with ongoing work to operationalize these cooperative approaches.

At COP29 in Baku[36],the UNFCCC recognized the importance of developing and implementing integrated, holistic, and balanced non-market approaches. These may include joint mitigation and adaptation initiatives carried out under the framework for non-market approaches, linking climate action with biodiversity conservation and broader sustainable development objectives.

The Glasgow Committee on Non-market Approaches (GCNMA) was established during COP 26[37] to implement the framework and the work programme for Article 6.8. Its work is organized in phases:

- Phase 1 (2023-2024): Identify and frame all relevant elements of work, operationalise and NMA platform.
- Phase 2 (2025-2026): Full implementation of NMAs, scaling up.

The NMA Platform is a web-based tool designed to voluntarily record and exchange information on non-market approaches. Its objective is to promote the sharing of best practices and to connect Parties seeking support with those willing to provide it. Phase 2 will be guided by a learning-by-doing approach, emphasizing stronger stakeholder engagement, continued use of in-session workshops and spin-off groups, and a reinforced focus on capacity-building activities. These collaborative mechanisms — including workshops and expert groups — will offer structured opportunities for Parties to exchange experiences, identify good practices, and collectively address implementation challenges.

At the time of this guide, only a limited number of concrete NMAs have been recorded or fully operationalized through the Platform. The COP29 decision acknowledged that 'one non-market approach has been submitted by Parties on the NMA Platform since its recent launch, with submissions anticipated to increase over time"[38].

BOX 3.6

The Role of Non-Market Approaches in Advancing Integrated Climate Action

- **Integrating adaptation and mitigation:** Article 6.8 identifies adaptation as a core component of non-market approaches. NMAs can channel support toward adaptation planning, technology transfer, and capacity-building — particularly in sectors where market mechanisms are less effective, such as agriculture, water management, or ecosystem resilience. By fostering international cooperation and coordination, NMAs also promote mitigation–adaptation co-benefits and contribute to advancing the Global Goal on Adaptation (GGA).

36. Decision 7/CMA.6 paragraph 13.

37. Decision 4/CMA.3

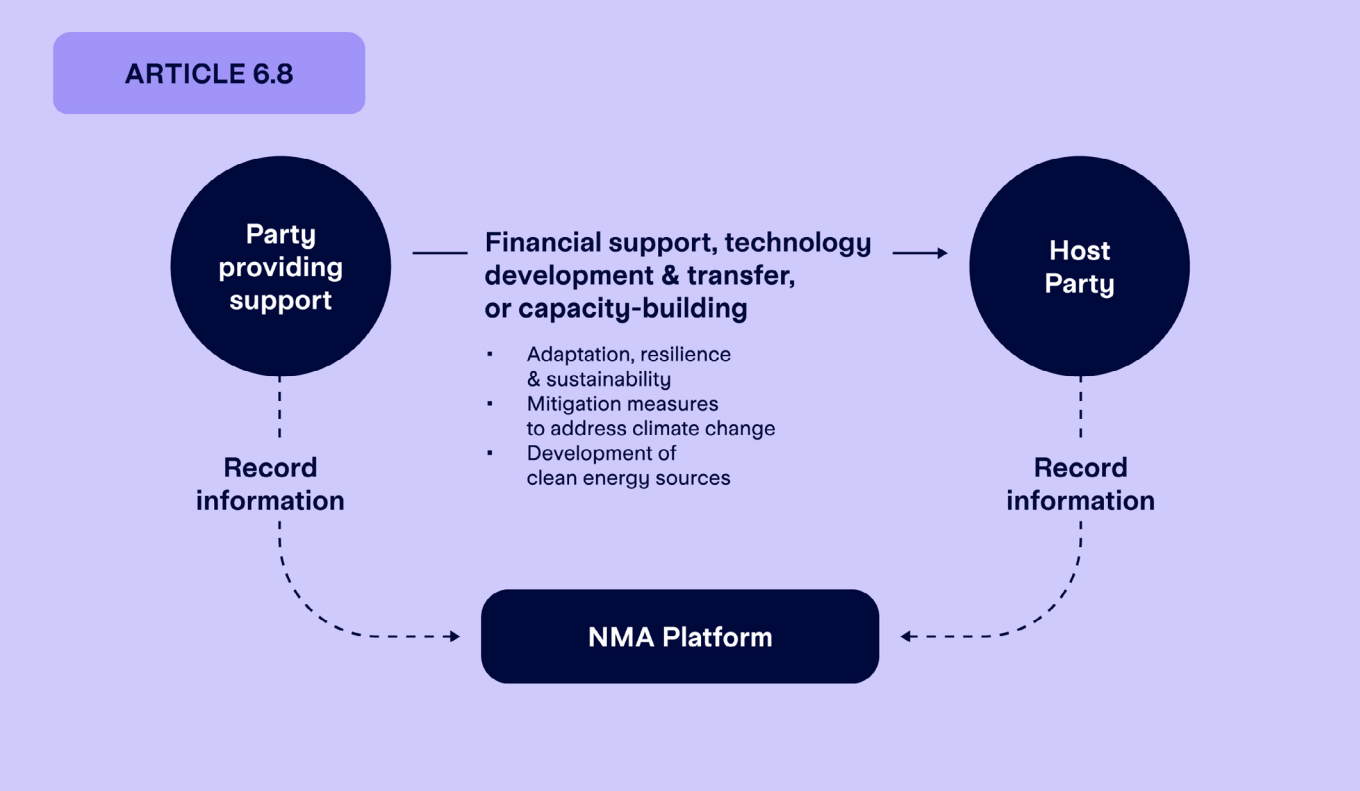
38. Decision 7/CMA.6 paragraph 7.

- **Supporting sectoral transformation:** NMAs can facilitate sectoral programmes — for example in transport, agriculture, waste management, or energy efficiency — that are challenging to credit under market mechanisms but remain essential for NDC implementation. Initiatives such as harmonized vehicle emission standards, cross-border renewable energy grids, or climate-resilient agriculture frameworks can effectively be structured as NMAs.
- **Advancing a just transition:** Article 6.8 provides a cooperative framework to advance climate action without relying on carbon credit trading, making it particularly relevant to just transition objectives. Several Parties[39] and experts have highlighted just transition as a potential thematic focus within the Article 6.8 work programme. This emphasis aligns with Decision 1/COP29, which underscores the importance of supporting fair and inclusive transitions across all sectors and regions. While the concept is institutionally recognized, operational modalities and financing pathways for just transition-related NMAs are still under development. For further guidance, see the ICAT Just Transitions Monitoring Guide.

39. Technical paper referred to in paragraph 135(c) of the report of the Subsidiary Body for Scientific and Technological Advice on its fifty-sixth session - 25 oct 2022 (List of UNFCCC entities for possible collaboration in implementing non-market approaches). Available at: https://unfccc.int/sites/default/files/resource/Art.6.8_Technical_Paper_based_on_submission%2BSP.pdf (accessed 13 November)

FIGURE 3.6

Core principle of Article 6.8



Source: Adapted from the UN Climate Change

Although the three Articles differ, one key commonality between them is the intention to assist in the implementation of the NDCs; for example, in mobilizing international finance for mitigation actions that can support going beyond the unconditional target of the NDC.

Key Messages

- Article 6 of the Paris Agreement addresses international cooperation, recognizing that countries may wish to voluntarily cooperate to enhance ambition in their mitigation and adaptation actions.
- Article 6 defines three main pathways for collaboration:
- Article 6.2 provides an accounting framework under which countries can cooperate using international transfers of mitigation outcomes for achieving their NDC targets and raising climate ambition, via the ambition cycle.
- Article 6.4 establishes a baseline-and-crediting mechanism that countries can use for the generation of Article 6.4 emission reductions. When Article 6.4 emission reductions are internationally transferred, the accounting guidance of Article 6.2 applies.
- Article 6.8 establishes a framework for non-market approaches.



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4 Policy Considerations

This chapter describes the key engagement decisions that governments may consider before participating in the various pathways under Article 6 of the Paris Agreement. The benefits and opportunities of the different routes under Article 6 are discussed, as well as the risks and thematic aspects that can guide Parties in these decisions, including national capacity and circumstances, national policies and guidance towards selecting Article 6 approaches. This chapter also discusses the role of the private sector in Article 6, in addition to a summary of the regulatory and institutional frameworks that governments will need to implement under the various pathways.

Opportunities and risks

National objectives for engaging in cooperative approaches under Article 6 will vary from country to country. There is a common opportunity derived from the operation of carbon market mechanisms as well as non-market approaches: the mobilization of financial resources by increasing foreign direct investment and via domestic leveraging. Under Article 6, countries can raise ambition to fight climate change, via the ambition cycle, and implement their national climate action plans more efficiently.

Participation in Article 6 may facilitate the investment of climate finance for the implementation of high-ambition climate actions that the transferring Party would not typically be able to implement alone. These highly ambitious climate actions are an opportunity to advance transformational changes at the sectoral level, beyond a project-by-project approach. While isolated projects can facilitate early participation, it is important to recognize that sectoral transformation is required to align with the Paris Agreement goals. The ICAT guide on transformational change[40] can be a helpful tool for assessing the transformational potential of mitigation and adaptation activities, facilitating prioritization of the activities suitable for Article 6.

Mobilization of financial resources towards low-carbon development

International carbon markets hold considerable potential to channel financial resources toward low-carbon development. Although projections vary, estimates suggest the market could reach a value between USD 7 and 35 billion by 2030, and expand further to USD 45–250 billion by 2050[41]. These mechanisms can attract investment in emission reduction and removal activities without placing additional pressure on national budgets or imposing compliance costs on domestic industries. Unlike traditional climate finance instruments—often provided as loans or equity—carbon market revenues do not generate repayment obligations, offering a more sustainable source of funding.

Moreover, revenues from carbon credit sales often exceed the costs of generating those credits, creating potential financial surpluses.

40. Initiative for Climate Action Transparency, "Transformational Change Methodology: Assessing the Transformational Impacts of Policies and Actions", Olsen, K.H. & Singh, N. (Eds.) Initiative for Climate Action Transparency (ICAT), Copenhagen: UNEP DTU Partnership; Washington, D.C.: World Resources Institute (2020).
Available at: https://climateactiontransparency.org/icatguidance/transformational-change (accessed 3 April 2023).

41. The World Bank, International Bank for Reconstruction and Development (2025). Available at: https://openknowledge.worldbank.org/server/api/core/bitstreams/5e509041-47b3-479d-83b1-201ec976df99/content (accessed 13 November 2025).

Countries can agree to use part of the financing through Article 6 participation in other mitigation and adaptation strategies in the country beyond those involved in the transfer. This can be achieved by applying a share of proceeds on internationally transferred mitigation outcomes (ITMOs) to be used by the transferring country government for financing other mitigation or adaptation measures. In the case of Article 6.4, the contribution of resources by participating Parties to the Adaptation Fund is mandatory. Multiple countries are considering agreeing to a share of proceeds in cooperative approaches under Article 6.2. This makes well-designed participation in carbon markets not only a tool for climate action but also a strategic lever for sustainable growth.

Promoting sustainable development

Promoting sustainable development is one of the critical elements of voluntary cooperation, as articulated in Article 6.1. This may come in the form of lower environmental impact of sectoral initiatives, benefits towards energy security and independence, and employment benefits. While there is no specific guidance on this concerning Article 6.2, it is advisable to define specific sustainable development targets and key indicators. This allows countries to monitor progress towards benefits beyond emissions reduction. In the case of Article 6.4, decision 3/CMA 3 calls for the "review [of] the sustainable development tool in use for the clean development mechanism and other tools and safeguard systems in use in existing market-based mechanisms to promote sustainable development with a view to developing similar tools for the mechanism by the end of 2023".

Highly ambitious climate actions are often coupled with technology transfer, promotion of high-cost technologies, and development of domestic technical capabilities in host countries. Through international collaboration and the revenues generated from Article 6, countries can aim to introduce new technologies that may otherwise be too expensive or inaccessible to be implemented. Mature, low-cost technologies may be intended for the achievement of unconditional NDCs. Once a piece of technology and its adoption is more accessible and commonplace, it will be in the country's best interest to enact policies to reduce emissions without further international support.

Costs of the carbon crediting cycle under Article 6

The implementation of internal processes, the development of the regulatory framework and the establishment of the institutions involved in Article 6.2 processes, require the development of administrative and technical capabilities and the allocation of resources. Countries should ensure that the benefits of participation overcome these costs. This is a direct consequence of the flexibility offered by the Article 6.2 framework, meaning participating countries bear the responsibilities and hence costs of organizing the carbon crediting system allowing the issuance of ITMOs. However, from this financial burden also comes another aspect of Article 6.2 flexibility. Indeed, by designing their own crediting approaches, pace of execution can be controlled by Parties.

Some countries establish administrative fees for ITMO transfers, or for approval and/or authorizations to cover operational costs of an Article 6 unit, within the government, that administers project authorizations, tracks ITMOs and conducts corresponding adjustments.

For Article 6.4 participation, there are lower in-country transaction costs, as the PACM absorbs much of the cost of developing market infrastructure.

Participation in Article 6 and achievement of NDC and opportunity cost

Mitigation outcomes can be considered as a national asset. When a country authorizes their transfer, it allows another country or actor to claim that asset, which can be seen as generating an opportunity cost for the transferring country. This opportunity cost arises from the difference between the country's compliance cost for achieving its NDC and the mitigation cost of a private sector-led activity. In other words, if the international transfer of MOs requires the host country to undertake additional, potentially costly abatement measures to meet its own NDC, the value of these foregone actions represents the cost of the corresponding adjustment.

Under Article 6.2, a key consideration of the host country assessment is identifying and mitigating the risk that authorizing and transferring mitigation outcomes could undermine the achievement of its NDC. To mitigate this risk, the host country could only authorize and transfer mitigation outcomes that are surplus to what is needed for achieving the NDC, robustly quantified against a conservative baseline below business-as-usual scenario (BAU), within the scope of its conditional NDC and reflected in the national GHG inventory.

Over-transferring[42], as explained here, can be a result of:

- Transferring low-cost mitigation outcomes involves the international transfer of emission reductions that can be achieved at relatively low cost and with high certainty (the so-called "low-hanging fruit").
- Transferring mitigation outcomes that do not correspond to actual emission reductions ("non-existent fruit").
- Transferring mitigation outcomes for which the emission reductions are not reflected in the transferring country's GHG inventory ("unaccounted fruit").
- Transferring mitigation outcomes generated outside the scope of the NDC, when international rules require corresponding adjustments for such transfers ("selling peaches from an apple orchard").

Under the PACM, an important aspect of the host country's assessment is to recognize and address the risk that approved activities might divert funding from other, more impactful mitigation actions. To avoid this, the host country should authorize only those activities that are clearly additional—going beyond what could be achieved using national resources for NDC implementation—and whose emission reductions are rigorously quantified against a conservative, below-BAU baseline.

Integrity and reputational risks

Recent controversies surrounding certain carbon crediting activities have increased scrutiny on host countries. The level of exposure varies depending on the type of activity and the extent of government involvement in its approval. However, these risks can often be mitigated through careful choices of methodologies, the acquiring entities of the resulting carbon credits, and transparent allocation of revenues.

Under Article 6.4, stronger international oversight, stricter rules (e.g. baseline setting), and clear integrity standards can help ensure higher credit quality, potentially supporting better prices and reducing reputational risks. For instance, following public consultations, the Supervisory Body has adopted new standards on demonstrating additionality[43] within methodologies and on defining requirements for emission removals.

42. UNDP, Operationalizing Article 6.2 of the Paris Agreement: Private Training Series. Available at: https://www.learningfornature.org/wp-content/uploads/2020/07/Presentation-by-Neyen_-UNDP-Art6.pdf (accessed 13 November 2025).

43. UNFCCC, Standard – Demonstration of additionality in mechanism methodologies. Available at: https://unfccc.int/sites/default/files/resource/A6.4-SBM015-A11.pdf (accessed 13 November 2025)

These efforts aim to reinforce the overall integrity of the PACM.

By contrast, participation under Article 6.2 provides greater flexibility but fewer formal safeguards, as it does not prescribe the same level of procedural detail as the PACM. Nonetheless, countries engaging under Article 6.2 can maintain high integrity by agreeing on robust requirements — for example, by incorporating methodological or governance elements inspired by recognized carbon crediting mechanisms such as the PACM.

A new and different role for developing countries

Article 6 of the Paris Agreement has changed the rules of the game for international carbon markets. The bottom-up approach of Article 6 means that a host country (transferring country) has more responsibilities compared to their role under the Kyoto Protocol. The transferring country becomes responsible for authorizing the transfer of mitigation outcomes that cannot be simultaneously used towards the country's NDCs, by applying corresponding adjustments.

Countries can build on their previous experience with carbon crediting mechanisms when implementing Article 6.2 or Article 6.4. Many developing countries have experience with the CDM and, in some cases, in the voluntary carbon market. Developed countries may also have experience of Joint Implementation, a bilateral carbon crediting mechanism applied in countries with quantified emission limitation or reduction commitments. Some developing countries also have experience from the Japanese Joint Crediting Mechanism (JCM). Until recently, the Japanese JCM operated outside the UNFCCC, but with the start of NDC implementation may be subject to guidance under Article 6 if the Government of Japan and participating Parties decide to voluntarily use Article 6.2 accounting rules for the implementation of JCM activities.

Under the Kyoto Protocol, developing countries participated in the international carbon market as hosts for CDM projects without having targets of their own. Now, developing countries have targets in the form of their NDCs and can participate as Parties transferring or receiving mitigation outcomes. Importantly, the bottom-up approach also means that developing countries must ensure that participation in cooperative approaches, whether through Article 6.2 or 6.4, does not result in difficulty in reaching their NDC targets.

Under the CDM, the host country's Designated National Authority issued a Letter of Approval for project or programme activities, including an authorization of the participants. As host countries had no quantitative commitments under the Kyoto Protocol, the approval of CDM activities typically only meant confirming that participation was voluntary and contributed domestically to sustainable development. There was no compliance risk for the host country. Hence, most countries were willing to deliver Letters of Approval without implementing robust approval processes.

Assessing the activity's contribution to sustainable development will remain important but will not be the only aspect to consider. Countries are expected to report to the UNFCCC ex-post on how mitigation actions contribute to the NDCs of host and partner countries, and how they are consistent with sustainable development and environmental integrity requirements. Countries will also have to regulate Article 6 implementation domestically, not only by adopting procedural rules, but also by defining processes for assessment of mitigation actions in relation to national climate plans. For example, countries will need to ensure that Article 6 activities contribute to the implementation of the NDCs of host and partner countries,[44] are in line with their national climate policies and development

44. For instance, Decision 2/CMA.3, Annex, paragraph 22 (a) states that the cooperative approach should contribute to the mitigation of GHGs and the implementation of a country's NDC. However, how the participation in the cooperative should contribute to the implementation of the NDC is not specified. The provision for Article 6.4, decision 3/CMA.3, Annex, paragraph 40 (c) is more specific and states: "how the activity relates to the implementation of its NDC and how the expected emission reductions or removals contribute to the host Party's NDC, and the purposes referred to in Article 6, paragraph 1.

priorities, and are integrated into their national transparency systems.

Authorizing the international transfer of mitigation outcomes may have a greater impact for host countries, as the transferred emission reductions may have contributed to achieving their NDCs. This is referred to as an opportunity cost for transferring countries.[45]

A further example relates to corresponding adjustments: if a country agrees to export ITMOs representing mitigation actions with low marginal abatement costs, it could result in a higher overall opportunity cost of meeting their NDC obligations. In other words, the country may require a more costly abatement action in the next NDC, compared to the action that would have been needed without the ITMO transfer.

In the worst-case scenario, the opportunity cost related to corresponding adjustments could create perverse incentives for countries to set less ambitious targets, for example by inflating the 'business as usual' reference scenario, making it less 'costly' to authorize the export of ITMOs.

One way to ensure that the host country does not need to take more costly abatement actions to achieve its NDC is to define a conditional part of the NDC. This is observed in contemporary examples of international cooperation: Ghana, for example, engages in international cooperation to help achieve part of the conditional portion of its NDC. Under its NDC target, Ghana aims to mitigate a total of 64 million tonnes of carbon dioxide equivalent (MtCO2eq) by 2030 from 2021, with an unconditional target of 24.6 MtCO2eq and a conditional target of 39.4 MtCO2eq. To achieve this, Ghana considers that its participation in cooperative approach is supporting the achievement of its conditional NDCs, by targeting ITMO-generating activities that are included in its conditional component. Transaction of authorized ITMOs from Article 6 activities over the NDC implementation period (2021 to 2030) shall amount to a minimum of 24 MtCO2e of the conditional absolute emission reduction target of 39.4 MtCO2eq.

BOX 4.1

Double counting

Double counting of emission reduction units from international market mechanisms risks discrepancies between actual and reported global emissions. In practice, double counting may overstate efforts undertaken by countries to curb global emissions and overstate the level of achievement of their NDCs. Double counting may occur where the mitigation outcomes (i.e., units of emission reduction or removal that are authorized and transferred), are counted towards the achievement of the NDCs of both the transferring country and the acquiring country.

Robust accounting is consequently one of the key provisions in Article 6. Parties "shall apply robust accounting to ensure, inter alia, the avoidance of double counting". The primary methods for avoiding double counting are the requirement for corresponding adjustments

45. Opportunity cost is the value of what is lost when choosing between two or more options.

and the requirement to track ITMOs. Transparent information on mechanisms and credited activities, as well as international oversight (e.g., initial and periodical reviews) of the issuance and accounting of units, are key to effectively detecting any double counting of units or inconsistencies in unit information from the originating and acquiring countries.[46]

There are generally four types of double counting:

- Double issuance occurs when the issuance of more than one unit represents the same emission reduction or removal. Double issuance will result in double counting of emission reductions when units are counted towards mitigation pledges.
- Double claiming occurs when the same emission reductions are counted twice towards attaining mitigation pledges, both by the country/jurisdiction/entity where the reductions occurred, and by the acquiring country/jurisdiction/entity using the units issued for these reductions.
- Double use or double selling occurs when one issued unit is used twice to attain mitigation pledges, either by the same country or by two different countries. Double use or double selling may happen if a unit is duplicated in a registry or if it has been transferred more than once to another Party. Additionally, it can also occur when a Party uses the same unit for achieving a mitigation pledge for multiple different years.
- Double purpose will occur when units are used for both achieving a mitigation objective, as well as the financial or technology transfers which may be implemented through a variety of mechanisms. While double purpose does not affect overall GHG emissions, it is a worry for countries as many mitigation objectives set by developing countries may be conditional on support by the acquiring Party. This risk has called for methods to attribute emission reductions to the different sources involved in blended finance.[47]

Guidance and initial steps for the use of Article 6

Participation in Article 6 requires a strategy for attracting and utilizing climate finance and a robust governance framework. The governance framework must be firmly grounded in the country's national climate and development objectives. In particular, operationalization will take the form of policy, legislation and institutional arrangements. These elements will be cohesive with the implementation of other national policies and with UNFCCC requirements.

In a model of best practice, countries should first decide on objectives – for instance, to mobilize international climate finance to the domestic private sector, or to facilitate the diffusion of high-cost abatement technologies. Subsequently, the country should develop a strategy for participation. This should involve the country identifying the most suitable approach(es) for participation. As

46. World Bank, MAAP ITR Tool: assessment of a country's International Transfer Readiness under Article 6 of the Paris Agreement – Tool Guidance Document. World Bank Group (2021).

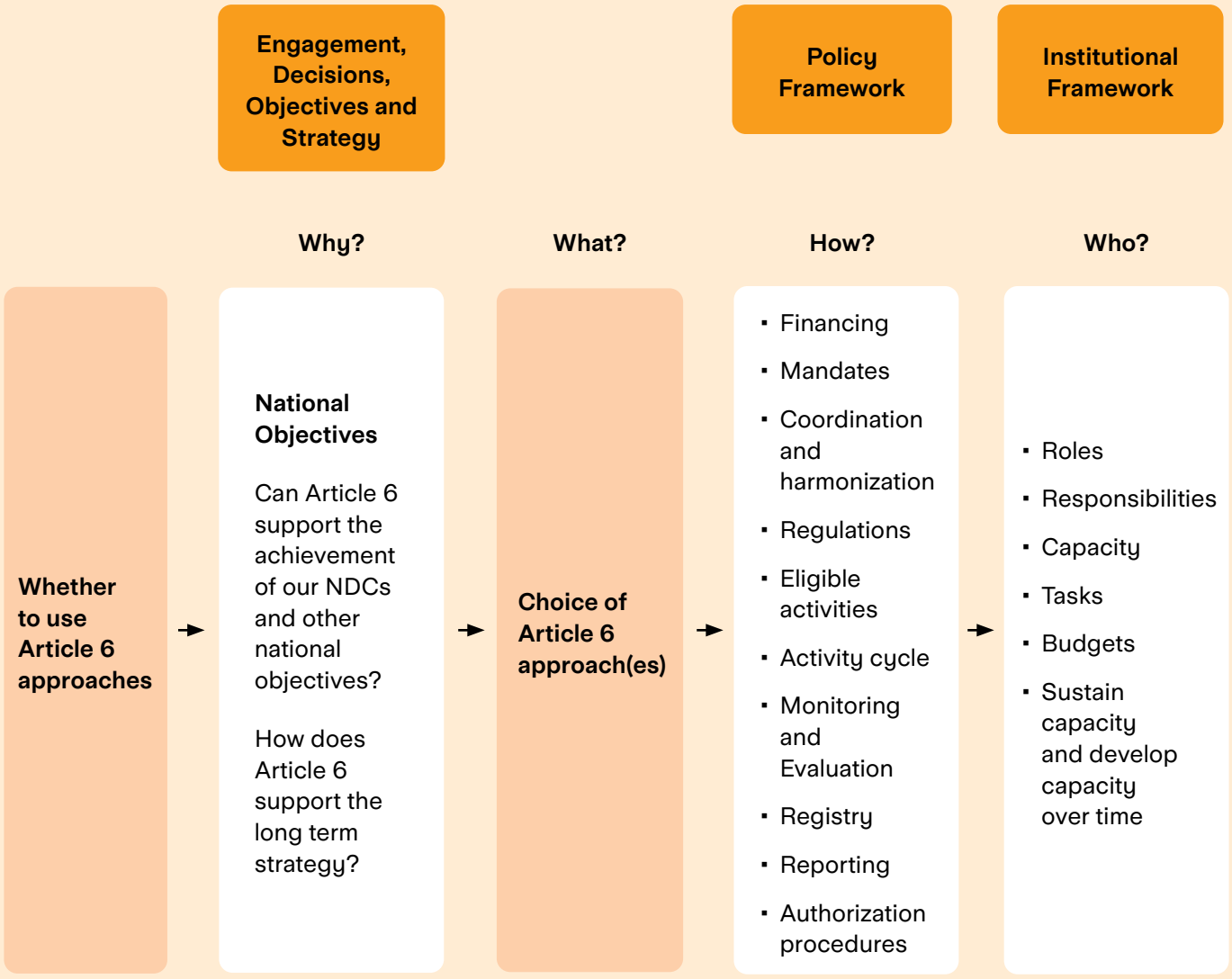
47. See, for instance: Randall Spalding-Fecher and others, "Attribution: A practical guide to navigating the blending of climate finance and carbon markets", Carbon Limits (2021). Available at: http://www.carbonlimits.no/wp-content/uploads/2021/10/Attribution-Report-finalversion-211026.pdf (accessed 3 April 2023).

a third step, the country should then develop the regulatory and institutional frameworks necessary for operationalization, as shown in Figure 4.1. These three steps may overlap, as real-world policymaking and implementation are often not linear processes.

Experience from the Kyoto Protocol mechanisms, in particular the CDM and Joint Implementation, offer valuable insight into the future operationalization of market approaches under the Paris Agreement. These insights offer practical lessons to countries when deciding their participation in Article 6. Box 4.1 summarizes some of the lessons learned from the Kyoto protocol mechanisms.

FIGURE 4.1

Initial steps for making Article 6 participation decisions



BOX 4.2

The Kyoto Protocol Mechanisms

The Kyoto Protocol defined three flexible mechanisms:

- International Emissions Trading (IET) –- enabled countries to trade units to comply with Kyoto Protocol targets
- Joint Implementation (JI) – a baseline-and-crediting mechanism for activities implemented in countries with emission reduction or limitation commitments to earn emission reduction units (ERUs)
- The Clean Development Mechanism – enabled the issuance of carbon credits from developing countries for the compliance purposes of developed countries.

Joint Implementation provides an interesting parallel to the Paris Agreement because it was a baseline-and-crediting mechanism set to operate between countries with quantitative emission reduction or stabilization targets. This included:

- Track 1: host countries could largely establish their own rules for approving projects and issuing ERUs. This shares characteristics with Article 6.2. Article 6.2 and Track 1 are similar in that all countries have targets under the Paris Agreement, which in many cases introduce a national commitment for the entire economy or for the sectors covered by the NDCs. As with JI (or IET) there is an incentive for the host country to ensure that the mitigation outcome transferred does not affect the host country's ability to achieve its own NDCs.
- Track 2: the Joint Implementation Supervisory Committee reviewed the projects and requested for ERU issuance as well as accredited JI third party entities. This centralized option shares characteristics with Article 6.4.

Host countries could select tracks based on the extent to which they fulfilled the eligibility criteria for international emissions trading.

Countries mainly used Track 1 during the two commitment periods (2008–2012, 2013–2020); Track 1 totaled 597 projects, while there were 51 Track 2 projects. This suggests that the main lessons learned will be collected from Track 1, offering insight for use of Article 6.2, considering the similar characteristics of the two approaches.

In the first commitment period of the Kyoto Protocol (2008–2012), several countries had emissions targets well above their business-as-usual emissions, resulting in a large number of Assigned Amount Units (AAUs; a unit representing an emission allowance of greenhouse gas) surpluses. This was due to the use of 1990 as a base year/business-as-usual level for target setting. In 1990, several countries that were part of the Soviet Union had a peak in economic activity, and subsequently peak emissions. This was followed by a restructuring of the economy, in particular a shift away from heavy industry, following the collapse of the Soviet Union in 1991. As above, this created a surplus of AAUs. Analysis shows that under JI Track 1, host countries could issue ERUs, applying a lax approach to ensuring that the ERUs issued were additional (i.e., the transfer of ERUs did not jeopardize achieving compliance with the Kyoto Protocol target).

Selecting an approach under Article 6

National objectives and institutional capacity for using Article 6 will determine the decision to work mainly with either the cooperative approaches under Article 6.2, the Article 6.4 mechanism, or the non-market approaches under Article 6.8. Figure 4.2 outlines the three approaches under Article 6.

The advantages and disadvantages of participating under Article 6.2 versus Article 6.4 will differ for each host country, depending on factors such as national priorities, institutional capacity, and market conditions. There are advantages and disadvantages to each approach, and decisions for one approach will have consequences for alternative approaches under the framework. For example,

a country that chooses to work with non-market approaches does not need to make significant efforts towards participating, such as being requested to perform corresponding adjustments and establish a registry. However, it may lose the opportunity to benefit from the additional financing that a market approach can provide.

One important consideration is the potential price differential between credits generated under the two mechanisms, although ITMO prices remain uncertain and may fluctuate widely. This guide does not address pricing strategies for mitigation outcomes.

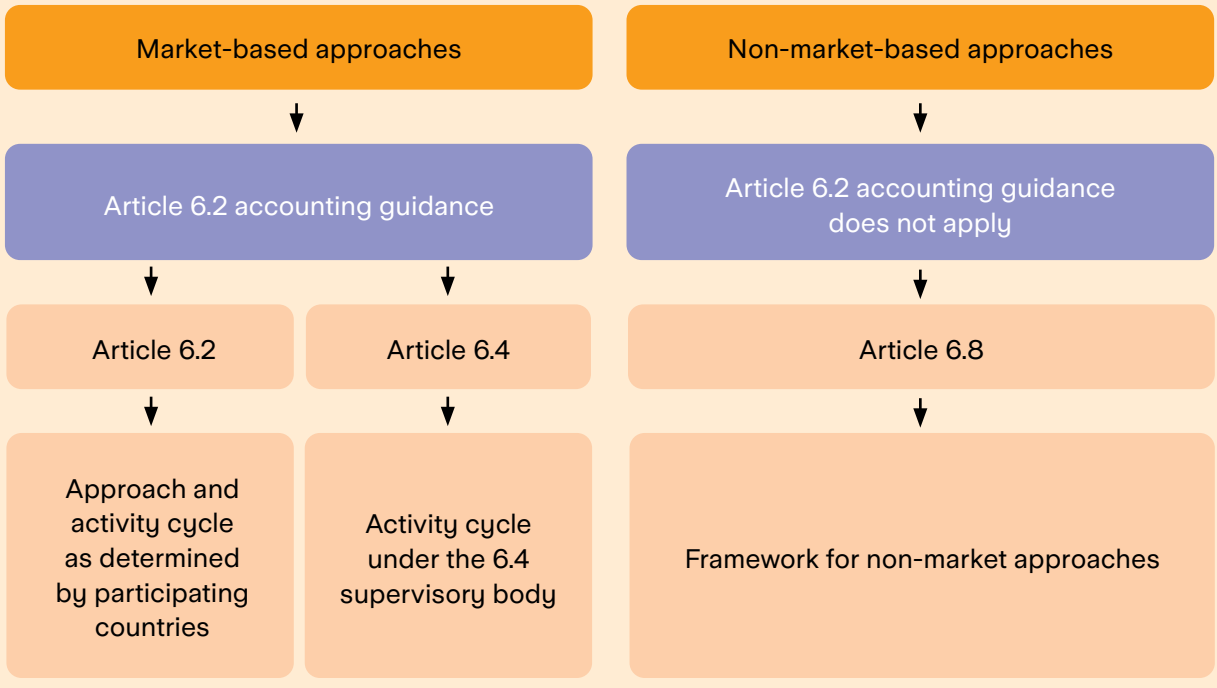
For countries with limited resources and capacity, the possibility of using the Article 6.4 mechanism can reduce the demand for government capacity to create the regulatory framework for monitoring, reporting and verification related to the activity cycle, as it establishes a mechanism with centralized oversight. One advantage of using Article 6.4 is that the credits generated are internationally recognized and rules regarding methodologies and processes are likely to be more detailed.[48] As a result, Article 6.4 may be more attractive to Parties that anticipate stimulating broad offset trading on open markets (as opposed to offset trading under a specific cooperation mechanism), and see a potential to maximize revenue gains by obtaining a UNFCCC stamp on mitigation outcomes authorized for export in the carbon markets. Choosing to participate in the PACM may also reflect a Party's intention to grant the private sector direct access to the global carbon market.

Article 6.2 provides for decentralized cooperative approaches between countries based on bilateral or multilateral agreements and has the potential for more direct public sector involvement. It also provides more flexibility and was initially seen by some as a key instrument for government-to-government cooperation, resulting in sectoral-level and policy-crediting approaches (i.e., generating

48. Aki Kachi and others, "Considerations for Article 6 engagement: The host country perspective", New Climate Institute/German Environment Agency (2020). Available at: https://newclimate.org/sites/default/files/2020/11/NewClimate_Article6_Engagement_HostCountryPerspective_Nov2020.pdf (accessed 13 November 2025).

FIGURE 4.2

Decision tree for approaches under Article 6
(a country can select one or more approaches depending on its objectives)



ITMOs as a result of the implementation of a policy). Indeed, Parties may favor participation under Article 6.2 if they wish to capitalize on established diplomatic relationships with specific partner countries or buyers.

Countries may choose to engage in activities either under Article 6.2, Article 6.4, Article 6.8, or any combination of the three. For example, for market participation, a country may want to use a bilateral approach for government-to-government transactions of ITMOs, while engaging in Article 6.4 with a view to further promote private sector engagement.

Table 4.1 summarizes the advantages and disadvantages of participation in the two market approaches, Article 6.2 and Article 6.4.

TABLE 4.1

Advantages and Disadvantages of Article 6.2 and Article 6.4 approaches

Concept	Article 6.2	Article 6.4
Institutional demands	▪ More competencies required for host Parties	Fewer competencies required for host Parties
Fungibility[49] and standardization	▪ Potential for more tailored actions to meet local needs ▪ Closer bilateral cooperation with partner country ▪ May lead to a fragmented market without universal recognition of units ▪ Less fungible, with multiple standards	▪ International standardization and recognition ▪ Centralized proceedings with clear responsibilities and support from UNFCCC ▪ More likely to be fungible
Transparency and oversight	▪ No project-level supervision by the UN ▪ Party-driven reporting, relying on national systems ▪ Subject to Article 6 Technical Expert Review ▪ Decentralized oversight, relying on Parties' national governance structures	▪ More detailed uniform and transparent established rules regarding methodologies, process, MRV, cancellation, etc. ▪ Highly centralized oversight under the SB ▪ Centralized registry
Overall Mitigation of Global Greenhouse Gas Emissions and Share of Proceeds	▪ No mandatory set aside for Overall Mitigation of Global GHG Emissions or Share of Proceeds for adaptation	▪ Set aside for Overall Mitigation of Global GHG Emissions and Share of Proceeds for adaptation, which reduces available mitigation outcomes for both seller and buyer

Source: Aki Kachi and others, "Considerations for Article 6 engagement: The host country perspective", New Climate Institute/German Environment Agency (2020). Available at: https://newclimate.org/sites/default/files/2020/11/NewClimate_Article6_Engagement_HostCountryPerspective_Nov2020.pdf (accessed 13 November 2025).

49. Fungibility is the ability of assets/commodities/goods to be interchanged with other individual assets/commodities/goods of the same type.

The role of the private sector in market approaches

The market-based instruments under Article 6 aim to facilitate cooperation between countries and incentivize actions by the private sector. Building on the experience from the CDM, the Article 6.4 mechanism is typically seen as an instrument for mobilizing private sector investments in mitigation activities. However, cooperative approaches under Article 6.2 may also be designed so that the private sector is directly targeted.

How to engage the private sector is a key policy consideration for countries. The start of the NDC implementation period marks the deadline for the private sector to apply for carbon crediting, either through the CDM or through independent standards on the voluntary market, with limited guidance or regulation by host country governments. As outlined in Chapter 4 (A New and Different Role for Developing Countries), the involvement of the host country in guiding and regulating the private sector is now different than during the CDM period. The host country must now take a more active role in determining the parameters for private sector involvement – for example, specifying the sectors and types of actions the private sector can undertake under Article 6 – and sufficiently consult the private sector.

The private sector must understand the parameters and rules for their involvement. The process of incentivizing the private sector would benefit from clear policies and rules regarding which sectors and mitigation actions the country prioritizes for Article 6. At the same time, the "market search function" of the private sector can be useful for identifying additional mitigation technologies and approaches. The experience and resources accrued through investment in the CDM by the private sector, including the development of methodological approaches and project operation, are invaluable.

Participation requirements under Articles 6.2 and 6.4

The minimum requirements for participation, set forth by the guidance for Article 6.2,[50] include that the country:

- is a Party to the Paris Agreement
- has prepared, communicated and is maintaining its NDCs in accordance with Article 4, paragraph 2
- has arrangements in place for authorizing the use of ITMOs towards the achievement of NDCs
- has arrangements in place that are consistent with this guidance and relevant decisions of the CMA, for tracking ITMOs
- has provided the most recent national inventory report required in accordance with decision 18/CMA.1
- participates in a way that contributes to the implementation of its NDCs and long-term low-emission development strategy, if it has submitted one, and the long-term goals of the Paris Agreement.

Under Article 6.2, host Parties may choose to allow all types of activities or to limit eligibility for authorization to specific categories. This can be done, for instance, by establishing a list of eligible activity types (a "positive list") and/or identifying activity types that are explicitly excluded (a "negative list"). Host countries may also define additional requirements related to baselines, methodological approaches, and crediting periods. Further criteria or conditions may be set out in bilateral agreements concluded with partner countries.

50. Decision 2/CMA 3, Annex, paragraph 4.

For Article 6.4, the country must fulfil additional requirements before it can participate in the mechanism. The country must:[51]

- Designate a national authority for the mechanism and communicate that designation to the secretariat
- Indicate publicly to the Supervisory Body how its participation in the mechanism contributes to sustainable development
- Indicate publicly to the Supervisory Body the types of Article 6.4, activity that it would consider and how such types of activity and associated emission reductions would contribute to the achievement of its NDCs, to its long-term low greenhouse gas (GHG) emissions development strategy (if it has submitted one) and to the long-term goals of the Paris Agreement.

Host countries may also establish national requirements concerning baselines, methodological approaches, and crediting periods, which are intended to complement and remain consistent with the general requirements of the PACM.

Regulatory and institutional frameworks

Regardless of whether a Party chooses to participate in cooperative approaches under Article 6.2 or use the new mechanism under Article 6.4, the Party will have a range of responsibilities that will require the establishment of both capacity and resources to enable engagement, and define a regulatory framework that supports decision making.

The regulatory framework formalizes multiple elements under Article 6. These regulatory arrangements define the governance structure, and the remit of the agencies or government institutions that will be responsible for the day-to-day operations of Article 6 activities. In the case of market approaches in Articles 6.2 and 6.4, regulations should also define the legally binding process for participation decisions, approvals and authorizations, international transfers, corresponding adjustments and dispute resolution.

The institutional arrangements should define responsibilities and authorities for processes under Article 6. For countries that engage in Article 6, an elaborated institutional framework and existing technical capabilities must be able to evaluate and approve or reject Article 6 activities proposals, keep track of emission reduction transfers in a registry, and reconcile transfers with the inventory and NDC target to demonstrate NDC achievement.

Under Article 6.2, Parties engaging in cooperative approaches need assurance that the proper institutional frameworks are in place to ensure the robustness of the international transfer process. Previous experience with the CDM, Joint Implementation, or other mechanisms may help to form a basis for Article 6 readiness but will likely not be sufficient for national engagement in Article 6. Governance should include the national process for issuing units, including ensuring their quality, as well as the design and cooperative approach for the transfer of ITMOs.

The appropriate institutional framework will be specific to each country and will likely need to fit into existing authority structures. An important function of a host country's institutional framework under Article 6 will be the ability to manage, organize and deliberate between a large number of stakeholders and government bodies that are responsible for various aspects of Article 6 participation and NDC achievement.

51. Decision 3/CMA.3, Annex, paragraph 26.

The institutional framework for market-oriented approaches (Articles 6.2 and 6.4) could include:

- A high-level, cross-cutting body responsible for oversight and coordination of Article 6 participation. As the international transfer of mitigation outcomes affects NDC targets, it can be useful to have overall coordination of Article 6 participation in an inter-ministerial (or similar) body that oversees NDC implementation. Alongside central government representation, such a body may also include representatives of local governments, civil society and indigenous peoples potentially affected by Article 6 activities.
- A technical Article 6 team, responsible for the day-to-day operation of Article 6 related processes, including, among others:
    - Assessment and approval of project proposals
    - Coordination of private sector participation
    - Coordination of the validation of Article 6 activities, when required, and verification of emissions reduction
    - Authorization of activities, participants and ITMO transfers
    - Management of an Article 6 activities registry and tracking of ITMOs
    - Making corresponding adjustments and managing the emissions/indicator balance.

This technical unit may also need to coordinate with the unit reporting to the UNFCCC, ensuring that Article 6 information (regular and annual) is integrated into the BTR (see Chapter 2).

CASE STUDY

Ghana's institutional arrangements for Article 6.2 and Article 6.4

Ghana is emerging as a pioneer in the implementation of Article 6 of the Paris Agreement, notably through the early publication in 2022 of its Framework on international carbon markets and non-market approaches[52], developed by the Ministry of Environment, Science, Technology and Innovation (MESTI). This document establishes concrete national arrangements for international climate cooperation. It is divided into two volumes addressing Article 6.2 and Article 6.4 national arrangements.

Ghana's framework for Article 6.2 cooperative approach

Ghana has established a structured institutional arrangement to manage its Article 6.2 engagements (See figure 4.3):

- **Ministry of Environment, Science, Technology and Innovation (MESTI)**: Serves as the authorization entity for all Article 6.2 transactions and is responsible for developing bilateral agreements with participating countries.
- **Carbon Market Inter-Ministerial Committee (CM-IMC)**: Provides high-level strategic guidance on Ghana's Article 6.2 engagement, including progress, challenges, and investment opportunities within NDC sectors.
- **Carbon Market Committee (CMC)**: Responsible for developing and approving transaction rules and executing any mandates assigned by MESTI.

52. Ghana Carbon Markets Office, Ghana's framework on international carbon markets and non-market approaches (2022). Available at: https://cmo.epa.gov.gh/wp-content/uploads/2022/12/Ghana-Carbon-Market-Framework-For-Public-Release_15122022.pdf (accessed 13 November 2025).

- **Carbon Market Technical Advisory Committee (CM-TAC)**: Offers technical support to both the CMC and the Carbon Markets Office (CMO) on matters including authorization, approved methodologies, validation and verification entities, and issuance of mitigation outcomes.
- **Carbon Markets Office (CMO)**: (hosted by Environment Protection Agency, climate change unit): provide implementation support and coordinate technical matters on Ghana Article 6.2 engagement: implementing the policies, rules and guidance on transactions, support for activity sourcing, MRV and accounting, registry operation (Ghana carbon registry), creation and transfer of ITMOs, reporting the corresponding adjustment.

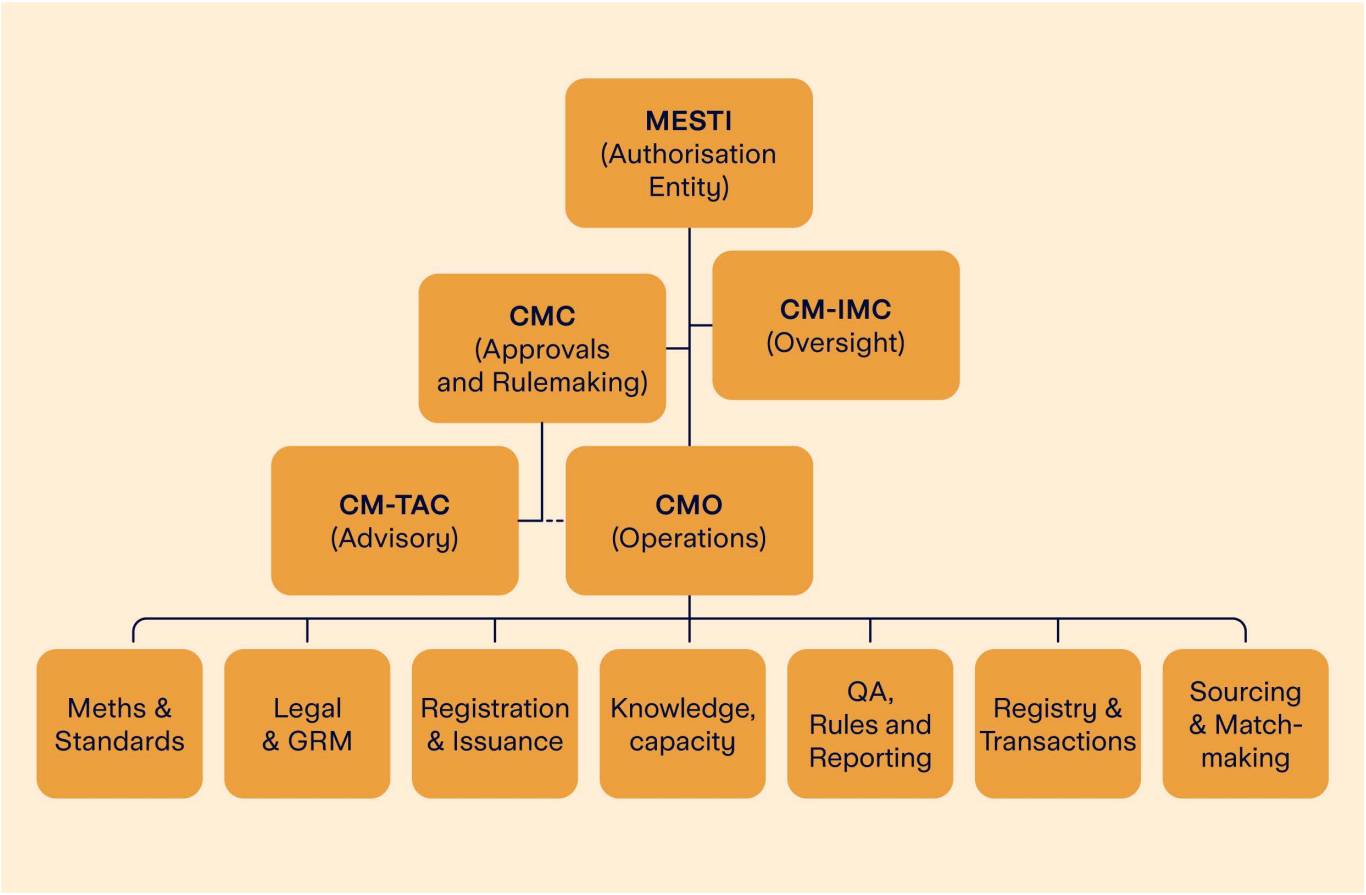
Guideline for domesticating the Rules, Modalities and Procedures (RMP) of the Article 6.4 mechanism

As a host Party, Ghana has nominated the Carbon Markets Office as the **National Designated Authority (NDA) for the Article 6.4 Mechanism**. CMO works under the guidance of the MESTI, and in conjunction with the CMC. The roles of the NDA are the following:

- Issue a support letter to the Mechanism activity developer stating the requirements and contributions of the activity to the national sustainable development priorities.
- Make public through the Supervisory Body the activities Ghana will approve or authorize under the Mechanism, and the

FIGURE 4.3

Institutional arrangements for Ghana's Article 6.2 engagement[54]



Source: Adapted from Ghana Carbon Markets Office, Ghana's framework on international carbon markets and non-market approaches (2022).

contribution of the associated emission reduction towards achieving Ghana's NDC.

- Transmit to the Supervisory Body the Letter of Approval for Article 6 paragraph 4 activities to be hosted in Ghana prior to the request of registration.
- Communicate with the Supervisory Body authorization of public or private entities to participate in the activity as activity participants under the mechanism.
- Transmit A6.4 ER authorization statement to the Supervisory Body issued for the mechanism activity Ghana will host for use towards the achievement of NDCs and/or for other international purposes.
- Make public baseline approach and other methodological requirements, including additionality, with the explanation of its compatibility with the NDC, information on crediting period
- Apply corresponding adjustments to all authorized A6.4 ER first transferred:
  - For achievement of NDCs,
  - For other international mitigation purposes,
  - For share of proceeds for adaptation and administrative expenses of the Mechanism: minimum levy of 5 per cent of 6.4 ERs at issuance.
  - For cancellation for the delivery of overall mitigation of global emissions: minimum of 2 per cent of the issued A6.4 ER must be cancelled for overall mitigation.

National processes for Articles 6.2 and 6.4

In addition to participation requirements, cooperative approaches under Article 6.2 will require participating governments to establish the necessary institutional capacity and resources to effectively engage. Countries involved in Article 6.2 activities will need to put in place several national processes, as these are essential for their active involvement at multiple stages of implementation.

NDC accounting

Accurate and robust accounting of NDCs is essential for the integrity and transparency of cooperative approaches under Article 6.2. NDC accounting ensures that mitigation outcomes transferred between Parties are properly tracked, corresponding adjustments are applied where required, and double counting is avoided. It provides the foundation for the host Party to demonstrate compliance with its climate commitments while enabling acquiring Parties to credibly use transferred mitigation outcomes toward their own NDC targets. Clear national accounting processes are therefore a critical component of effective governance and environmental integrity in Article 6.2 cooperative approaches, as further explained in Chapter 6 of this Guide.

Additionality requirements

Additionality is a fundamental requirement under both Article 6.2 and the PACM. It ensures that carbon credits reflect mitigation outcomes that would not have occurred in the absence of the activity. Under Article 6.2, participating Parties are responsible for assessing additionality in accordance with their respective national criteria.

Validation and Verification

Validation and verification are assessments conducted by independent third parties to determine whether activities and their corresponding mitigation outcomes comply with the applicable requirements. Under Article 6.2, verification requirements are implemented by participating Parties in accordance with their national criteria and procedures. Although Article 6.2 does not explicitly prescribe requirements for the assessment of underlying activities, Parties may choose to evaluate the activity either prior to, or in conjunction with, the verification of mitigation outcomes.

Authorization

To be authorized as ITMOs by the host Party, mitigation outcomes must undergo the host Party's national assessment, which may vary between countries. In addition to these national arrangements, which are typically enshrined in national legislation, Parties may establish bilateral agreements or frameworks to coordinate the national assessments of each participating country—for example, requiring that projects receive approval from both signatory Parties. The host Party is responsible for ensuring that the activity and its mitigation outcomes comply with Article 6.2 requirements, including, inter alia, additionality, permanence, baselines, verification, and environmental and social integrity. This entails conducting a comprehensive assessment by the relevant national authorities.

COP29 provided additional guidance on the process and timing, content, format and changes to the authorization of cooperative approaches. With respect to process and timing, countries now have the flexibility to choose between a consolidated or sequential authorization process, allowing for greater adaptability in national governance arrangements. In terms of content, Parties at COP29 in Baku agreed to include additional mandatory elements to the content of the authorization[53]:

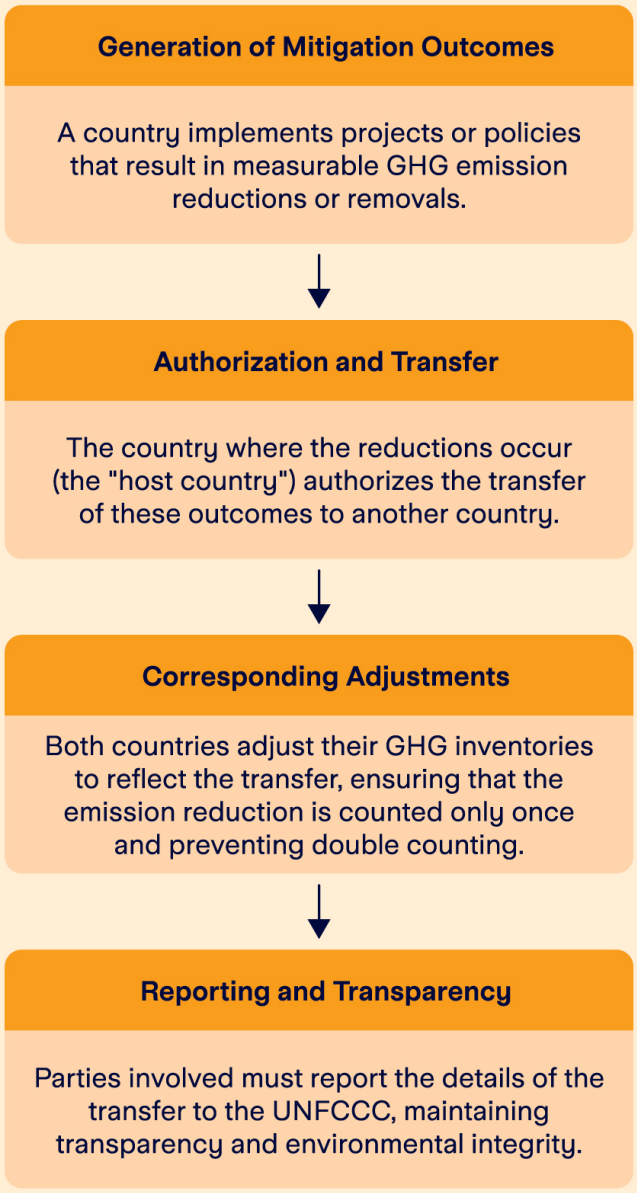
- **Identification**: Unique identifier of the cooperative approach (from the Centralized Accounting and Reporting Platform, if available).
- **Parties and entities**: Names of participating Parties and authorized entities (if known[54]).
- **Validity**: Date and duration of the authorization, including the final date for issuance, use, or cancellation, in connection with the first transfer as specified in the decision 2/CMA.3 (see Chapter 3).
- **First transfer**: Specification of the first transfer of the mitigation outcome.
- **Use**: Authorized purposes of the ITMOs (e.g. toward NDCs, other international mitigation purposes, or voluntary use).
- **Frameworks and methodologies**: Reference to underlying rules, standards, and methodologies applied.
- **Modification rules**: Conditions and process for any change to the authorization, ensuring no double counting.
- **Quantities**: Amount of ITMOs covered (if applicable).
- **Registry information**: Identification of the registry used to track and record ITMOs, and relevant linked registries.
- **Technical details**: Vintage(s), metrics, gases, sectors, and activity types covered by the authorization.

53. Decision 4/CMA.6, paragraph 5.

54. This addition ("if known") reflects the decision taken at COP29 not to require the inclusion of all participants in the authorization. Several stakeholders have viewed this as a step back in terms of transparency within the mechanism.

FIGURE 4.4

Role of Parties engaged in Article 6.2



The new rules decided at COP29 allow for the revocation[55] of authorizations under predefined terms, ensuring that changes do not result in double counting. The decision provides that a Party can change or revoke an authorization only up until the first transfer of the ITMO (unless a bilateral/multilateral agreement or letter of authorization specifies otherwise).

BOX 4.3

Host country assessment under Article 6.2

Under Article 6.2, the host country bears responsibility for ensuring the environmental and social integrity of both the mitigation outcomes and the activities that generate them. In conducting these assessments, host countries may draw upon elements of the PACM framework, such as its methodologies or assessment procedures, to strengthen the robustness of their evaluations.

The national assessment process remains inherently flexible, including in its sequencing and timing. While it may align with the assessment procedures established under the PACM, host countries are not obliged to replicate them.

Beyond verifying environmental and social integrity, host countries are also expected to consider the implications of authorizing mitigation outcomes on the achievement of their own NDCs. This consideration is critical, as mitigation outcomes that are authorized and first transferred by the host country cannot subsequently be counted toward its NDC. In addition to project-level evaluations, host countries may also undertake broader assessments to identify categories of activities most suitable for authorization under Article 6.2.

Reporting

Parties engaging in cooperative approaches must disclose specific information through three central reporting components — the initial report, annual information, and regular information — as defined in Decision 2/CMA.3 (Annex, para. 18 ff). This mandatory reporting framework is essential to ensure transparency under Article 6.2 (see Chapter 5). To comply with these obligations, participating countries are required to establish national processes to coordinate and manage these reporting activities.

Participating Parties are required to operate or have access to registries that record ITMO transactions — including their authorization, transfer, use, and cancellation. For countries without a national registry, the Secretariat will provide access to an international registry. In addition, the Secretariat is responsible for establishing both the Article 6 database and the Centralized Accounting and Reporting Platform (CARP), which will collect, verify, and disclose non-confidential information related to cooperative approaches and ITMOs, thereby promoting transparency and consistency. Each year, Parties will submit reports to the CMA summarizing their activities, ITMO movements, and corresponding emission balances (Decision 2/CMA.3, Annex, para. 18 f).

These processes must be adapted to the requirements of the country that is engaging in Article 6. The processes are unique to the national legislative environment, and therefore will vary by country . Policymakers will craft these processes, which will include technical procedures that are necessary for the functioning of Article 6. They should expect to dedicate resources to drafting, revising and obtaining approval and final operationalization. The development of these processes should also be underpinned by public and stakeholder consultations, which will ensure that informed and consolidated choices are made.

55. Revocation refers to the formal withdrawal or cancellation by a Party of a prior authorization granted for the use of mitigation outcomes - such as A6.4ERs or ITMOs- toward a NDC or other international mitigation purposes.

This is particularly important because mitigation outcomes under the NDCs are public goods, and their international transfer would require a strong legal mandate.

BOX 4.4

The importance of stakeholder consultations and engagement

Winning support through active engagement and robust consultation with stakeholders increases the likelihood that mitigation efforts (including Article 6 activities) will be successful. Stakeholders include, among others, sectoral organizations, the private sector, project developers, indigenous communities and groups of the society that may be affected by Article 6 activities implementation. Successful consultation starts with the identification and mapping of relevant stakeholders.

Consultation prior to implementation provides an opportunity to identify potential risks, impacts, opportunities and mitigation measures. Throughout the project implementation, project implementers and stakeholders should continue the consultation process to identify and control risks, prevent adverse environmental and social impacts, and improve project design and outcomes. This will help to reduce the risk of costly delays or the need to interrupt and reverse implementation activities. The host country's government must also ensure that affected stakeholders have access to grievance mechanisms. ICAT has developed a guide that can support the government in conducting stakeholder processes relating to Article 6.[56]

While Article 6 projects are focused mainly on GHG mitigation, they should also contribute to the United Nations Sustainable Development Goals. Social impact assessments should be undertaken according to international best practices, and should be considered in the design and implementation of mitigation activities. Ongoing consultation can strengthen social impact assessments. The ICAT guide for assessing sustainable development impacts[57], as well as the ICAT toolkit for assessing transformational impacts, can be useful for any country and its stakeholders in monitoring and understanding the impacts of an Article 6 activity.

CASE STUDY

Ghana's processes for operationalization of Article 6.2

Ghana has established national processes for each step of Article 6.2 operationalization to ensure transparency, environmental integrity, and alignment with national climate objectives.

Requirement for eligibility[58]:

Ghana has defined specific criteria for the eligibility of mitigation activities to participate in Article 6.2, along with quantified objectives for the mitigation outcomes to be transferred. These measures ensure that Article 6 cooperation goes beyond Ghana's unconditional NDC commitment, thereby enhancing national mitigation ambition

56. Initiative for Climate Action Transparency, "Stakeholder Participation Guide: Supporting stakeholder participation in design, implementation and assessment of policies and actions", Durbin, J.C. and Vincent, S. (Eds), ICAT, Climate, Community & Biodiversity Alliance and Verra, Washington (2019). Available at: https://climateactiontransparency.org/icat-guidance/stakeholder-participation/ (accessed 13 November 2025).

57. Initiative for Climate Action Transparency, "Sustainable Development Methodology: Assessing the environmental, social and economic impacts of policies and actions", D. Rich, R. Song and K.H. Olsen (Eds), Washington D.C.: World Resources Institute; Copenhagen: UNEP DTU Partnership (2019). Available at: https://climateactiontransparency.org/wp-content/uploads/2020/04/Sustainable-Development-Assessment-Guide.pdf (accessed 13 November 2025).

through the implementation of activities that would not have occurred without international financial support.

- **Mitigation Activities inside Ghana's NDC**: Ghana's participation in Article 6 voluntary cooperation aims to achieve a minimum of 24 $MtCO_2e$ of its conditional mitigation target, out of a total conditional NDC target of 39.4 $MtCO_2e$.
  - The project must fall under conditional NDC programs of action and must not appear on the Red List of unconditional mitigation activities.
  - The project must appear on the White list of eligible activities.
- **Mitigation Activities Outside Ghana's NDC**: in addition to conditional NDC targets, Ghana aims to transfer ITMOs from mitigation activities implemented outside the NDC, representing approximately 12 per cent of total national emissions. Any mitigation activity outside the scope of Ghana's NDC may be eligible to generate authorized and transferable mitigation outcomes only if:
  - It is covered by Ghana's latest national GHG Inventory.
  - It results in GHG emission reductions or removals, or provides mitigation co-benefits from adaptation actions.

Evaluation of Article 6 activity proposals:

Each activity developer must submit a pre-authorization request to the Carbon Markets Office. CMO assesses the request to determine whether the eligibility criteria are met. If the activity is validated, CMO issues a Letter of Assurance for pre-authorization to the activity developer.

Authorization of cooperative approach:

Each activity developer applies to the Carbon Markets Office for a Letter of Authorization for mitigation outcomes from eligible activity. CMO issues a Letter of Authorization to cover mitigation outcomes from any eligible activity before registration. Ghana has established additional steps before authorization:

- Activity developer must have completed the Ghana Carbon registry application process;
- The mitigation activity design document (MADD) must have been submitted to the Carbon Markets Office and received a letter of recommendation from CMO;
- The activity developer must have requested pre-authorization and received the letter of Assurance from CMO;
- The MADD must have completed a validation assessment by an independent entity, and the validation report must be provided to CMO;
- The activity developer must request a letter of authorization to CMO;
- CMO must have prepared Article 6.2 initial report and submitted it to the UNFCCC.

Issuance and transfer of mitigation outcomes:

All the authorized mitigation outcomes are monitored and verified against the following requirements before issuance and transfer:

- Monitoring report as per authorized monitoring plan.
- Verification of monitoring report by an independent entity.
- Consistency of mitigation outcomes with conditions of the authorization.

58. Ghana Carbon Markets Office, Ghana's framework on international carbon markets and non-market approaches (2022). Available at: https://cmo.epa.gov.gh/wp-content/uploads/2022/12/Ghana-Carbon-Market-Framework-For-Public-Release_15122022.pdf (accessed 13 November 2025).

- The activity developer confirms that the ITMO has not been issued under any other international or national standard.
- Positive examination of the verification report and sustainable development requirements specified for the mitigation activity by both Ghana and the participating country.
- Payment of the necessary fees determined by Ghana.

Once all these requirements are verified by CMO, a process for mitigation and outcomes creation and transfer can be followed:

- The activity developer shall submit the mitigation outcomes issuance request form to CMO.
- CMO performs an initial completeness check on the request, and then issue the recognized quantity of mitigation outcomes with unique serial numbers into the holding account of the activity developer.
- CMO then first transfers ITMO to the registry of participating acquiring country, for the uses as defined per Decision 2/CMA.3 and the provisions in the letter of authorization.
- CMO cancels an equal amount of transferred ITMO in the retirement account of the Ghana Carbon Registry.
- CMO applies corresponding adjustment to all transferred authorized mitigation outcomes, used for achievement of NDCs, or used for other international mitigation purposes (OIMP).

Reporting:

CMO is responsible for reporting Ghana's participation in Article 6.2 to the UNFCCC and manage the Ghana Carbon Registry (*see Alignment of Ghana Article 6 system with its national transparency system*).

CMO compiles quantitative information on Article 6.2 transactions in electronic format as Annual Report and submits it to the UNFCCC for recording in the Article 6 database. Additionally, information related to mitigation outcomes authorized, issued and transferred, and corresponding adjustments are reported in Regular reporting as an annex to the next BTR.

National processes for Articles 6.4

The Critical Role of NDC Accounting

Effective NDC accounting under Article 6.4 is essential for ensuring that emission reductions credited through the mechanism contribute transparently and reliably to global climate goals. It enables the host Party to demonstrate that transferred credits are additional to its NDC target and that appropriate corresponding adjustments are applied to its national emissions balance. Proper accounting also supports confidence among acquiring Parties, regulators, and stakeholders that the credits represent real and verifiable mitigation outcomes. By integrating NDC accounting into the operational processes of Article 6.4 projects, Parties can safeguard environmental integrity, reduce the risk of double counting, and strengthen the credibility of international carbon markets.

Validation and verification under the PACM

Under the PACM, validation constitutes a mandatory step in the carbon crediting cycle, preceding the verification of mitigation outcomes. The Supervisory Body accredits independent entities, known as Designated Operational Entities, to carry out validation and verification in accordance with the **Validation and Verification Standard**[59]. This standard sets out the overarching principles and minimum requirements governing the work of DOEs. A positive validation outcome is a prerequisite for the registration of an activity under the PACM.

To be issued as A6.4ERs, mitigation outcomes must receive approval from the host Party and successfully complete the PACM assessment. The PACM is governed and overseen by the SB, with the UNFCCC Secretariat serving as the administrative support to the SB. The SB has established an international Activity Standard[60] and associated Procedures[61], which outline the key steps for assessing activities and mitigation outcomes under the PACM, as well as the roles of the various actors involved in the assessment. Additionally, the SB has approved the Methodology Standard[62], which sets requirements applicable to all methodologies and informs all activities, and the Removal Standard[63], which provides specific requirements for activities involving removals or emission reductions with reversal risks.

BOX 4.5

Host country assessment under the PACM

- Under the PACM, the SB is mandated to ensure the environmental and social integrity of all activities and mitigation outcomes. However, host countries also play an active role in this process, including in cases where mitigation outcomes are not authorized under Article 6.2 and therefore remain within the PACM as MCUs.
- The PACM sets out detailed requirements regarding the timing and content of host country inputs. In particular, host country approval is a prerequisite for the registration of any activity under the mechanism.
- It is important to note that host country approval under the PACM differs from the authorization provided under Article 6.2. These are two distinct processes, serving separate functions within the overall Article 6 framework.

59. UNFCCC, Standard – Article 6.4 validation and verification standard for projects (2023). Available at: https://member.ghginstitute.org/ghgcourses/Article6/files/a64-sb008-a05-ValidationVerification-Standard.pdf (accessed 14 November 2025).

60. UNFCCC, Standard – Article 6.4 activity standard for projects (2023). Available at: https://member.ghginstitute.org/ghgcourses/Article6/files/Activitystandard-a64-sb008-a04.pdf (accessed 14 November 2025).

61. UNFCCC, Standard – Article 6.4 activity cycle procedure for projects (2023). Available at: https://member.ghginstitute.org/ghgcourses/Article6/files/Activityprocedure-a64-sb008-a06.pdf (accessed 14 November 2025).

62. UNFCCC, Standard – Application of the requirements of Chapter V.B (Methodologies) for the development and assessment of Article 6.4 mechanism methodologies (2024). Available at: https://member.ghginstitute.org/ghgcourses/Article6/files/Methodologystandard-A6.4-STAN-METH-001.pdf (accessed 14 November 2025).

63. UNFCCC, Standard – Requirements for activities involving removals under the Article 6.4 mechanism (2024). Available at: https://member.ghginstitute.org/ghgcourses/Article6/files/Removalsstandards-A6.4-STAN-METH-002.pdf (accessed 14 November 2025).

Key Messages

- Considering carbon credits as a national asset, host Parties can manage, track, and allocate credits strategically, ensuring they contribute effectively to national climate objectives.
- Participation in Article 6 requires a national strategy for attracting and utilizing climate finance and a robust governance framework.
- A country may choose to engage in market or non-market approaches. There are benefits and risks related to each approach.
- While international cooperation is highly desirable to strive for higher ambition, when involving international transfers, Parties should carefully assess the form and condition of participation as mitigation outcomes generated may be needed for achieving their own targets. Hence, the authorization of transfer of mitigation outcomes out of the country becomes a key process for participating in Article 6.2 and Article 6.4.
- International transfers of mitigation outcomes require robust accounting and corresponding adjustments among involved Parties to prevent double counting.
- For participation in activities that include ITMOs, Article 6.2 guidance outlines participation, reporting and accounting requirements. These requirements also apply to participation in activities under Article 6.4 involving ITMOs.
- A country needs to have a process for the authorization of the use of ITMOs, an infrastructure for the tracking of ITMOs, and a process for evaluating Article 6 participation in light of the progress towards achieving NDCs.
- It is in the interest of the host country to ensure that activities that lead to ITMO transfers mobilize mitigation that would not have been achieved by NDC measures nor is necessary to achieve the NDC targets.
- Stakeholder consultation is key to ensure the success of mitigation efforts, particularly among sectoral organizations, the private sector, project developers, indigenous communities and groups of the society that may be affected by Article 6 implementation, among others.



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5 Transparent Reporting in the Paris Agreement Carbon Markets

This chapter examines the reporting and accounting requirements under Article 6 and elaborates on how those are integrated with the reporting, tracking and accounting provisions under the ETF. This chapter also discusses regular reporting, tracking of progress, and alignment of mitigation activities under nationally determined contributions (NDCs) with Article 6.

This chapter largely focuses on the requirements of Article 6.2 of the Paris Agreement, which has the greatest impacts on the reporting and accounting process under the ETF. Some aspects outlined in this chapter also apply to Article 6.4, specifically those related to internationally transferred mitigation outcomes.

Transparency and the enhanced transparency framework

Transparency plays a key role in ensuring environmental integrity in the Paris Agreement. As highlighted in Chapter 2, Article 13 introduces the ETF with an overarching objective to "build mutual trust and confidence and to promote effective implementation".[64]

The ETF serves two main purposes. Firstly, transparency of action is intended to provide a clear understanding of actions that contribute to achieving the objective of the Paris Agreement. This includes tracking the progress of NDCs submitted under Article 4, and Parties' adaptation actions under Article 7. Transparency in these areas will inform the global stocktake under Article 14. Secondly, transparency of support is intended to provide clarity on the support received and provided by countries.

Transparency covers Article 4 (NDCs), Article 7 (adaptation), Article 9 (finance), Article 10 (technology transfer) and Article 11 (capacity-building) of the Paris Agreement and will also inform the global stocktake.[65]

The ETF requirements are based on a quarter of a century of experience of similar transparency framework processes. The reporting requirements under the ETF are the same for all Parties. This is different to previous reporting requirements, which differentiated between UNFCCC Annex I Parties and non-Annex I Parties, as a core element of implementation. While the Paris Agreement does not differentiate reporting requirements by countries' level of development, the Agreement in general and the ETF consider the differences in Parties' capacity by offering appropriate flexibility. The objective of the ETF is to support and facilitate Parties.

64. Paris Agreement, Article 13, paragraph 1.

65. Paris Agreement, Article 13, paragraph 5 and 6.

Key elements of the enhanced transparency framework

The ETF consists of three main elements: reporting, a technical expert review, and a facilitative, multilateral consideration of progress.

Reporting. All countries must report regularly on:

- a national greenhouse gas inventory
- information necessary to track progress made in implementing and achieving NDCs.[66]

In addition, developed countries must present information regarding the support provided and mobilized to developing countries on finance, capacity-building and technology transfer.[67] Developing countries should (a weaker requirement than shall) present information on support needed and received.[68] A similar provision is made for adaptation information; this should be reported as appropriate.[69]

The main reporting document is the BTR (see Box 5.1). The greenhouse gas (GHG) inventory report may be part of this report or submitted as a stand-alone document. The first BTR is due by the end of 2024, and following BTRs have to be submitted every second year.

National GHG inventory reports have been submitted annually by developed countries since 1996 (decision 3/CP.1). Developing countries have done so less frequently in conjunction with the National Communications, and more recently the Biennial Update Reports. The ETF significantly increases the requirements for developing countries with the condition that all countries shall regularly provide a national GHG inventory report.[70]

Technical review. The technical expert review will review the consistency of the information submitted in the Biennial Transparency Reports, consider the Party's implementation and achievement of its NDC, consider support provided by the Party, identify areas of improvement related to implementation, and assist in identifying capacity-building needs for developing countries.[71] The review shall not be intrusive or punitive but will respect national sovereignty and build countries' capacity over time, helping them to identify information gaps and capacity-building needs.

The facilitative, multilateral consideration of progress. This allows countries to inform the international community about their activities under Article 6 and share best practices and experiences.

BOX 5.1

Content of the Biennial Transparency Report (BTR)

The Modalities, Procedures and Guidelines of the ETF specify the content of the BTR and cover detailed guidelines on:

- National circumstances and institutional arrangements
- National inventory report
- Description of the NDC and any updates; with the need to include information on target and description, target year or period, reference point (base year), scope and coverage, and use of cooperative approaches
- Information necessary to track progress made in implementing and achieving the

66. Paris Agreement, Article 13, paragraph 7.

67. Paris Agreement, Article 13, paragraph 9.

68. Paris Agreement, Article 13, paragraph 10.

69. Paris Agreement, Article 13, paragraph 10.

70 Decision 18/CMA.1, Annex, paragraph 57.

71. Decision 18/CMA.1, Annex, paragraph 146.

NDC; mitigation policies and measures, including those with mitigation co-benefits resulting from adaptation actions

- Information related to climate change impacts and adaptation
- Information on financial support, technology development and transfer as well as capacity building support needed and received or provided and mobilized
- How flexibility options are chosen, relevant capacity constraints and improvement timeframes.

The current international assessments and review, and the international consultation and analysis process, will be replaced by the technical expert review and the facilitative, multilateral consideration of progress. Taken together, the technical expert review and the facilitative multilateral consideration of progress will produce recommendations, encouragement and suggestions to a country on how to improve adherence to the reporting requirements. This presents countries with an opportunity to learn from the approaches, successes and failures of other countries. The process can also assist stakeholders to understand a country's efforts, challenges and progress and facilitate the formulation of the country's capacity-building needs. The technical expert review and the facilitative, multilateral consideration of progress also contribute to the global stocktake.

The ETF offers flexibility to countries who have a limited reporting capacity (Article 13.2). Least developed countries and small island developing states can submit the required reports "at their discretion" (decision 18/CMA.1, paragraph 4) while developing countries can invoke "flexibility" (decision 18/CMA.1. Annex. Section C.), depending on their needs. The need for flexibility is self-determined and can be applied to the scope, frequency and level of detail of reporting. As an example, countries shall submit GHG inventory reports no later than two years after the reported year, but those countries that need flexibility due to limited reporting capacity may do so three years after the reported year (decision 18/CMA.1, paragraph 58). However, the Party shall also assess and explain its plan to improve the situation in their BTR.

Reporting on Article 6 through the ETF

The ETF and Article 6 are linked through two of the main reporting areas of the Paris Agreement: the national GHG inventory report and the tracking of progress towards achieving the NDC targets. The link through the NDCs is key since the NDCs are the main operational instrument of the Paris Agreement.

For this purpose, Parties should implement an overarching framework for enhanced transparency, including, but not limited to, defining key indicators for tracking process towards NDC achievement and processes for monitoring, reporting and verification of mitigation outcomes at various levels (national, sectoral and activity level). This national transparency framework must incorporate reporting and accounting requirements related to Article 6.

Figure 5.1 shows how national-level transparency components feed into the reporting and transparency provisions of Article 6.2 of the Paris Agreement and how they relate to different steps of participating in activities under Article 6.2. This is also applicable to Article 6.4 – international transfer of Article 6.4 emission reductions are subject to Article 6.2 guidance.

As outlined in Chapter 2, the Article 6.2 guidance[72] introduces transparency requirements for Parties participating in cooperative approaches: an Initial Report, annual information to be submitted to the Article 6 Database, and regular information to be included in the BTR. In general, Parties participating in Article 6.2, and Article 6.4 where international transfers of Article 6.4 emission reductions are subject to Article 6.2 guidance, must report on the following:

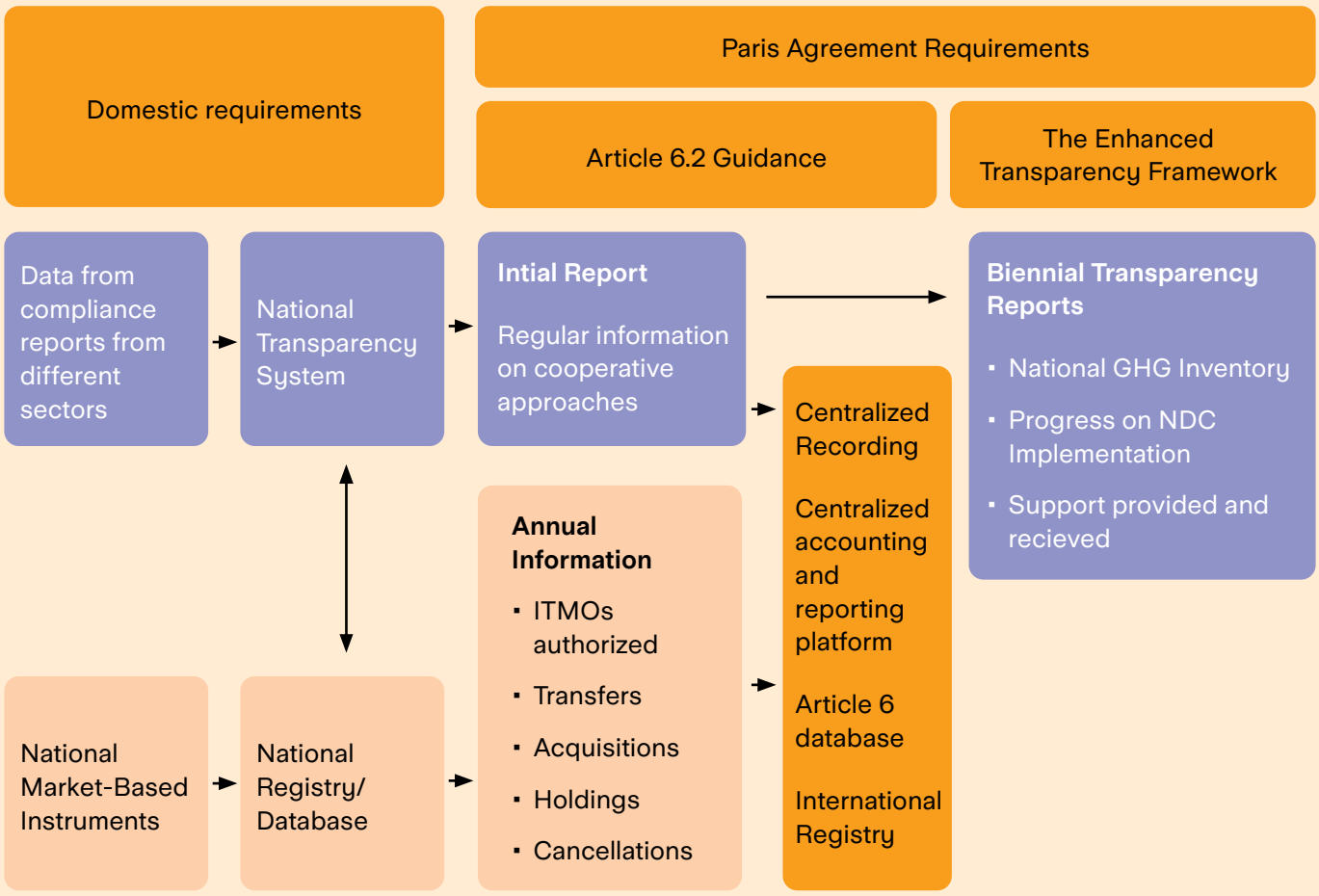
- Their compliance with the cooperative approach participation requirements
- Their process for the application of corresponding adjustments
- Information and details on the cooperative approaches taken by the Party
- Data on the transfer and authorization of ITMOs.

In addition, the modalities, procedures and guidelines of the ETF require Parties to report in the BTR how each cooperative approach

72. Decision 2/CMA.3

FIGURE 5.1

National transparency components and their integration in the international transparency process for Article 6.2



promotes sustainable development; and ensures environmental integrity and transparency, including in governance; and applies robust accounting to ensure inter alia the avoidance of double counting.[73]

BOX 5.2

A6.4ERs and BTR Reporting Requirements

A6.4ERs must be tracked and reported in the Party's BTR to ensure transparency, environmental integrity, and avoidance of double counting. When A6.4ERs are transferred internationally as ITMOs, Parties must apply corresponding adjustments in their GHG inventories and report the volumes transferred, used toward NDCs, canceled, or retained. Even A6.4ERs not internationally transferred, MCUs, are reported in the BTR, including issuance, authorization status, and contribution to national climate goals. Reporting also includes information on sustainable development co-benefits and compliance with the requirements of Decision 2/CMA.3. All A6.4ERs are integrated into the national transparency framework via registries, with initial reports, annual information, and regular submissions feeding into the BTR to maintain clarity and consistency across cooperative approaches.

As shown in Figure 5.2, the information submitted by the participating Parties on a cooperative approach will be reviewed by an Article 6 technical expert review team, which will then prepare a report on its review with recommendations to the participating Party on how to improve consistency with the guidance and relevant decisions of the CMA, including on how to address inconsistencies in quantified information. The Article 6 technical expert review team shall submit its reports to the Technical Expert Review under the ETF for consideration. These reports are required to be made publicly available on the future centralized accounting and recording platform.

Initial report

The annex to Decision 2/CMA.3, paragraph 18 (a), requires that a country that plans to participate in a cooperative approach fulfils the established participation responsibilities. Article 6.4 is subject to this guidance[74] and is a case of a cooperative approach resulting in ITMOs when Article 6.4 emission reductions are internationally transferred. A country should demonstrate that they meet this requirement in their initial report, which must be submitted "no later than the time of providing or receiving authorization or initial first transfer of ITMOs from a cooperative approach or where practical, in conjunction with the next due BTR for the period of NDC implementation."[75]

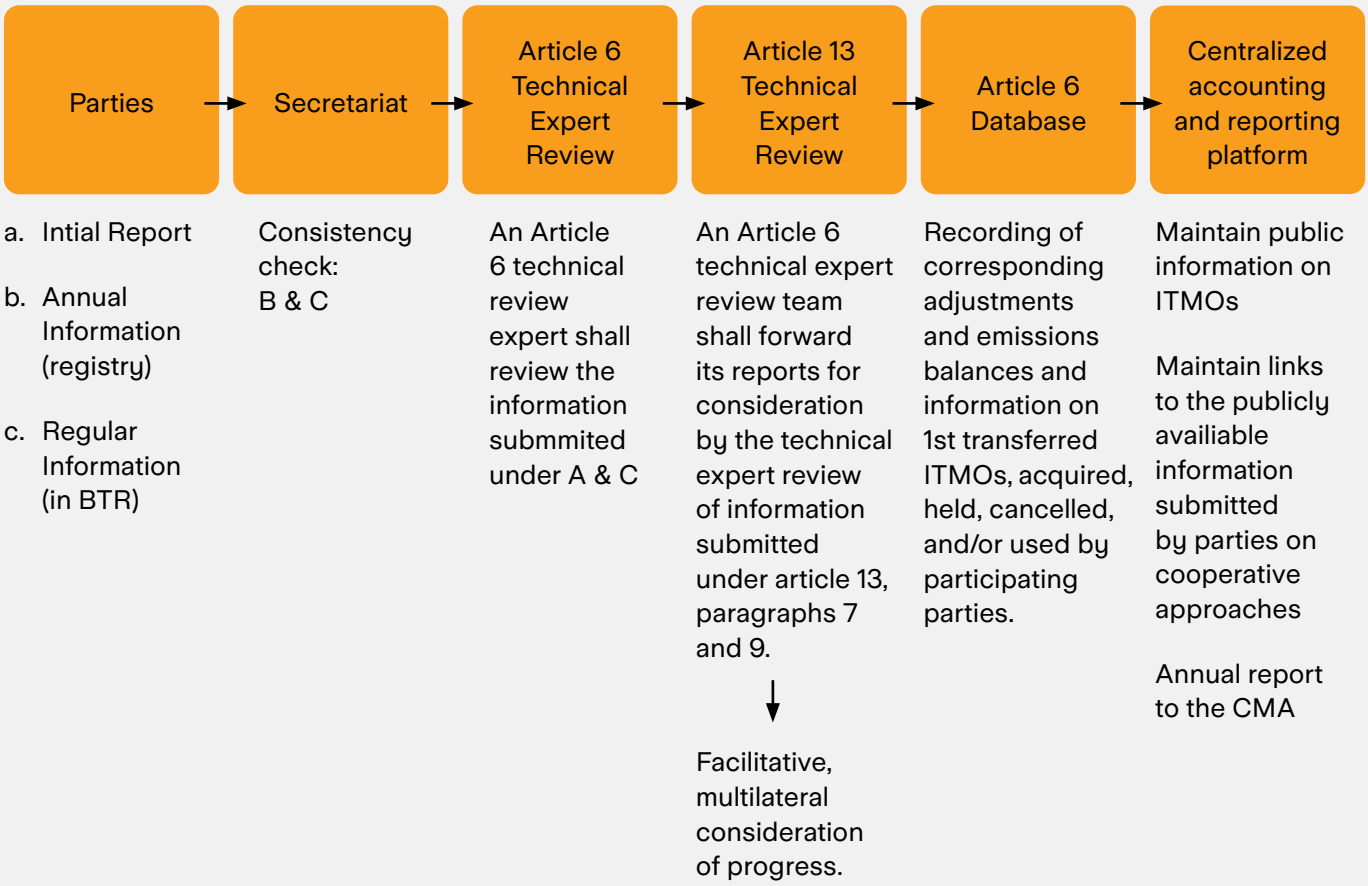
73. Decision 18/CMA.1, paragraph 77d.
74. Decision 2/CMA.3

The authorization that is referred to here is the authorization of the use of ITMOs for NDC achievement or the use of ITMOs for other international mitigation purposes.[76]

Decision 2/CMA.3 does not define a cooperative approach beyond the transfer of ITMOs. This also means that any country can engage in several cooperative approaches. Cooperative approaches are therefore defined by participating countries and the characteristics of the approach can differ significantly. Information provided in the initial report is required for every cooperative approach; a country must submit an updated initial report if entering a new cooperation.[77] In addition to information that is specific to each cooperative

FIGURE 5.2

Reporting Process for Article 6.2



76. Decision 3/CMA.3, Annex, paragraphs 43–33.
77. Decision 2/CMA.3, Annex, paragraph 18.

approach, this initial report should also include general information related to the NDC.[78] The content required is summarized in Box 5.3, with supplementary elements of information required after COP29 developments[79].

BOX 5.3

Content of the Initial Report

The initial report should comprise the following information (detailed list in section IV. A. Reporting. Initial Report in the annex to decision 2/CMA.3):

a. Demonstrate that the participating Party fulfills the participation responsibilities.

b. Provide, where the participating Party has not yet submitted a Biennial Transparency Report, a description of the Party's NDC.

c. Communicate the ITMO metrics and the method for applying corresponding adjustments that will be applied consistently throughout the period of NDC implementation. In addition to decision2/CMA.3, the CMA added at COP29[80] the need to further specify how the method used for establishing the indicative trajectory, trajectories or budget and the resulting trajectory, trajectories or budget and their relationship to the indicators to which corresponding adjustments will be applied.

d. Quantify the Party's mitigation information in its NDC in tonnes of carbon dioxide equivalent (tCO2eq), including the sectors, sources, GHGs and periods covered by the NDC; the reference level of emissions and removals for the relevant year or period, and the target level for its NDC; or where this is not possible, provide the methodology for the quantification of the NDC in tCO2eq.

e. Quantify the NDC, or the portion in the relevant non-GHG indicator, in a non-GHG metric determined by each participating Party, if applicable.

f. For a first, or first updated NDC consisting of policies and measures that are not quantified, quantify the emission level resulting from the policies and measures that are relevant to the implementation of the cooperative approach.

g. Provide, for each cooperative approach, the type of cooperative approach, a copy of the authorization by the participating Party, a description of the approach, its duration, the expected mitigation for each year of its duration, and the participating Parties involved and authorized entities.

h. Describe how each cooperative approach ensures environmental integrity, including:

   i. That there is no net increase in global emissions within and between NDC implementation periods. Additions from COP29, how cooperative approach avoids locking in emission levels, technologies or practices that are inconsistent with achieving the long-term goas of the Paris Agreement, how the mitigation are shared between Parties, how participation in the cooperative approach and the combination of all cooperative approaches in which the Party participates contributes to the implementation of the Party's NDC and long-term low-emission development strategy, if it has submitted one.

78. Decision 2/CMA.3, Annex, paragraph 16.

79. Decision 2/CMA.3, Annex, Section A, paragraph 19.

80. Decision 4/CMA.6, Annex I.

ii. Through robust, transparent governance and the quality of mitigation outcomes, including through conservative reference levels, baselines set in a conservative way and below 'business as usual' emission projections (including by taking into account all existing policies and addressing uncertainties in quantification and potential leakage). Additions from COP29, further information on methodological approaches used for quantifying the mitigation outcomes, uncertainties in the quantification of emission reductions, and how the risk of leakage is assessed.

iii. By minimizing the risk of non-permanence of mitigation across several NDC periods and how, when reversals of emission reductions or removals occur, the cooperative approach will ensure that these are addressed in full. Addition from COP29 developments, the frequency and timing of risk assessments, the methodological approaches used for those assessments, the types of risk identified, the likelihood, scale and potential impacts of such risks, and the time-horizons considered, as well as additional information on the monitoring of potential reversals.

i. Describe how each cooperative approach will:

ii. Minimize and, where possible, avoid negative environmental, economic and social impacts;

iii. Reflect the eleventh preambular paragraph of the Paris Agreement, acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity;

iv. Be consistent with the sustainable development objectives of the Party, noting national prerogatives;

v. Apply any safeguards and limits set out in further guidance from the CMA pursuant to chapter III.D above (Safeguards and limits to the transfer and use of internationally transferred mitigation outcomes);

vi. Contribute resources for adaptation as per decision 2/CMA.3, annex, paragraph 22(j) and 37, if applicable;

vii. Contribution to the delivery of overall mitigation in global emissions as per decision 2/CMA.3, paragraphs 22(k) and 39, if applicable.

If the country has not yet submitted a BTR, the initial report shall contain information on the NDC (see (b) above). This makes it possible for the country to update NDC information, including on its intention to engage in cooperative approaches.

Regular reporting

Once a country has engaged in a cooperative approach, it must report information on that approach regularly. Paragraphs 21 and 22 of Decision 2/CMA.3 (Annex) list the information related to cooperative approaches that countries participating in Article 6.2 must include in the BTR, specifically:

- How a Party is fulfilling the participation responsibilities
- Updates to the information provided in its initial report
- Authorizations for the use of ITMOs
- How the selected corresponding adjustments ensure that double counting is avoided, are representative of progress towards implementation and achievement of the country's NDC, and do not lead to a net increase in emissions
- How the country has ensured that the selected ITMOs will not be further transferred, further cancelled or otherwise used
- How each cooperative approach in which the country participates contributes to the mitigation of GHGs and the implementation of its NDC, and ensures environmental integrity.

The last bullet highlights the critical need to tie participation in cooperative approaches to the progress of implementing and achieving the NDC.

The BTR shall, as best practice, also include information to ensure that methodologies and approaches for cooperative approaches applying both GHG metrics and non-GHG metrics are robust. Furthermore, information is required on how negative impacts are avoided, considerations of gender equality, human rights and rights of indigenous peoples, local communities and vulnerable people, and how the cooperative approach contributes to sustainable development. Relevant information can also be provided where countries participating in the cooperative approach have contributed resources to adaptation or to an overall mitigation of global emissions.

Annual information

Countries must report annual information from their registries electronically, using the agreed electronic format (AEF). An example of a completed tabular format for Ghana is provided in the Annex of this guide. The tables for submitting annual information will be automatically generated and pre-filled on the centralized accounting and reporting platform (see sub-section below on Article 6.2 for more insights on the reporting platform) using information previously submitted in the AEF.

The information to be reported annually includes:

- Annual information on authorization of ITMOs and detailed information on any transactions[81] of ITMOs

81. For use towards achievement of NDCs, for other international mitigation purposes, first transfer, transfer, acquisition, holdings, cancellation, voluntary cancellation, voluntary cancellation of mitigation outcomes or ITMOs towards overall mitigation in global emissions and use towards NDCs

- For each ITMO authorization:
    - Cooperative approach or other international mitigation purpose authorized by the Party
    - First transferring participating Party, as well as any using participating Party or authorized entity or entities.
    - Year of mitigation, sector(s) and activity type(s)
    - Unique identifiers.

Paragraph 23 of the Annex to decision 2/CMA.3 describes how annual information related to cooperative approaches is to be reported in the structured summary of the BTR. Indeed, the tables described above shall be included in an annex to the BTR. This information includes both the annual registry information and a definition of the emissions balance (annual anthropogenic emissions by sources and removals by sinks covered by the NDC). See Chapter 6 for more details on what needs to be reported.

CASE STUDY

Alignment of Ghana Article 6 system with its national transparency system

In Ghana, the Environment Protection Agency (EPA) tracks and reports the progress of implementing the NDC across the nation and regularly publishes progress, achievements, and challenges in the BTR, consistent with the UNFCCC Decision 18/CMA.1.

In order to facilitate the transmission of information related to Article 6 participation, the Carbon Markets Office (CMO) that administers Article 6 technical administrative procedures, is established within the EPA, which oversees the overall transparency system.

CMO collaborates with MESTI and ensures the authorization of ITMO involving Article 6 voluntary cooperation. It manages Ghana's carbon registry and is responsible for Article 6 mandatory reporting.

Responsibilities for required reporting

Ghana has defined responsibilities for reporting to the UNFCCC[82]:

- Ghana CMO prepares Article 6.2 Initial Report before issuing the authorization letter and releases an official authorization statement for each mitigation activity.
- CMO prepares quantitative information on Article 6.2 transaction in an electronic format as Annual Report and submits it to the UNFCCC for recording in the Article 6 database.
- EPA and CMO prepares Regular Information on Ghana's Article 6.2 cooperation approach as an annex to Biennial transparency reports.

Article 6.2 Registries Ecosystem

Tracking of ITMOs in a national registry is necessary to comply with the requirements for robust accounting and avoidance of double counting. As described below, access to a registry is necessary to track mitigation activities, including their status, authorizations and transfers. Countries can use information from their national registry for their annual and periodic reporting.

82. Ghana Carbon Markets Office, Ghana's framework on international carbon markets and non-market approaches (2022). Available at: https://cmo.epa.gov.gh/wp-content/uploads/2022/12/Ghana-Carbon-Market-Framework-For-Public-Release_15122022.pdf (accessed 13 November 2025).

A registry functions as a system designed to record and monitor specific activities and their impacts over time. In the context of climate action, it operates as a digital platform that documents the quantity of GHG emissions that have been reduced or removed from the atmosphere. Essentially, it serves as an official tracking tool that ensures emissions reductions are accurately recorded, monitored, and used as intended.

The guidance adopted under Article 6.2 also defines the digital architecture required to operationalize cooperative approaches. This architecture encompasses several interconnected components:

- **National registries** established by participating Parties to track ITMOs[83];
- The **International Registry**, administered by the UNFCCC Secretariat, serving Parties that do not operate or have access to a national registry[84];
- The **Article 6 Database**[85], designed to collect and consolidate the quantitative annual information[86] submitted by Parties on ITMOs; and
- The **Centralized Accounting and Reporting Platform (CARP)**[87], which provides the overarching transparency framework for cooperative approaches and supports the technical review processes.

In essence, the International Registry and the Article 6 Database function as integrated components of the CARP, all developed and maintained under the responsibility of the UNFCCC Secretariat.

This arrangement establishes a dual-layer registry system that reflects a balance between centralized approaches — through the use of the International Registry — and decentralized preferences, allowing Parties to set up their own national registries or rely on private registry service providers.

BOX 5.4

Information to track ITMOs in a national registry

The Party should build a registry, or prepare for access to an international registry, that allows for the following aspects to be covered through the lifecycle of transferable ITMOs – from the registration of activities intended to be transferred, to requests for authorization and the tracking of units already transferred. The Article 6.2 guidance requires Parties to (among other factors)[88]:

- Identify the mitigation activity intended to result in the transfer of ITMOs (type and sector of activity, geographic location, vintages[89] and authorized use)
- Identify the entity responsible for generating the ITMOs from the mitigation activity
- Verify that the mitigation activity has been authorized by the issuing Party following the applicable national/international requirements in place

83. Decision 2/CMA.3, annex, paragraph 29.

84. Decision 2/CMA.3, annex, paragraph 30.

85. Decision 2/CMA.3, annex, paragraph 32.

86. Annual information is required as per decision 2/CMA.3, annex, chapter IV.B and annual information as part of regular information is required as per decision 2/CMA.3, annex, chapter IV.C. Annual information is primarily quantitative in nature.

87. Decision 2/CMA.3, annex, paragraph 35.

88. Decision 2/CMA.3, Annex, paragraph 29.

89. in this context, the term “vintages” refers to the year when the emission reductions occurred.

- Ensure the mitigation activity has been verified according to the requirements of the issuing Party and any international requirement for international transfer
- Assess the risk of double counting at specific stages of the mitigation activity (identification, approval, verification, issuance, transference and use)
- Record and track the following information for each ITMO: a unique identifier, authorization, first transfer, transfer, acquisition, cancellation, use towards NDCs, authorization for use towards other international mitigation purposes and voluntary cancellation[90]
- Establish a balance of ITMOs transferred
- Periodically provide a quantification report of transferred units assessed by a third party.

The flexibility under Article 6.2 allowing the use of a national registry, a third-party registry , or the UNFCCC-managed international registry should be carefully evaluated, taking into account the respective advantages and disadvantages as well as national circumstances.

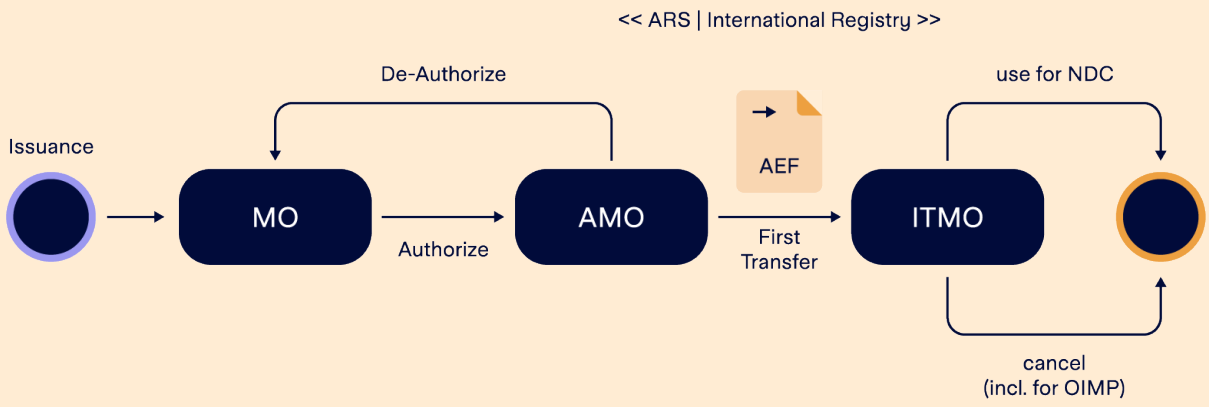
The **Additional Registry Services (ARS)** represent an additional layer within the Article 6 ecosystem, dedicated to mitigation outcomes prior to authorization. Indeed, Mitigation Outcomes (MOs) are outcomes intended to be authorized by a Party. Once authorized, they become Authorized Mitigation Outcomes (AMOs), MOs not yet first transferred. AMOs first transferred or MOs authorized and first transferred then become ITMOs.

The ARS is designed to host mitigation outcomes before they are officially authorized by the host Party or before a first transfer takes place. When the host Party grants authorization or when a first transfer occurs, these units migrate from the ARS to the International Registry and become ITMOs.

90. In a technical paper published by the UNFCCC Secretariat, options for implementing tracking include the use of serialized units, uniquely identifiable accounting amounts, and balance-only accounting amounts. For an elaboration of these options see UNFCCC Technical paper on options for operationalizing the guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement (2022) and in Decision 2/CMA.3.

FIGURE 5.3

ITMOs lifecycle within the Article 6.2 registries ecosystem



Source: Adapted from the UNFCCC Secretariat (2025).

ITMOs will have the ability to be transferred to the International Registry from the ARS or a connected registry, e.g a national registry. Once in the International Registry, ITMOs can be moved:

- Between accounts in the same Party section;
- To another Party' section;
- To accounts in a connected or non-connected registry.

As described on the figure 5.4, Article 6.4 emission reductions (A6.4ERs) can become ITMOs under certain consideration (see Chapter 3 – The Paris Agreement Crediting Mechanism). Then, the unit leaves the Mechanism Registry (Article 6.4, see paragraph below) and enters in the International Registry to be tracked as an ITMO.

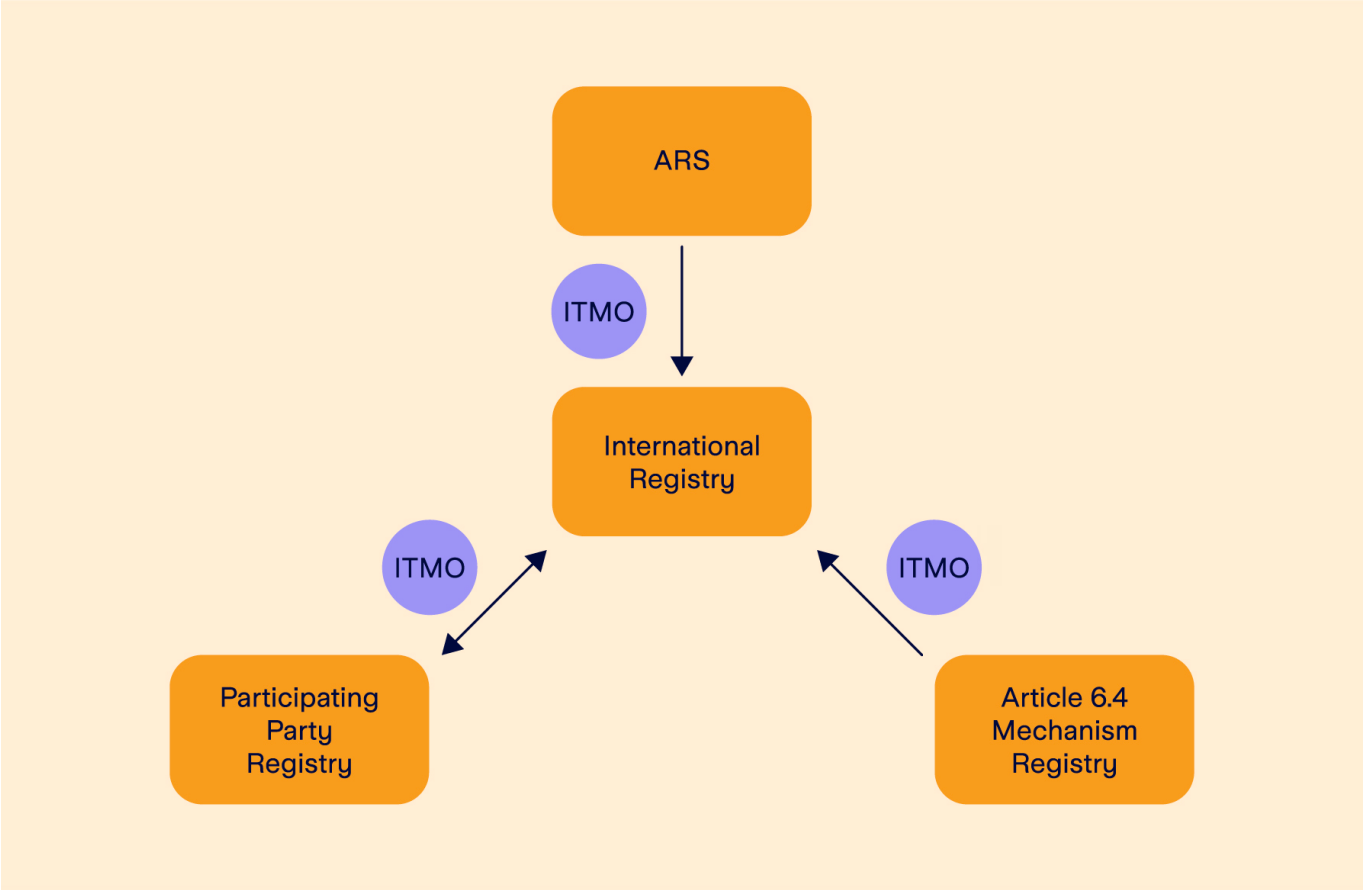
Within this ecosystem, an ITMO completes its lifecycle once it is transferred to a designated end-of-life account, as outlined below:

- NDC Use account;
- Other International Mitigation Purposes account;
- Voluntary cancellation account.

At the time of publication of this guide, the secretariat is in the process of launching the International Registry and the ARS.

FIGURE 5.4

Interactions between registries



Source: Adapted from the UNFCCC Secretariat (2025).

TABLE 5.1

Advantages and disadvantages of each component of the Article 6.2 registries ecosystem

Approach to registry access	Advantages	Disadvantages	Host country suitability
National registry	▪ Strong national ownership ▪ Customizable to country context ▪ Scalable and modifiable over time	▪ Highest upfront costs ▪ Requires strong technical and legal capacity ▪ Ongoing security and interoperability responsibilities	Countries planning extensive international market participation, especially those with multiple cooperative approaches.
Third-party registries	▪ Limited technical expertise needed ▪ Likely to be interoperable with other registries ▪ Likely to offer flexibility to purchase different levels of functionality	▪ Provider owns source code ▪ Limited back-end customization ▪ Interoperability with other registries determined by third party ▪ Ongoing fees may be high ▪ Use tied to provider's methodologies	Countries with limited mitigation activity and lack in-house capacity and wanting registries with established reputations and flexibility to customise the registry's functionality.
International registry	▪ Lowest cost option ▪ Full technical support ▪ Designed to be interoperable with other registries	▪ Need to follow rules, processes and requirements specified by the UNFCCC	Countries with financial and technical constraints or limited Article 6.2 strategy.

CASE STUDY

Ghana's Article 6.2

Ghana carbon registry

The Ghana Carbon Registry (GCR) is a registry established by the Government of Ghana to serve as a database for collecting and tracking transactions from mitigation activities at sector, city and corporate levels.

The registry has been designed to operationalize Ghana's Article 6 Framework including other markets and non-markets for global, country, corporate and voluntary obligations. The GCR is managed by CMO inside the EPA. The main functions of the GCR are the following:

- Record information on the development of eligible mitigation activities implemented in Ghana with the view to create authorized ITMOs;
- Host the ITMOs account for eligible mitigation activity under each cooperative approach;
- Hold information on actions relating to ITMOs, including authorization, first transfer and transfers, acquisitions, use towards NDCs, authorization for use toward OIMP and voluntary cancellation including for OMGE if applicable;
- Document information on ITMOs transactions with other national registry,

FIGURE 5.5

Unique identifier format and label in Ghana Carbon Registry for the issuance of 10 tCO2e of MOs into the holding account of the mitigation activity developer

GCH	**Cooperative approach identifier**
EPA	**Host country identifier**
GH	**Issuing country identifier**
ACC	**Activity location identifier**
1	**Starting number of MOs block unit**
10	**Ending number of MOs block unit**
0110	**Activity type identifier, no of issuances to MOs**
2023	**Year of issuance of MOs**
2021	**Calendar Year MO occurred (vintage)**
LOA	**Use case label**
NDC	**CA label**
CA1	**First transfer label**

including tracking, maintaining and accounting for ITMOs with unique identifiers (See figure 5.5).

Article 6.4 Mechanism Registry

The Article 6.4 Mechanism Registry records emission reductions and removals—referred to as A6.4ERs—generated through activities authorized under the Paris Agreement Crediting Mechanism. Each reduction or removal is assigned a unique identification code, which enables transparent tracking of when and where it was generated, the entity that holds it, and how they are used—whether for trading, meeting climate commitments, or being retired from use.

The registry contains accounts that record the ownership and movement of each A6.4ER. Parties and authorized public or private entities may establish accounts to hold, transfer, or utilize these units. Acting as the registry administrator, the secretariat initially issues newly created A6.4ERs into a designated "pending account" before allocating them in line with the instructions provided by the activity participants.

A6.4ERs may be exchanged among account holders within the registry. Their final use, however, depends on whether they have been authorized by the host Party:

- **Authorized A6.4ERs (AERs)**: When a host Party designates an A6.4ER for participation in a cooperative approach under Article 6.2 of the Paris Agreement, it becomes an Authorized Emission Reduction. Additional metadata is attached to specify its intended purpose, such as the international mitigation objective it supports. Once interoperability arrangements are operational, AERs may be transferred to the international registry or to Party registries.
- **Mitigation Contribution Units (MCUs)**: If an A6.4ER is not authorized for transfer, it remains within the mechanism registry as an MCU. These units contribute to the host Party's NDC and are not eligible for use by other Parties. Nonetheless, MCUs can support domestic climate finance initiatives and environmental programmes. Under certain conditions, MCUs may subsequently be authorized and converted into AERs

An interim mechanism registry (IMR) has been set up to provide support while the Article 6.4 Mechanism Registry is being developed[92].

Technical Review under Article 6

The technical expert review (TER) under Article 6 were clarified during COP29. The TER identifies inconsistencies in submitted information, including omissions, mismatches, or contradictory data, across initial reports, updated reports, and BTRs. If no inconsistencies are found, the information is marked as "No inconsistencies identified"; otherwise, it is flagged as "Inconsistencies identified", following procedures developed by the Secretariat. The review process allows Parties to submit revised initial reports during the review week to address issues.

The status of each review is made publicly available through the centralized accounting and reporting platform, using a graded system ranging from "Review pending" to "Review finalized and significant and persistent inconsistencies identified". Significant and persistent inconsistencies, including cross-Party issues or delays in response, are publicly displayed to enhance transparency, accountability, and confidence in cooperative approaches and internationally transferred mitigation outcomes.

92. For guidance on how to use the IMR, the UNFCCC has published a user guide: https://unfccc.int/sites/default/files/resource/UserGuide_Interim_Mechanism_Registry.pdf (accessed 13 November 2025).

The TER team determines whether an inconsistency is significant and/or persistent, highlighting such cases in the review report and liaising with the Paris Agreement Implementation and Compliance Committee as appropriate. Parties are required to respond to TER recommendations, correcting inconsistencies in their next updated initial report or regular information submission, whichever occurs first.

At COP29, Parties adopted further guidance to address inconsistencies arising in the implementation of Article 6.2 trade agreements. Automated consistency checks will be introduced to detect discrepancies, with their results made publicly available through the CARP. However, no binding corrective measures have been established: Parties are simply encouraged to refrain from using ITMOs identified as inconsistent. This absence of enforcement could jeopardize market integrity and weaken the credibility of the mechanism. Similar to the provisions on authorization revocation, COP29 agreed that inconsistencies leading to double counting will be highlighted in the first section of the Article 6 technical expert review report, and that the COP will be informed through the annual reports submitted by Parties, ensuring that such inconsistencies are made public.

Concerns regarding inconsistencies identified in TER were confirmed at the 2025 COP30 in Belém, as all trades conducted under Article 6.2 have been flagged during expert review. Consequently, negotiations focused on the scope and manner of requesting greater detail and transparency in the reporting and review process. The COP30 draft decision[93] merely "notes" these inconsistencies and "urges" Parties to address them, while emphasizing that the reporting and review process remains at an "early stage." It further requests that reviewers "clearly explain" any issues they identify and the approaches for resolving them.

Key Messages

- Transparency plays a key role in ensuring environmental integrity. The ETF modalities, procedures and guidelines include the reporting requirement. The main reporting document is the Biennial Transparency Report.
- National transparency frameworks are key in providing information on the progress of implementation of NDCs. These should cover, among other factors, how to define key indicators for tracking progress towards NDC achievement and processes for monitoring, reporting and verification of mitigation outcomes and reporting and accounting requirements related to Article 6.
- Countries have three main reporting obligations when participating in Article 6 activities (involving ITMOs): the initial report, regular reporting (integrated with the Biennial Transparency Report) and annual information.

93. Draft decision -/CMA.7, Implementation of the guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement: https://unfccc.int/sites/default/files/resource/A6.2_dt_cma7_i15a_3.pdf (accessed 15 December 2025)



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6 Building Blocks for Transparency

This chapter introduces key aspects to consider for proper accounting and reporting. It provides insights on the tracking of progress of nationally determined contributions (NDCs) and specific implications for countries participating in Article 6. To track progress, it is necessary to have a quantification of, among others, NDC greenhouse gas (GHG) targets and actions. This chapter also elaborates on the need to use robust methodologies to ensure environmental integrity and how the level of details and acceptance of these methodologies contribute to the transparency process.

Tracking progress of nationally determined contributions and Article 6.2

For countries to demonstrate they are on the way to achieve or have achieved their NDC targets, it is essential that:

- The outcome of mitigation actions is reflected in the indicators used to track progress
- The mitigation outcomes contribute to achieving the NDCs
- Participation in a cooperative approach does not lead to a net increase of emissions for the transferring country.

NDCs have different types of targets (e.g., absolute, relative or intensity GHG targets), against different base years, for different scopes (e.g., economy-wide or a set of sectors), can be expressed using different metrics, and can consist of planned policies and measures.

It is explicitly stated in Decision 2/CMA.3 (Annex, paragraph 15) that the provisions under Article 6 "shall not require a participating Party to update its NDC". This means that no country should be required to change or update its NDCs to participate in Article 6. This has implications for the national transparency system and requires consistency between the reporting on the progress of NDCs and the implementation of Article 6.

It is up to each country to identify and select the relevant indicators. Once indicators are identified and selected, the country must provide all information related to the period for targets and actions, such as the reference point or level, baselines, base years, or starting points defined in other ways (Decision 18/CMA.1 (Annex, paragraph 67)).

A specific reference to Article 6 is made in Decision 18/CMA.1 (Annex, paragraph 76), which states that countries have to describe how each indicator is related to the NDC, and for each indicator to describe "how double counting of net GHG emission reductions has been avoided, including in accordance with guidance developed related to Article 6, if relevant."

Building on the information listed above, Parties will have to track progress towards implementation and achievement of their NDC targets in their Biennial Transparency Reports (BTRs) by comparing the most recent information on selected indicators with their respective reference points(s), level(s), year(s), baseline(s), base year(s) or starting point(s). Figure 6.1 shows a general approach for tracking progress in implementing NDCs.

Moreover, in their first BTR containing information on the end year or period of the NDCs, each Party shall include a self-assessment of the achievement of its NDCs based on, among other factors, the most recent information for each selected indicator.[94] An additional requirement is that every country shall provide projections of key indicators to determine progress towards its NDCs.

Article 6 tracking tools must be integrated into or strongly linked to a country's tracking systems for NDCs, which are ideally closely linked to the institutional arrangements for preparing the national GHG inventory, so that a country is able to monitor progress in NDC implementation while keeping track of accounting implications of corresponding adjustments.

In addition, the structured summary of the BTR shall contain annual information on:

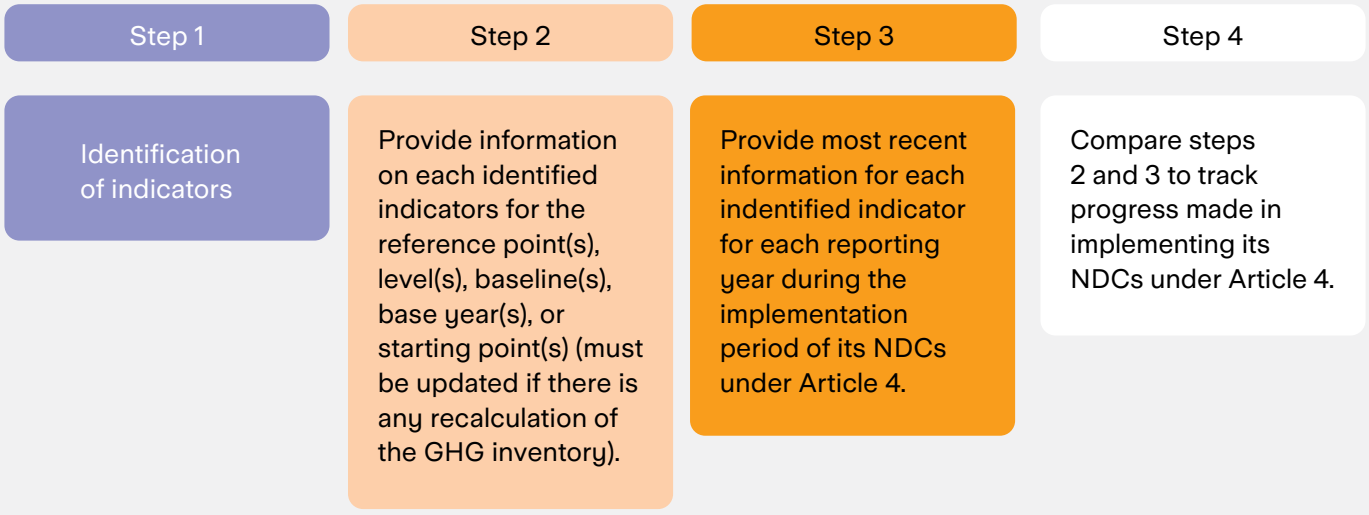
- GHG emissions levels covered by the NDC, or portions of the NDC
- Annual quantities of the first ITMOs transferred, authorized and used
- Quantity of corresponding adjustments used to calculate the emissions balance
- The annual level of the non-GHG indicator used to track the progress of NDCs
- Amounts and vintages of ITMOs

The information shall contain an annual emissions balance when GHG metrics are used and annual adjustments for each non-GHG metric used.

94. Federico Brocchieri and others, "Proposed indicators for domestic MRV purposes and tracking progress of NDCs", ISPRA Raporti 340/2021 as part of a project of the Initiative for Climate Action Transparency (ICAT) (2021).

FIGURE 6.1

General approach for Parties to track progress made in implementing nationally determined contributions using indicators (Paragraph 65 – 69, Annex to Decision 18/CMA.1, Annex, paragraphs 65 – 69).



Emissions balance and non-GHG metric balance

Countries must report on the preparations for participation in cooperative approaches. The contents of the report will differ depending on the type of NDC targets/actions the participating countries wish to communicate. There are three main cases, each of which has different provisions for how a country should make corresponding adjustments, and for how a country should balance created emissions against corresponding adjustments. The cases diverge in tracking and accounting approaches as they use differing indicators. Ultimately, the cases represent different accounts or narratives of the NDCs. The three cases are:

- Quantitative mitigation targets applying carbon dioxide-equivalent (CO2e) metrics; the main indicator could be, for example, economy-wide annual levels of GHG emissions
- Quantitative mitigation applying non-GHG metrics; the main indicator could be the capacity of renewable energy in megawatts
- Policies and measures; the main indicator could be the number of policies enacted indicated by legislation.

GHG metrics

Countries must ensure that the GHG inventory includes data on sources and removals contributing to the NDCs. However, Decision 2/CMA.3 (paragraphs 8 (a) and (b)) does not provide a start date for this process. The ETF requires annual GHG inventories from 2020[95] – this implies that the data for NDC-covered sources and removals must be available from 2020 onwards.

However, if the reference period for the NDCs is earlier than 2020, the time series in the GHG inventory must also include these years. The GHG inventory is the basis for the emissions balance when GHG metrics are used. As part of the preparation to participate in cooperative approaches, a country needs to quantify the mitigation information in the NDCs in tonnes CO2e, including sectors, sources, GHGs and time periods, metrics used, the reference level of emissions and removals, and the target level.[96]

Non-GHG metrics

Participating in cooperative approaches applying a non-GHG metric requires that the NDCs, or the part of the NDC that is applying a non-GHG metric, must be quantified. The additions and subtractions through corresponding adjustments do not create an emissions balance, but a balance based on the selected indicator for tracking non-GHG metrics. Another important element is that although corresponding adjustments can be made in the non-GHG metric,[97] the country must still convert the outcome into CO2e for reporting in the BTR (Decision 2/CMA.3, annex, paragraph 22 d).

Policies and measures

For NDCs with policies and measures that are not yet quantified, the country must quantify the emission level that is expected to result from the policies and measures relevant to the cooperative approach.[98] In this case, this will be the basis for an emissions balance. The ICAT Policy Assessment Guides supports countries in assessing the impacts of policies and actions can be useful for this quantification.[99]

95. Decision 18/CMA.1, paragraph 57–58.

96. Decision 2/CMA.3, Annex, Section A, paragraph 18 (d).

97. Decision 2/CMA.3, paragraphs 9 (a) and (b).

98. Decision 2/CMA.3, Annex, Section A, paragraph 18 (f).

99. Initiative for Climate Action Transparency, Policy Assessment Guides. Available at: https://climateactiontransparency.org/our-work/icat-toolbox/assessment-guides/ (accessed 13 November 2025).

COP28/COP29-enhanced requirements for reporting and accounting

COP28–COP29 strengthened Parties' reporting and accounting obligations under Article 6 by clarifying timing, formats and review procedures to safeguard environmental integrity and avoid double-counting. CMA guidance now defines the "first transfer" as the earliest of authorization, issuance, international transfer or use/cancellation, which triggers the requirement to apply corresponding adjustments and be reported through the Article 6 reporting channels. Parties are requested to submit annual Article 6 information using the updated Agreed Electronic Format (AEF)[100] and the Secretariat will run automated consistency checks and publish results, while also preparing a technical paper to improve the AEF based on operational experience. The CMA further operationalised the Article 6 technical expert review: omissions, mismatches or contradictory information are classified as inconsistencies, which the TER flags (with gradations for significance and persistence) and which Parties must address; ITMOs identified as inconsistent must not be used towards NDC achievement until resolved. Finally, Parties are required to integrate Article 6 records (including authorized A6.4ERs, first transfers, transfers, uses, cancellations and related corresponding adjustments) into the centralized accounting and reporting platform and to reflect these entries in their Biennial Transparency Reports and other Article 6 submissions to ensure traceability and public transparency.

Technical Integration of Article 6 Reporting within the BTR

Under the ETF, Parties engaging in cooperative approaches under Article 6.2 and the Article 6.4 mechanism are required to incorporate quantitative and qualitative information on ITMOs within their BTRs. According to Decision 2/CMA.3 (Glasgow) and subsequent refinements at COP29, Article 6 information is included in the structured summary of the BTR to ensure alignment between cooperative approaches and national greenhouse gas inventories.

Parties must report:

- Annual quantitative data on ITMO authorizations, first transfers, acquisitions, cancellations, and uses toward NDCs, in the AEF.
- The corresponding adjustments applied to their GHG balance to avoid double counting, consistent with paragraph 77(d) of the MPGs for transparency (Decision 18/CMA.1).
- Descriptive information explaining how cooperative approaches promote sustainable development and maintain environmental integrity, as required under Decision 2/CMA.3, Annex, para. 22.
- Information on A6.4ERs, including those not internationally transferred, identifying whether they have been authorized for use toward NDCs or other purposes (e.g., voluntary cancellation or adaptation finance).

The BTR's structured summary thus acts as the convergence point between Article 6 accounting and the transparency framework, drawing from data in the centralized accounting and reporting platform. Automated consistency checks—established at CMA 6—will compare Party submissions across Article 6 reports and the BTR, flagging omissions or inconsistencies for review under the Article 6 Technical Expert Review process. Over time, this integrated approach is expected to standardize how mitigation outcomes are reflected in national and international reporting, strengthening trust in the Paris Agreement's cooperative mechanisms and the global stocktake.

100. Decision 4/CMA.6, Annex II.

Article 6 and Article 13: Accounting

Article 4.13 states that "Parties shall account for their nationally determined contributions. In accounting for anthropogenic emissions and removals corresponding to their nationally determined contributions, Parties shall promote environmental integrity, transparency, accuracy, completeness, comparability and consistency, and ensure the avoidance of double counting, in accordance with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to this Agreement."

The NDC Accounting Guidance (Decision 4/CMA.1) requires Parties to:

- Account for anthropogenic emissions and removals in accordance with methodologies and common metrics assessed by the IPCC
- Provide information on their own accounting methodology if their NDC cannot be accounted for using methodologies covered by the Intergovernmental Panel on Climate Change guidelines
- Ensure methodological consistency (including on baselines) between the communication and implementation of NDCs
- Account for all categories of anthropogenic emissions and removals corresponding to their NDCs.

The accounting of NDC targets and actions in the Paris Agreement is covered in the provisions under Articles 4 and 13 and the ETF contains specific provisions (Decision 18/CMA.1, Annex, Section III).

In addition, Article 6.2 guidance (Decision 2/CMA.3) includes guidance for the accounting of international transfers (i.e., tracking progress towards mitigation targets). As the transfer of ITMOs will impact the achievement of NDC targets, the accounting of transfers must be linked to the accounting of the NDCs.

For countries to be able to carry out adequate accounting, clear, quantified and tracked targets, which set out specified target levels, are needed. It is also essential for countries to have adequate and appropriate accounting within the timeframes of proposed mitigation targets, including the date when the emission reduction occurred. This can be done by using multi-year target trajectories or emission budgets, and for single-year targets by making the transfers of mitigation outcomes representative over time, such as averaging transfers over defined periods (see Annex I for further details).

While the national measurement, reporting and verification system is designed to facilitate the monitoring, collection, analysis and verification of data, the national accounting system is designed to assess how the country has performed towards its targets.

Countries should define their accounting approach before the implementation of the NDCs. When developing the NDCs, the country should think through its NDC targets and actions and how it will domestically track the implementation and achievement of the NDCs. The accounting approach will define the scope and lay out a clear framework for assessing progress and achievement.[101] As part of this, the approach will clarify the NDC target (or the NDC actions). All countries shall provide the necessary information to facilitate clarity, transparency and understanding in their NDCs. This includes quantifiable information on the reference point, time periods for implementation, scope and coverage, planning processes, assumptions and methodological approaches, including those for estimating and accounting for anthropogenic greenhouse gas emissions and, as appropriate, removals.[102] Further enhancing the clarity of the NDC targets and actions can be useful for understanding how they can be achieved and accounted for.

101. C. Elliot, C., Accounting under the Paris Agreement. WRI (2017). 65. Decision 2/CMA.3, Annex, Section A, paragraph 18 (d).

102. Decision 1/CP.21, paragraph 27

The accounting approach will define how a country tracks and reports on the progress towards implementing and achieving the NDCs. Depending on the type of target, different data sets may be used to assess the progress in implementing the NDCs. One set of data is the national GHG inventory; other types include data needed for estimating the impact of actions or policies. If a country wants to analyse the progress for indicators that are not relevant to the national GHG inventory, similar data sets would need to be created for those indicators. A country may want information available on indicators over time for reporting in subsequent BTRs. This is necessary for a party to ensure methodological consistency between the NDCs it originally communicates and tracking of progress made in implementation through the BTR.

In accounting, mitigation outcomes transferred to other countries must be deducted from the achievement of the NDC target, while mitigation outcomes acquired can be added to the achievement of the NDC target. Thus, mitigation outcomes transferred must be included in the data sets selected for accounting. This requires that the transferring countries have full control over transfers and can track mitigation outcomes.

NDC alignment of Article 6 methodologies

Allowing the approaches and methods used in creating mitigation outcomes to be accessed and reviewed by stakeholders is key to ensuring environmental integrity . This is emphasized, for example, in the requirements for the initial report and the BTR to be submitted by countries engaging in Article 6 (Decision 2/CMA.3, paragraphs 18 and 22), see also Chapter 5. Countries must "describe how each cooperative approach ensures environmental integrity", including describing how they have ensured that there is no net increase in global emissions (both within and between NDC implementation periods), how robust and transparent governance is implemented, and how baselines are set in a conservative way considering existing policies.

The data used for the development of projections and calculation of baselines, as well as the calculation of mitigation outcomes, must be transparent and consistent with NDC reference year(s) and target(s). If baselines are not conservatively set – that is, set in a way that instead reflects mitigation activities that would have been undertaken anyway – there is a risk that the mitigation outcomes are overestimated. This could result in an undermining of the objective to avoid a net increase in global emissions. Baseline-setting will impact how transfers of ITMOs affect the host country's NDC target achievement. An overstated baseline would allow the issuing Party to transfer ITMOs that are not real.

One challenge is that carbon crediting is often a result of mitigation relative to an estimation of higher future emissions levels; these levels can be higher than would have been the case if the original activity was not undertaken. A counterfactual baseline needs to safeguard the credibility of the carbon crediting standard or approach and ensure that the acquiring country transfers credible ITMOs to account for its NDCs. The baseline also needs to safeguard the host country's NDC achievement.[103]

The requirement under the ETF to develop projections for GHG emissions under different scenarios will be useful for countries in understanding what actions are suitable for the generation of mitigation outcomes for international transfer. Different scenarios mean that every country shall report a 'with measures' projection of all GHG emissions and removals and may report a 'with additional measures' projection and a 'without measures' projection.[104]

103. A. Michaelowa, H-A Ahonen and A. Espelage, "Setting crediting baselines under Article 6 of the Paris Agreement", Discussion Paper February 2021. Perspectives GmbH (2021).

104. Decision 18/CMA.1, Annex, paragraph 92.

A host country can safeguard their NDCs by setting ambitious baselines, with an integrated or separated assessment of the level of ambition. In the integrated approach, one possibility is to define the assessment of the level of ambition to include the requirement for mitigation to go beyond the host country's commitments. In this case, the ambition assessment is embodied in a baseline setting, as baselines need to reflect host countries' NDCs. Moreover, NDCs are formulated in a 'bottom-up' manner by each country, and do not typically include multi-year carbon budgets, nor clear descriptions of what policies and measures are part of the NDC baseline.

This complicates the need to align multi-year baselines with the host Party's NDCs and will require strong engagement by the host country. However, adopting multi-year targets or trajectories, although more politically difficult, would be advantageous for accounting, providing greater transparency across the period (see Annex I: Corresponding Adjustments for Single-Year Targets).

Public authorities in the country will have a strong role in determining baselines, as baselines need to reflect the assumptions and projections underpinning the host country's NDC targets and actions. Standardized baselines[105] are one approach that host countries can take to ensure a strong role in determining robust baselines. However, host countries may lack the capacity to lead or take part in such work.

As a precautionary measure, a host country can require the use of conservative baselines, which leads to a mitigation benefit that can be counted by the host country, thereby supporting its NDC achievement. Article 6.4 suggests host country involvement, stating that a: "host Party may specify to the Supervisory body, prior to participating in the mechanism: (a) Baseline approaches and other methodological requirements, including additionality, to be applied for Article 6, paragraph 4, activities that it intends to host [...] with an explanation of how those approaches and requirements are compatible with its NDC and, if it has submitted one, its long-term low GHG emission development strategy".[106]

Furthermore, the methodologies applied under Article 6.4 must be aligned with the NDCs. "Mechanism methodologies shall encourage ambition over time; encourage broad participation; be real, transparent, conservative, credible, below 'business as usual'; avoid leakage, where applicable; recognize suppressed demand; align to the long-term temperature goal of the Paris Agreement, contribute to the equitable sharing of mitigation benefits between the participating Parties; and, in respect of each participating Party, contribute to reducing emission levels in the host Party; and align with its NDC, if applicable, its long-term low GHG emission development strategy if it has submitted one and the long-term goals of the Paris Agreement." [107]

A conservative approach ensures that greater actual emission reductions are achieved, rather than credited and accounted for by the corresponding adjustment. The uncredited mitigation automatically accrues to the host country if the mitigation is reflected in the emission balance of sources and sinks covered by the NDCs. This is subsequently counted towards the host country's NDCs.

There are additional ways to mitigate over-selling. In general, the host country benefits from understanding what policies, measures and actions contribute to the achievement of the unconditional target of the NDCs, and what policies, measures and actions would go beyond that. Methods of data collection and methods to calculate emissions for a national GHG inventory are not necessarily the same as the methods used for a mitigation activity under a carbon crediting mechanism. The host country must be aware of potential mismatches

105. Baselines established to facilitate the calculation of emission reductions and removals for specific emission reduction activities.

106. Decision 3/CMA.3, Annex, paragraph 27.

107. Decision 3/CMA.3, Annex, paragraph 33.

between the volume of mitigation outcomes estimated, and eventually transferred, and the volume of emission reductions that appear in the GHG inventory. Capacity-building and stakeholder engagement will be important in the national set-up for participation in Article 6. A better understanding of the relation between the national data collection for the GHG inventory and mitigation activity monitoring and data collection can reduce the risk of mismatches.

CASE STUDY

First transfer between Ghana and Switzerland

Ghana and Switzerland are collaborating under a cooperative approach referred to in Article 6.2 of the Paris Agreement and signed a bilateral agreement[108] in Accra on November 23, 2020. This agreement regulates the cooperation between the two countries and establishes a legal framework for the implementation of GHG mitigation activities under Article 6.2. Twelve projects are being developed under the Ghana-Switzerland agreement. Eight have reached investment decision points and unlocked up to ~ USD850 million from direct investment, carbon revenues, and fees by 2030. The eight projects are expected to create a minimum of 7 000 greenjobs[109].

A first ITMO transfer occurred between Ghana and Switzerland on 3 July 2025, following the implementation of a first mitigation activity in the framework of this cooperation.

The related mitigation activity designated as "Transformative cookstove activity in rural Ghana" aims to reduce GHG emissions in Ghana through the dissemination of improved cookstoves, which are distributed between 2023 and 2027 and generate emission reductions over a crediting period running to the end of 2030. The stoves are locally manufactured and sold at subsidized prices to households in rural and peri-urban areas. The mitigation activity is in Ghana's first whitelist of conditional mitigation activities for 2022-2025.

The Mitigation Activity Design Document (MADD)[110] submitted by the project developer on 17 January 2023 contains the following information:

- Activity description: nature, scope, technology, participants, sustainable operation and transformational effect;
- Methodological approach for determination of mitigation outcomes: baseline, crediting baseline, crediting period, system boundaries and emission sources, how double claiming is avoided;
- Determination, monitoring and reporting of mitigation outcomes: here calculated and monitored according to the Gold Standard methodology Technologies and practices to displace decentralized thermal energy consumption, including a monitoring plan for each parameter and data needed;
- Economic feasibility analysis;
- Annex contains the expected emission reduction calculation and results[111]. The total expected emission reduction over the implementation period (1 April 2023- 31 December 2030), after applying a 10 per cent conservative factor, is estimated at 3,231 $ktCO_2e$, representing an annual average of 403 $ktCO_2e$.

108. Cooperation agreement between the Swiss Confederation and the Republic of Ghana towards the implementation of the Paris Agreement (2020).

109. Ghana's Carbon Markets Office, Ghana's Report on the Implementation of Article 6 of the Paris Agreement (2023). Available at: https://cmo.epa.gov.gh/wp-content/uploads/2024/02/Article-6-Annual-Progress-Report-2023_final.pdf (accessed 14 November 2025)

110. Act Commodity, Mitigation activity design document for Transformative Cookstove Activity in Rural Ghana. Available at: https://share.dma.swiss/s/ap7ipJpS7fAD6so?dir=/5004%20Transformative%20Cookstove%20Activity%20in%20Rural%20Ghana (Accessed 14 November 2025)

111. Act Commodity, file "ITMO_Ghana_ER_Sheet_V4.2_". Available at: https://share.dma.swiss/s/ap7ipJpS7fAD6so?dir=/5004%20Transformative%20Cookstove%20Activity%20in%20Rural%20Ghana (Accessed 14 November 2025)

The mitigation activity proponent has commissioned an independent entity to validate the information provided by the MADD related to the activity design, operation, monitoring and reporting, as requested by Ghana's process in Article 6.2 framework. This independent entity completed a validation[112] report on 3 February 2023 that confirms and validates the results and the monitoring plan established by the project developer.

The project implementation started in May 2023.

The activity has been authorized by both countries through an authorized statement[113] on 31 January 2024. The generated ITMO are transferred to the Swiss Confederation and shall be used towards its NDC, or other international mitigation purposes. The following conditions are specified:

- The first transfer will trigger Corresponding Adjustment by Ghana;
- The methodologies and requirement for MRV must be applied as specified in the MADD;
- The authorized crediting period is from 1 April 2023 to 31 December 2030;
- NDC period for which ITMOs are authorized for use is 2021-2030;
- Total cumulative maximum amount of mitigation outcomes for which international transfer and use are authorized: 3,231 ktCO2e;
- Method for corresponding adjustment that will be applied by Ghana: single year target accounting of Ghana's NDC;
- Method for corresponding adjustment that will be applied by Swiss Confederation: trajectory approach for the single year target of Switzerland's NDC and for the multiyear target of Switzerland's NDC;

The first monitoring report for the monitoring period 01-04-2023 to 31-03-2024 was published on 17 April 2025. The requested emission reductions are 6.0 ktCO2e for year 2023 and 5.8 ktCO2e for year 2024, for a total of 11.8 ktCO2e over the monitoring period.

An independent entity performed a verification of the monitoring report and validated the results of the monitoring report.

After the application of the 1 per cent national buffer planned by Ghana to shore up the risk of overselling, the issued ITMOs reached 5 994 tCO2e for 2023 and 5 739 tCO2e for 2024, for a total of 11 733 tCO2e. The ITMOs were issued on the Ghana Carbon Registry on 18 June 2025, under the account of the mitigation activity. They were transferred to Switzerland on 3 July 2025, and simultaneously cancelled from the Ghana Carbon Registry to prevent double counting[114].

In 2026, both countries need to report the corresponding adjustment on the Regular Information they will provide as an annex to their next Biennial transparency report.

The verification of the first monitoring period provided important lessons for future mitigation activities implemented under Article 6.2. In particular, the actual emission reductions achieved were significantly lower than those initially projected in the MADD. Two main factors explain this gap. First, the number of

112. Carbon Check, Validation report, Transformative Cookstove Activity in Rural Ghana (2023). Available at: https://share.dma.swiss/s/ap7ipJpS7fAD6so?dir=/5004%20Transformative%20Cookstove%20Activity%20in%20Rural%20Ghana (Accessed 14 November 2025)

113. For Ghana: MESTI, Letter of Authorization Statement (2024). Available at: https://www4.unfccc.int/sites/SubmissionsStaging/Documents/202504291540---Cookstove_LOA%20statement.pdf (Accessed 14 November 2025)

For Switzerland: Federal Office for the Environment, Letter of Authorization Statement (2024). Available at: https://share.dma.swiss/s/ap7ipJpS7fAD6so?dir=/5004%20Transformative%20Cookstove%20Activity%20in%20Rural%20Ghana (Accessed 14 November 2025)

114. Ghana Carbon Registry System website, Transformative Cookstove Activity in Rural Ghana. Available at: https://gcr.epa.gov.gh/transformative-cookstove-activity-in-rural-ghana-more-details/ (accessed 13 November 2025).

improved cookstoves ultimately disseminated during the reporting period was well below the planned deployment schedule. Secondly, the estimates of avoided fuel consumption per household had been overly optimistic, leading to an overestimation of expected mitigation outcomes. These findings highlight the importance of adopting conservative assumptions during the design phase, strengthening implementation planning, and ensuring early, accurate field data collection to improve the reliability and robustness of projected mitigation outcomes.

Key Messages

- Tracking and reporting NDC implementation require multiple aspects to be considered, including using adequate methodologies for baseline and reference points setting and the estimation of mitigation outcomes; the definition of proper accounting processes; and establishing a key indicator system for GHG and non GHG targets.
- The transfer of ITMOs impacts the NDCs and transfers and corresponding adjustments must be considered in tracking progress towards NDC implementation and NDC target achievement.
- Host countries should invest in setting baselines for the Article 6 activities in order to ensure they can achieve their NDCs. This is a new task for many developing countries and is based on a good understanding of the assumptions and data underpinning emissions projections and targets.
- Conservative baselines are an option to reduce the risk that the host country approves the crediting of more mitigation outcomes than the original activity would have otherwise generated.

7 Conclusion

The Paris Agreement creates new demands on countries that wish to engage in international carbon markets, requiring robust and transparent national systems that ensure environmental integrity and accountability. As Parties move into the post-Global Stocktake implementation period, the role of Article 6 has become increasingly important for raising ambition, mobilizing finance, and promoting cooperation among countries. Effective participation under Article 6 now depends on countries' ability to demonstrate institutional readiness, ensure robust accounting, and integrate transparency processes across their climate governance frameworks.

The operationalization of Article 6 requires that countries establish clear regulatory, institutional and technical arrangements to authorize and track cooperative approaches and to safeguard against double counting. This includes defining responsibilities, authorities, and infrastructure for identifying and approving mitigation activities; maintaining transparent procedures for authorization, reporting and corresponding adjustments; and ensuring that all internationally transferred mitigation outcomes contribute to the objectives of the Paris Agreement.

The Enhanced Transparency Framework constitutes a mandatory foundation for any Party seeking to participate effectively in Article 6 activities. Its modalities, procedures and guidelines call for countries to put in place comprehensive frameworks for the measurement, reporting and verification of GHG emissions and related indicators. Integrating Article 6 reporting within these systems - through coherent arrangements for GHG inventories, NDC tracking, and reporting on support – is essential to meet international requirements and ensure consistency across reporting elements. A national transparency framework that coordinates GHG inventory development, UNFCCC reporting, NDC tracking, and domestic verification processes is indispensable. It strengthens national data quality, supports evidence-based policymaking, and enhances international recognition of national performance. Strong transparency systems also underpin confidence in the environmental integrity of transferred mitigation outcomes, thereby increasing a country's attractiveness as a partner in Article 6 cooperative approaches. The post-GST phase underscores the urgency for countries to enhance the integration of Article 6 into their national transparency systems and to build the institutional capacity necessary to operationalize these mechanisms effectively. Continuous learning from frontrunner countries such as Ghana, which have developed Article 6 authorization frameworks and linked cooperative approaches to conditional NDC targets, provides valuable insights into aligning international cooperation with national priorities and ensuring sustainable development co-benefits.

Finally, the ETF should be seen not merely as a compliance tool but as a strategic support mechanism for countries to successfully implement NDCs, strengthen their national systems, track progress toward NDC achievement, and engage credibly in international carbon markets. Step-by-step improvements in transparency, consistent application of ETF modalities, and a solid understanding of how internationally transferred mitigation outcomes interact with NDC accounting will enable countries to participate in Article 6 in a manner that ensures environmental integrity, reinforces ambition, and contributes to the collective goals of the Paris Agreement.

Abbreviations and Acronyms

AAU	Assigned Amount Units
CDM	Clean Development Mechanism
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
CO2	carbon dioxide
CO2e	carbon dioxide equivalent
COP	Conference of the Parties
ERU	Emission Reduction Units
ETF	Enhanced Transparency Framework
GHG	Greenhouse Gases
ITMO	Internationally Transferred Mitigation Outcome
JCM	Joint Crediting Mechanism
JI	Joint Implementation
LT-LEDS	Long-term low greenhouse gas emissions development strategies
MRV	Measurement, reporting and verification
NDCs	Nationally determined contributions
SBSTA	Subsidiary Body for Scientific and Technological Advice
UNFCCC	United Nations Framework Convention on Climate Change

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Annex 1: COP28, COP29 and COP30 key insights related to Article 6 of the Paris Agreement

This Annex provides an overview of the principal outcomes from COP28 and COP29 that advance the operationalization of Article 6. Building on the conceptual and procedural groundwork established at COP28, COP29 delivered the technical and institutional instruments required to make the Article 6 framework function in practice, including standardized formats, databases, review mechanisms, and integration within BTRs.

Key developments at COP28 (CMA5, Dubai, 2023)

- While COP28 did not finalize all outstanding elements of Article 6, the session made several important advances that laid groundwork for operationalization:
- Operationalization progress – Parties continued elaborating guidance for the implementation of Article 6.2 cooperative approaches and Article 6.4 mechanism procedures but deferred final adoption of several texts due to lack of consensus.
- Initial report and annual information – Negotiators discussed the sequencing between authorization, first transfer, and corresponding adjustments, preparing the ground for electronic reporting formats.
- First transfer definition – A preliminary convergence emerged that the first transfer should trigger corresponding adjustments, but final language was postponed.
- Revocation of authorization – The concept of withdrawing authorizations was debated, with no final rules adopted; several Parties requested guardrails to preserve market certainty.
- CDM transition – CMA5 reaffirmed timelines from Decision 3/CMA.3, inviting the Supervisory Body to develop procedures for transferring eligible CDM activities and CERs to the Article 6.4 mechanism.
- Article 6.8 – The Glasgow Committee on Non-Market Approaches advanced a draft framework of priority areas (adaptation, just transition, sectoral initiatives) for future work.
- ETF alignment – CMA5 underscored the need to ensure full consistency between Article 6 reporting and BTRs, paving the way for integration at COP29.

Key developments at COP29 (CMA6, Baku, 2024)

- At COP29, significant breakthroughs were achieved that mark the transition of Article 6 from negotiation to operationalization:
- Agreed Electronic Format (AEF) – The agreed electronic format has been updated to include a table on authorizations to be used for annual reporting. Parties are requested to use the Updated AEF for reporting annual information
- Centralized Accounting and Reporting Platform– The Secretariat was mandated to manage CARP

for storage, display, and public access to Article 6 data, including ITMO transfers and use.

- Clarification of "First Transfer" – CMA6 confirmed that the first transfer occurs at the earlier of issuance, authorization, or transfer, and explicitly triggers corresponding adjustments.
- Revocation rules finalized – CMA6 confirmed that revocation of authorization is only valid before the first transfer, must be formally notified to the Secretariat, and recorded in CARP.
- Article 6 Technical Expert Review (TER) – Adopted detailed procedures for identifying and classifying inconsistencies ("no," "significant," "persistent") and linking review findings to transparency reporting.
- Addressing inconsistencies – Parties must resolve inconsistencies promptly, refrain from using inconsistent ITMOs toward NDCs, and report corrective actions in subsequent reports.
- Registry system for Article 6.2 - a 'dual-layer' registry system that will act largely as an accounting mechanism for tracking ITMOs, complemented by an optional service layer for transfers and holdings.
- Integration into the ETF – CMA6 explicitly required that all Article 6 data - authorization, transfer, cancellation, adaptation contributions - be integrated into the BTR structured summary.
- Article 6 mechanism standards - the CMA acknowledged two critical standards developed by the Article 6.4 Supervisory Body: one on methodology requirements for the development and assessment of activities, and another on requirements for carbon removal activities.
- Article 6.4 mechanism registry – Operational framework approved for registry interface, including procedures for issuance, authorization, and transition of CDM activities and CERs.
- Transition of CDM afforestation and reforestation projects - CDM afforestation and reforestation projects could transit to Article 6.4 if their project developers submit a request by the end of 2025. These projects will require seller country approval and must comply with the new standards for removals, ensuring alignment with updated rules.
- Conversion of Mitigation Contribution Units into ITMOs - Countries can issue MCUs to be used domestically or for the VCM and later decide to convert them into ITMOs by applying a corresponding adjustment as long as the MCU has not been transferred out of the Article 6.4 registry.
- Conversion of A6.4ERs into ITMOs - a clear process for A6.4ERs to be converted into ITMOs upon authorization by a participating Party. To facilitate this process, the UNFCCC secretariat has been tasked with developing a standardized template that incorporates the applicable authorization elements from the Article 6.2 decision. This template will enable the identification and tracking of authorized A6.4ERs within the Article 6.4 registry, ensuring transparency and consistency.
- Share of proceeds - LDCs and SIDS were made exempt from paying Article 6.4's Share of Proceeds levy, which is designed to cover PACM admin expenses and contribute additional funds to climate adaptation, though they maintain the option to contribute voluntarily.
- Capacity-building programme – Secretariat tasked to implement a capacity-building and technical assistance programme to help developing countries, LDCs, and SIDS use the AEF and CARP effectively.
- Article 6.8 – CMA6 mandated the Glasgow Committee to operationalize pilot coordination platforms.

Key developments at COP30 (CMA7, Belém, 2025)

- In contrast with the two previous COPs, COP30 made only marginal adjustments and did not introduce any major changes to the Article 6 framework.
- At the 2025 COP30 in Belém, discussions under Article 6 of the Paris Agreement largely focused on refining the rules for international carbon markets established at CMA6 in Baku.
- For Article 6.2, negotiations centered on improving transparency and detail in the reporting and review process, following the completion of the first six technical expert reviews. All trades reviewed to date were flagged for inconsistencies, prompting the COP30 decision to note these issues, urge countries to address them, and request that reviewers clearly explain any findings and resolutions, while emphasizing that the process remains at an early stage.
- Meanwhile, for Article 6.4, COP30 reviewed the work of the autonomous supervisory body. Debates included standards for non-permanence of carbon removals, guidance to avoid excluding land-based projects, and conflicts of interest for body members. While detailed guidance to the supervisory body was ultimately rejected to avoid “micro-managing,” the COP30 decision reaffirmed impartiality requirements, maintained term limits for members, and extended the transition period for CDM projects into the new market until mid-2026, with the CDM scheduled to close by the end of that year. The decisions reflect a cautious approach that balances robust rule-setting with the need to maintain market stability and support near-term climate action.

Annex 2: Technical background

This annex describes key provisions in Article 6 and how they have been operationalized through the decision at COP26 in Glasgow, November 2021. Each paragraph of Article 6 is introduced followed by an elaboration of how the provisions have been operationalized in the Article 6 decision from COP26. The COP26 decision facilitates the practical implementation of Article 6 in its three operational paragraphs, Article 6.2, Article 6.4–6.7, and Article 6.8–6.9. The annex also highlights the work programmes under COP/CMA that have been agreed upon in response to the need for additional guidance and rules.

Article 6.1: Cooperative approaches and higher ambition

"Article 6.1 Parties recognize that some Parties choose to pursue voluntary cooperation in the implementation of their nationally determined contributions to allow for higher ambition in their mitigation and adaptation actions and to promote sustainable development and environmental integrity."

Cooperative approaches are recognized as voluntary actions where Parties may choose to engage in cooperation with other Parties. The purpose is to allow Parties to contribute to their nationally determined contribution (NDC) goals for both mitigation and adaptation actions and to go beyond their targets. Article 6.1 states that Parties may want to cooperate to "allow for higher ambition", with reference to the ambition cycle. This recognizes that while the Kyoto Protocol created flexibility through market cooperation, the Paris Agreement signals that market (and non-market) cooperation should lead to higher ambition.

The operationalization of higher ambition in paragraph 6.1 in COP26 Article 6 decision is found in paragraph 17 of the Annex. It states that: "Each participating Party shall ensure that the use of cooperative approaches does not lead to a net increase in emissions of participating Parties within and between NDC implementation periods or across participating Parties and shall ensure transparency, accuracy, consistency, completeness and comparability in tracking progress in implementation and achievement of its NDC by applying safeguards and limits set out in further guidance by the CMA."

Cooperative approaches may include the linking of emissions trading schemes where cancellations for achieving overall mitigation of global emissions may not be feasible. In this case, the cooperative approach will include flow of allowances across borders; the ambition of the approach will be defined by the cap set by the linked countries. However, in the Annex to the COP26 decision, paragraph 39, Parties and stakeholders "are strongly encouraged to cancel ITMOs that are not counted towards any Party's NDC or for other international mitigation purposes, to deliver an overall mitigation in global emissions".

This is in line with the bottom-up approach of the Paris Agreement – the design of the cooperative

approach is left to the Parties who choose to support each other through its implementation. There is no reference in the text to the need for the United Nations Framework Convention on Climate Change (UNFCCC) to define a type or types of cooperative approach, nor does it prescribe a need for a cooperative approach to be individually approved by the UNFCCC or by a body under the Paris Agreement.

Article 6.2: ITMOs

"Parties shall, where engaging on a voluntary basis in cooperative approaches that involve the use of internationally transferred mitigation outcomes towards nationally determined contributions, promote sustainable development and ensure environmental integrity and transparency, including in governance, and shall apply robust accounting to ensure, inter alia, the avoidance of double counting, consistent with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to this Agreement."

Article 6.2 introduces the concept of internationally transferred mitigation outcomes (ITMOs). These are not carbon units or assets per se, and the paragraph does not explicitly provide guidance for the development of a carbon market (in contrast to the Kyoto Protocol which establishes directly tradable Assigned Amount Units). ITMOs are a tool for accounting the transfers of emission reductions between Parties.

The COP26 decision (Annex, paragraph 1) defines ITMOs as "real, verified and additional, representing emission reductions or removals, and including mitigation co-benefits resulting from adaptation actions and/or economic diversification plans or the means to achieve them." ITMOs are measured in metric tonnes of CO2 equivalent (CO2e) or may be measured in non-GHG metrics consistent with the metrics used in participating countries' NDCs. Additionally, Article 6.4 emission reduction units that are generated through Article 6.4 become ITMOs when authorized for use towards the achievement of NDCs and/or for other international mitigation purposes.

The decision text on Article 6.2 does not go into detail on the type of activities that may be eligible. The decision (decision 2/CMA:3 Annex, paragraph 1) specifically mentions emission reductions and removals. Furthermore, the question of the eligibility of emission avoidance activities was identified in the same decision as a future area of work for the Subsidiary Body for Scientific and Technological Advice (SBSTA) (Decision 2/CMA.3, paragraph 3(c)). However, the subject of emissions avoidance remains a source of concern and strong divergence at COP29. To date, no comprehensive clarification has been adopted to determine whether, and under what conditions, such activities could generate ITMOs or be recognized under the Article 6.4 mechanism.

Corresponding adjustments

Article 6.2 notes that Parties are free to engage in cooperative approaches and international collaboration if they comply with the guidance on accounting. This guidance is determined by the Parties to the Paris Agreement when ITMOs are to be authorized and used. This guidance was early operationalized through the concept of corresponding adjustments, introduced with the Paris Agreement work programme (Decision 1/CP.21).

Section III of the Annex to the COP26 decision for Article 6 (Decision 2/CMA.3), together with paragraph 77 (d) of Decision 18/CMA[115], provides details on the creation and application of corresponding adjustments. Corresponding adjustments must be applied in a manner that ensures transparency, accuracy, completeness, comparability and

115. Asian Development Bank, "Decoding Article 6 of the Paris Agreement", Manila (2018). Available at: http://dx.doi.org/10.22617/TIM189218-2 (accessed 3 March 2023).

consistency, and be representative and consistent with the participating Party's NDC.

The Article 6.2 decision text outlines how corresponding adjustments are to be made for three different cases: GHG metrics, non-GHG metrics, and policies and measures.

Paragraph 77(d) of Decision 18/CMA.1 establishes an emissions balance in which an accounting balance (ITMO adjusted emissions) is created using the emissions of the inventory as a starting point, and then adjusted based on in/out transfers throughout the NDC period. The application of non-GHG metrics implies an approach similar to a buffer registry account-based approach, where a buffer registry is created, beginning from zero, to count in/out transfers and produce a net total.

Corresponding adjustments for GHG metrics

For cooperative approaches where a GHG metric is used the corresponding adjustments are made against an "emissions balance". The country performs corresponding adjustments as follows:[116]

a. "Adding the quantity of ITMOs authorized and first transferred, for the calendar year in which the mitigation outcomes occurred pursuant to paragraph 7 above;

b. Subtracting the quantity of ITMOs used pursuant to paragraph 7 above for the calendar year in which the mitigation outcomes are used towards the implementation and achievement of the NDC, ensuring that the mitigation outcomes are used within the same NDC implementation period as when they occurred."

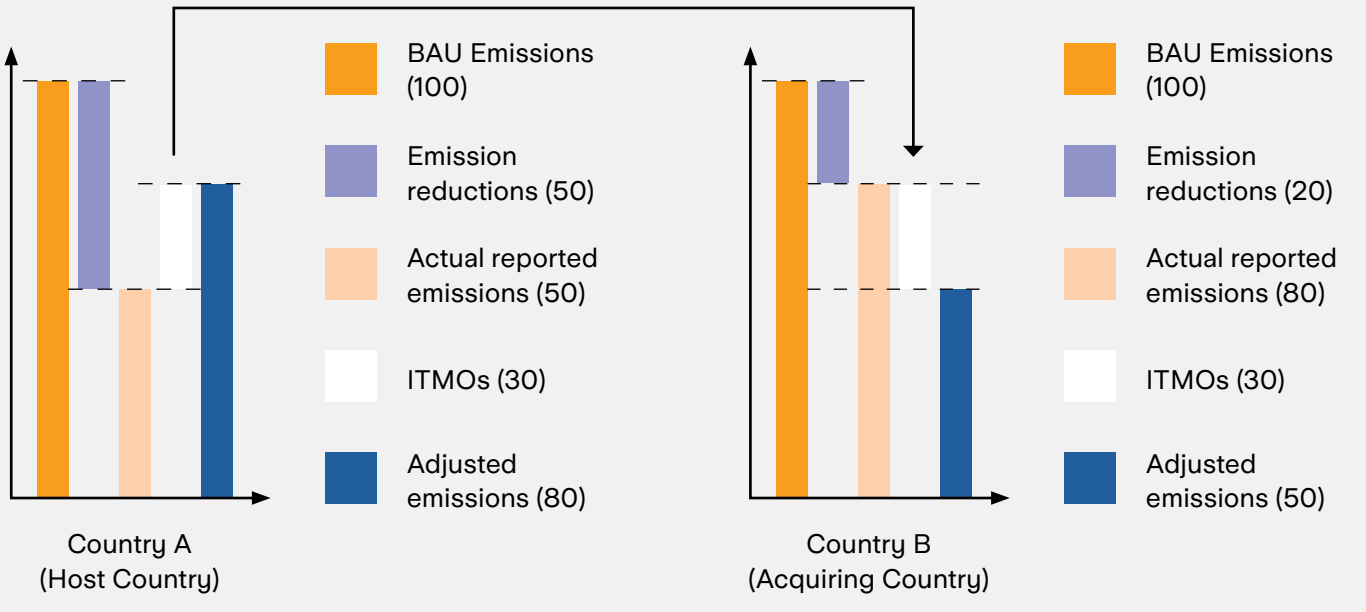
The logic is that a country that is exporting mitigation outcomes (emission reductions or removals) cannot count the mitigation outcomes towards its NDC. A party therefore cannot account for the mitigation outcomes when reporting their GHG emission levels. The acquiring country can account for the mitigation outcomes and can withdraw emissions from its GHG emission level.

The additions and subtractions are not against the GHG inventory, but against an "emissions balance" established in Decision 18/CMA.1. Paragraph 77 (d) implies the anthropogenic emissions by

116,. Decision 2/CMA.3, paragraph 8.

FIGURE A.1

Corresponding adjustments



sources and removals by sinks that are covered by mitigation targets or measures in the NDC.

Corresponding adjustments for non-GHG metrics

The issue regarding the application of corresponding adjustments concerning ITMOs or NDC targets measured in non-GHG metrics was unresolved for several years. ITMOs in non-GHG metrics can be accounted for against non-GHG NDC targets and corresponding adjustments undertaken against a national balance of the relevant metric.[117] For non-GHG metrics, the logic is reversed compared to GHG metrics:

a. "Subtracting the quantity of ITMOs authorized and first transferred, for the calendar year in which the mitigation outcomes occurred.

b. Adding the quantity of ITMOs used for the calendar year in which the mitigation outcomes are used towards the implementation and achievement of the NDC, ensuring that the mitigation outcomes are used within the same NDC implementation period as when they occurred."

For instance, the metric employed in a non-GHG metrics corresponding adjustment may be renewable electricity generation in megawatt-hours (MWh). If the transferring country exports ITMOs, it means that the volume of electricity in MWh will need to be subtracted from the overall generation of electricity from renewable sources in that country. The country designated to use the ITMOs will instead add the volume of electricity to its national generation volume. For both countries, this is to be made in a metric-specific account (noting the idea of a buffer account above).

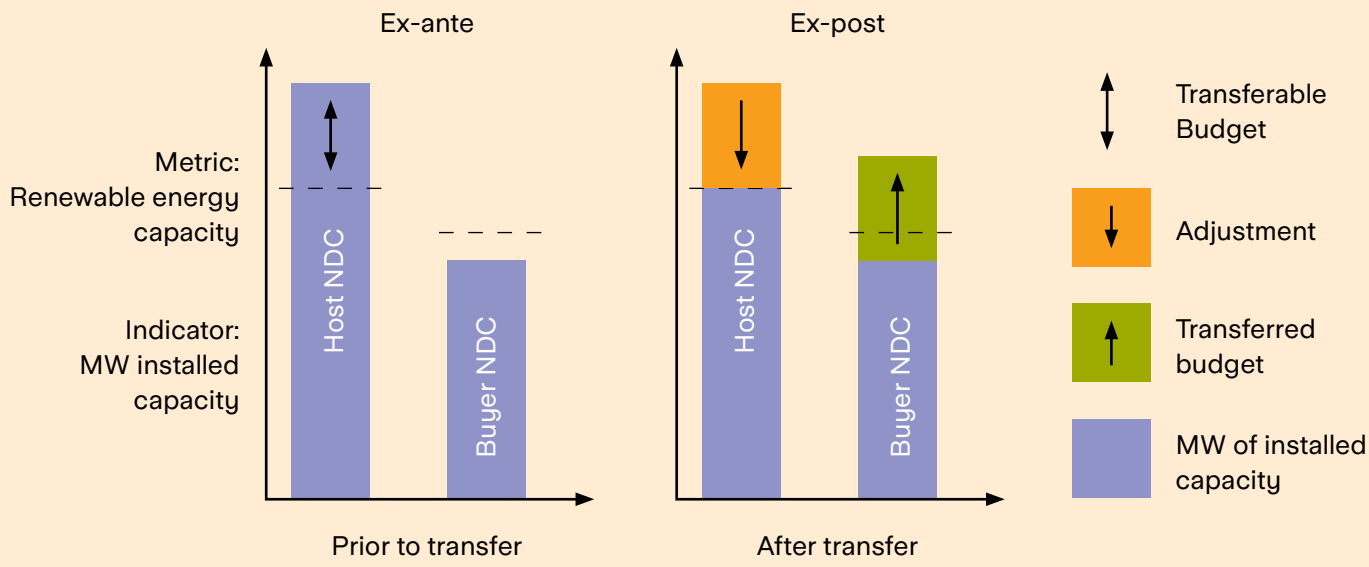
The use of non-GHG metrics has implications for the GHG inventory reporting process – conversion to GHG has to be made even though non-GHG metrics are used as indicators for measuring NDC progress (involving ITMOs in the non-GHG metric).

The guidance is not definitive on the timings for the conversion of non-GHG metric ITMOs place, but the intended conversion rates should be determined at authorization for ITMO use (Decision 2/CMA.3, Annex, paragraph 22 (d))

117. Juliana Kessler and others, "Ensuring transparency of Article 6 cooperation – designing robust and feasible reporting and review processes and building capacities", Discussion Paper 10/2021, Perspectives Climate Research, GmbH (2021).

FIGURE A.2

Example of Corresponding Adjustments for Non-GHG Metrics



and be consistently applied throughout the NDC implementation period of the relevant participating countries. More guidance is expected at the next meeting of the SBSTA and CMA.

Corresponding adjustments for policies and measures

Corresponding adjustments for transfers when the NDC is not quantified and consists of policies and measures shall follow the general principles for corresponding adjustments.[118] In this case, Corresponding adjustments will also be made against the emissions balance described in paragraph 77(d).

Corresponding adjustments for single-year targets

An important consideration for Parties applying corresponding adjustments is whether their NDCs are formulated in multi-year or single-year targets. The difference between a multi-year target and a single-year target is that the multi-year target has a target, or emissions budget, defined for each year. This target or budget will typically include a trajectory that emission levels need to follow to reach the NDC target level at the end year of the implementation period. For single-year targets, such a trajectory or annual emission levels are not defined (see figure A.3). The key risk for single-year target accounting is that it may undermine environmental integrity if not implemented robustly. For instance, if the acquiring country uses ITMOs for achieving its single-year NDC target in years before the end year.[119]

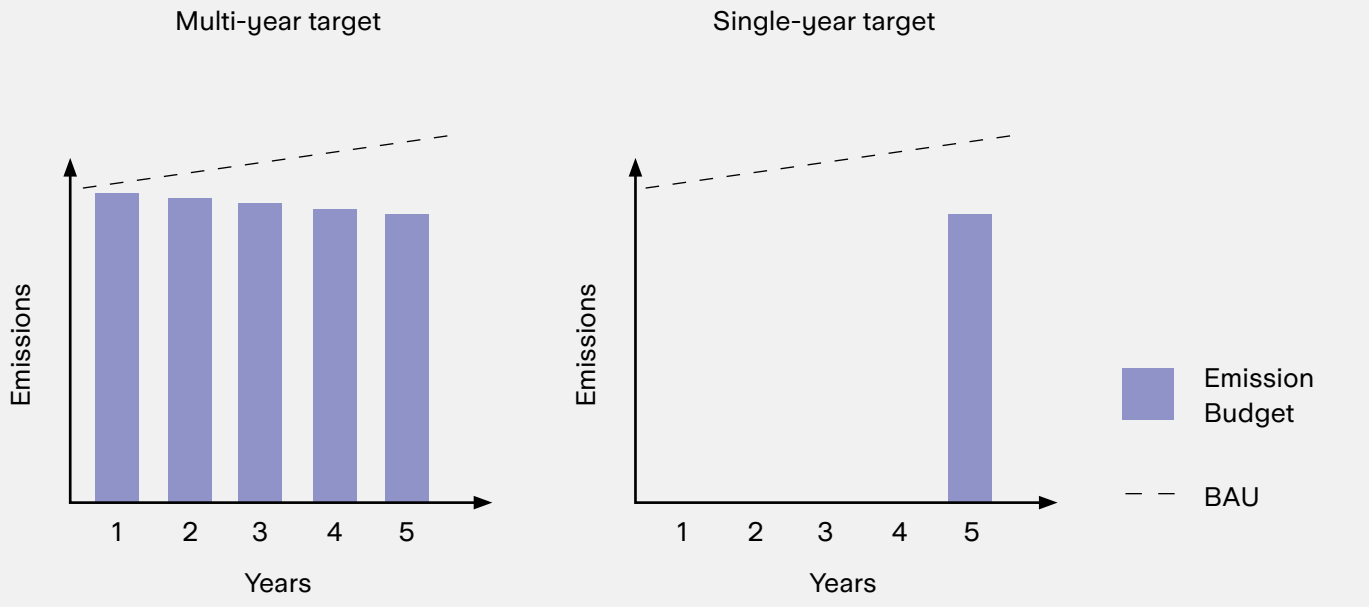
In both cases, one mitigation option is to indicate or calculate a multiyear emissions trajectory or create a carbon budget. Corresponding adjustments can then be made annually for the total volumes transferred or used. Both acquiring and transferring countries would account for their emissions for all years of the NDC implementation period against the trajectory and not only for the single-target year. Alternatively, countries can

118. 2/CMA.3, Section III

119. A. Siemons A. and L. Schneider, "Environmental integrity implications for using international carbon markets in the context of single-year targets", Climate Policy, Vol 22. No. 2, pp. 208–221 (2022).

FIGURE A.3

Single-year target vs. multi-year target NDC



calculate an emissions budget for the entire NDC implementation period. To assess the achievement of NDCs, countries would compare the cumulative emissions with the emissions budget for the NDC implementation period.[120]

In the case of single-year targets, an alternative method is defined in the averaging method. The averaging method implies taking an average of the ITMOs transferred or used during the NDC implementation period; "Prior to the target year, countries need to annually apply 'indicative corresponding adjustments' equal to the cumulative amount of ITMOs transferred or used divided by the elapsed years in the NDC implementation period. These indicative adjustments are reported in all pre-target years for transparency purposes. Yet only the final average corresponding adjustments calculated for the target year of the NDC are ultimately accounted for, by comparing the target level with the adjusted emissions level."[121] The work programme under Article 6.2 specifies that further guidance is to be determined on this topic.

Corresponding adjustments: Time lags

National GHG inventories take time to prepare, and the requirement is to submit the inventory to the UNFCCC no later than two years after the year for which data is collected (Decision 18/CMA.1). Consequently, there will be a gap in time between the year ITMOs are transferred and when the inventory data for that same year will be available (Figure A.3). The emissions balance, which contains the level of anthropogenic emissions by sources and removals by sinks covered by the Party's NDC, is likely to be based on the Party's GHG inventory as reported in accordance with the modalities, procedures, and guidelines of the ETF.[122]

As a result, a Party's emissions balance for a specific year can differ from its level of GHG emissions covered by the NDC for that same year. This can have significant implications on the time series of information that would need to be reported to ensure transparency. The guidance

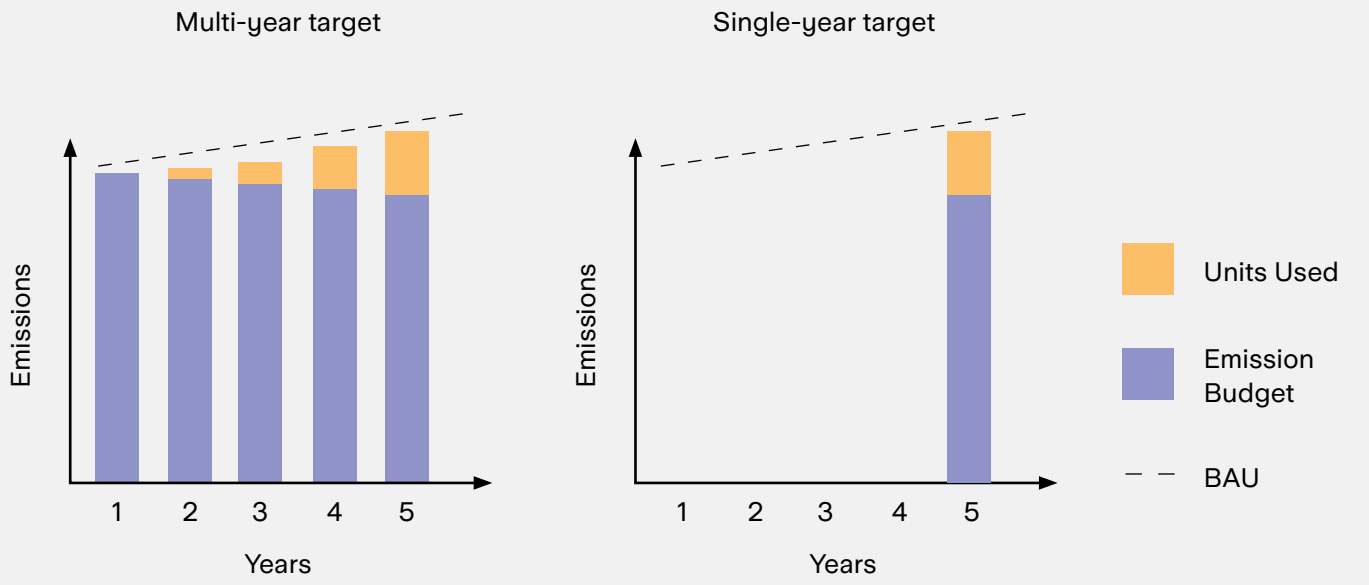
120. Ibid.

121. Ibid.

122. Chiara Falduto, Jane Ellis and Katia Simeonova, "Understanding reporting and review under Articles 6 and 13 of the Paris Agreement", Climate Change Expert Group Paper No.2021(4) OECD/IEA (2021).

FIGURE A.4

Trading with single-year and multi-year targets



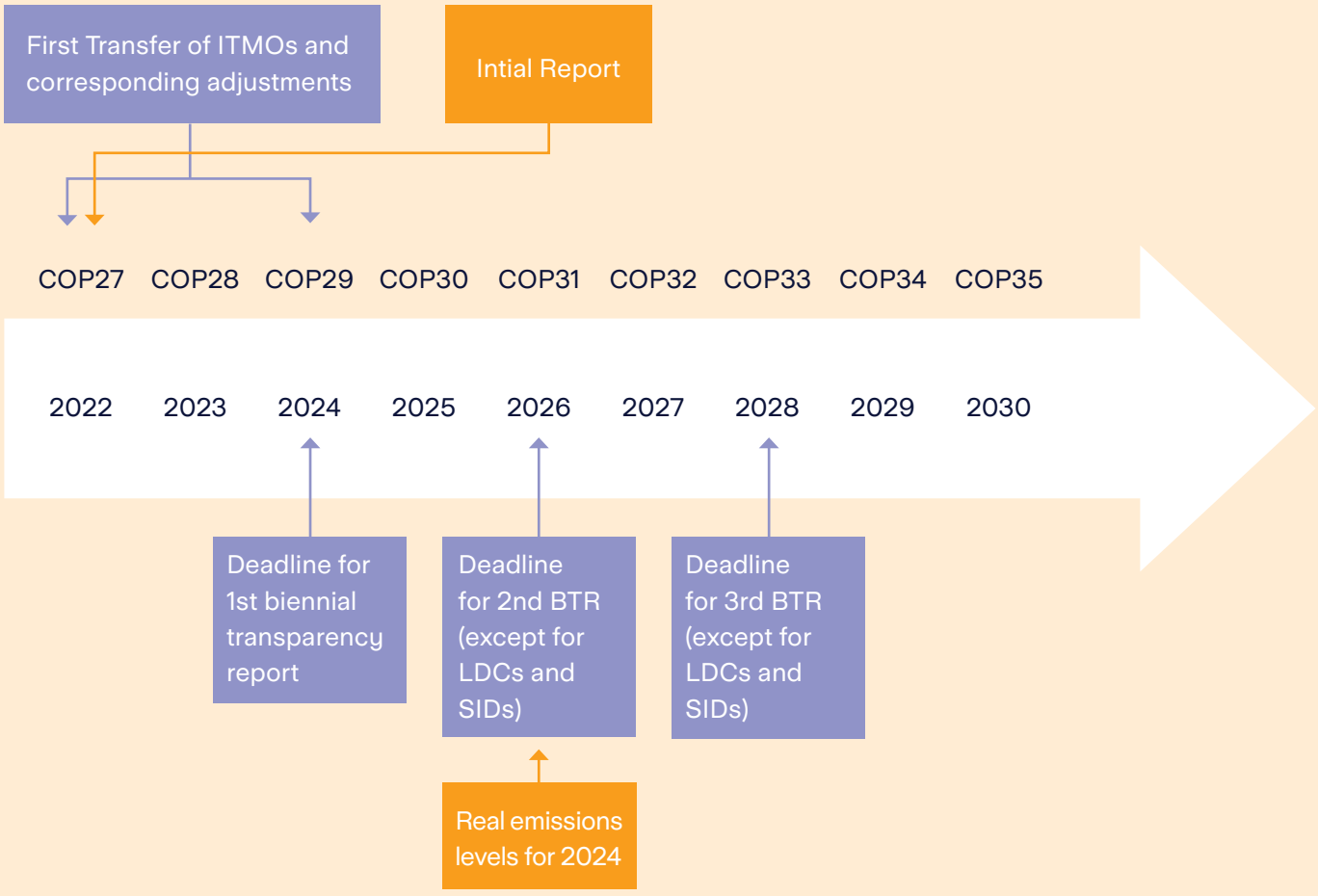
for Article 6.2, and the modalities, procedures, and guidelines of the ETF do not specify what the emissions balance shall be derived from. However, considering that the GHG inventory is the main source of information relating to GHG emissions, the GHG inventory will likely be the basis for determining the emissions balance. One issue with this approach may be the availability of national GHG inventories for the year that corresponding adjustments are to be made.

For a host country – assuming in this case that it is a developing country – it may not be possible to apply a corresponding adjustment for an ITMO transferred in year X and calculate the resulting emissions balance for that year until the year X+2 or X+3. For a developed country, national GHG inventories are likely available in year X+1 since developed countries have been reporting national GHG inventories for over 20 years, and therefore often have established resources and mechanisms to ensure data is readily available.

The implications of time lags are that corresponding adjustments that are made for the transfer of ITMOs in year X, are made against an emissions balance representing the emissions from year X+1 in the developed country, and year X+2 or even X+3 in a developing country. As a result, flexibility relating to the submissions of national GHG inventory reports may lead to non-simultaneous reporting of corresponding

FIGURE A.5

Article 6 reporting into ETF process with time lags



adjustments on the seller and buyer side.[123] Non-simultaneous reporting could cause challenges for the review. Paragraph 26 of the Annex to 2/CMA.3 says "to the extent possible, information submitted by all the participating Parties on a cooperative approach shall be reviewed as part of the review." The review would benefit from having the information from the two participating countries at the same time.

Corresponding adjustments for a specific year are made to create an emissions balance for which information is only available no sooner than next year, and no later than three years. At the point where the decision to authorize the use of ITMOs and to perform the corresponding adjustments is made, the known emissions figures could be outdated by two to three years.

Article 6.3: Participation and authorization

"The use of internationally transferred mitigation outcomes to achieve nationally determined contributions under this Agreement shall be voluntary and authorized by participating Parties."

Article 6.3 emphasizes that participation is voluntary, and that authorization is required from participating countries. Authorization of ITMO use by the issuing country will trigger corresponding adjustments and must be reported.

There is no specific guidance on how the authorization should be implemented, but there is an addition with the option to authorize the use of ITMOs for other international mitigation purposes (Decision 2/CMA.3, Annex, paragraph 16).

This reflects the need to avoid double counting, for instance when mitigation outcomes are exported to be used for compliance with the Carbon Offsetting and Reduction Scheme for International Aviation.

Article 6.4: The new mechanism

"A mechanism to contribute to the mitigation of greenhouse gas emissions and support sustainable development is hereby established under the authority and guidance of the Conference of the Parties serving as the meeting of the Parties to this Agreement for use by Parties on a voluntary basis. It shall be supervised by a body designated by the Conference of the Parties serving as the meeting of the Parties to this Agreement, and shall aim:

To promote the mitigation of greenhouse gas emissions while fostering sustainable development;

To incentivize and facilitate participation in the mitigation of greenhouse gas emissions by public and private entities authorized by a Party;

To contribute to the reduction of emission levels in the host Party, which will benefit from mitigation activities resulting in emission reductions that can also be used by another Party to fulfil its nationally determined contribution; and

To deliver an overall mitigation in global emissions."

Article 6.4 is explicit about using GHG metrics: Article 6.4 emissions reductions are to be measured in tonnes of CO2e. (Annex, paragraph 1, Definitions).

Article 6.4 also establishes a Supervisory Body that "shall supervise the mechanism under the authority and guidance of the CMA and be fully accountable to the CMA" (Decision 3/CMA.3, Annex, paragraph 3). This provides a centralized UNFCCC approach compared to the decentralized approach of Article 6.2.

Article 6.4 paragraphs (a) and (b) provide that mitigation activities shall aim to support sustainable development and participants must be authorized by the involved countries. The objective is explicit

123. Ibid.

in incentivizing and facilitating the participation of private and public entities.

Article 6.4, paragraph (c), is notable as it states that an emission reduction activity should result in emission reductions in the host country, in addition to the emission reductions that are exported and used by another Party or other international mitigation purposes. The host country needs to explain to the Supervisory Body "how the activity relates to the implementation of its NDC and how the expected emission reductions or removals contribute to the host Party's NDC" (Decision 3/CMA.3, Annex, paragraph 40 (c)). In practice, the full volume of emission reductions from an activity should not be counted to another country's NDCs or counted in full for other international use. However, the exact method for how to operationalize this requirement leaves room for interpretation.

Article 6.4, paragraph (d), is also a novelty compared to CDM in that it aims to provide a global net decrease of GHG emissions to the atmosphere, rather than only focusing on how to divide the share of emission reductions between the transferring and the acquiring countries. This was operationalized in Decision 3/CMA.3, paragraph 69, stating that "the mechanism registry administrator shall effect a first transfer of a minimum of 2 per cent of the issued A6.4ERs to the cancellation account in the mechanism registry for overall mitigation…".

Article 6.5: Avoiding double counting

"Emission reductions resulting from the mechanism referred to in paragraph 4 of this Article shall not be used to demonstrate achievement of the host Party's nationally determined contribution if used by another Party to demonstrate achievement of its nationally determined contribution."

This is a provision for avoiding double counting. In practice, it opened the requirement to apply corresponding adjustments when a host country has authorized A6.4ERs for use.

Article 6.6: Adaptation funding

"The Conference of the Parties serving as the meeting of the Parties to this Agreement shall ensure that a share of the proceeds from activities under the mechanism referred to in paragraph 4 of this Article is used to cover administrative expenses as well as to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation."

The CDM contributed to the Adaptation Fund by setting aside 2 per cent of the certified emission reductions as a share of proceeds. In a similar vein, the Decision 3/CMA.3, Annex, paragraph 66, states that "the share of proceeds that is levied to assist developing country Parties that are particularly vulnerable to the adverse effects of climate change to meet the costs of adaptation shall be delivered to the Adaptation Fund pursuant to decisions 13/CMA.1 and 1/CMP.14." The decision in paragraph 67 further introduces a levy of 5 per cent of Article 6.4 emission reductions at issuance. It also introduces a monetary contribution related to the scale of Article 6, paragraph 4, activity or to the number of Article 6.4 emission reductions issued, to be set by the Supervisory Body. Additionally, the decision defines the share of proceeds for the administration of the mechanism.

Article 6.7: Rules, modalities and procedures

"The Conference of the Parties serving as the meeting of the Parties to this Agreement shall adopt rules, modalities and procedures for the mechanism referred to in paragraph 4 of this Article at its first session."

The rules, modalities, and procedures of Article 6 have been operationalized in Decision 3/CMA.3, including rules of procedure for the Supervisory Body, its governance and functions, the role of CMA and the UNFCCC Secretariat, participation responsibilities, the elements of the activity cycle: activity design, methodologies, approval and authorization, validation, registration, monitoring, verification and certification, issuance, registry functions, among others.

Article 6.4: Clean Development Mechanism transition

Decision 3/CMA.3, Section XI opens for the transition of CDM activities to the A6.4 mechanism, given that certain conditions are met. The CDM host country needs to approve the transition before 31 December 2023, and the Supervisory Body needs to approve the transition before 31 December 2025. Priority is given to small-scale projects and Programme of Activities.

At CMA 5 (COP28, Dubai), Parties further clarified procedural and reporting requirements for transitioning CDM activities, emphasizing the need for alignment with host Party NDCs, updated sustainable development assessments, and application of corresponding adjustments once the transitioned activity is both re-registered under Article 6.4 and authorized for use toward an NDC or other international mitigation purposes. The decision also reaffirmed that Certified Emission Reductions (CERs) issued under the CDM may be used only toward achievement of a Party's first NDC, and only if they were issued for emission reductions achieved on or after 1 January 2013.

At CMA 6 (COP29, Baku), further operational clarity was provided. The Supervisory Body was requested to implement a transparent process for reviewing transition applications, including the establishment of a registry interface between the CDM registry and the Article 6.4 mechanism registry to enable eligible CER transfers. CMA 6 decisions also addressed reporting requirements, mandating that information on transitioned CDM activities and transferred CERs be recorded in the Article 6.4 registry and reflected in Biennial Transparency Reports (BTRs) to ensure coherence with Parties' national accounting. Host Parties are now encouraged to apply enhanced due diligence before authorizing the transition, to prevent the approval of low-integrity or inactive legacy projects.

Article 6.8: Non-market approaches

"Parties recognize the importance of integrated, holistic, and balanced non-market approaches being available to Parties to assist in the implementation of their nationally determined contributions, in the context of sustainable development and poverty eradication, in a coordinated and effective manner, including through, inter alia, mitigation, adaptation, finance, technology transfer and capacity building, as appropriate. These approaches shall aim to:

a. Promote mitigation and adaptation ambition;

b. Enhance public and private sector participation in the implementation of nationally determined contributions; and

c. Enable opportunities for coordination across instruments and relevant institutional arrangements."

Non-market approaches have been promoted by some Parties as a new market-based mechanism. A framework for various approaches was discussed in conjunction with the negotiation track on a new climate regime to replace the Kyoto Protocol. Non-market approaches were promoted to address the growing appetite for new carbon market mechanisms. However, it has been difficult to define non-market approaches since the outset of their creation. This is understandable, as most of the actions taking place within the framework of the UNFCCC can be defined as non-market approaches.[124] Similar to Article 6.2, Article 6.8 is expected to provide Parties with the ability to decide their preferred non-market approaches based on their opportunities and national circumstances.

Decision 4/CMA.3 establishes the Glasgow Committee for non-market approaches. The decision outlines common principles and characteristics of non-market approaches. It also provides a work programme, as mandated by decision 1/CP.21 paragraph 39 and called for under Article 6.8. The Committee is set to commence its activities in 2022 and will first set out a schedule for its development. The role of the body and work programme is not to specifically define acceptable non-market approaches. Parties are encouraged to submit measures that they are engaged in, that they believe are applicable under Article 6.8, to the Glasgow Committee.

In addition to various activities that will support the enhancement and identification of current and other Party-led non-market approach activities, the Committee's work programme will also establish a web-based platform that will serve as a hub for recording information and assisting collaboration in the discussion of non-market approaches.

Article 6.9: A framework for non-market approaches

"A framework for non-market approaches to sustainable development is hereby defined to promote the non-market approaches referred to in paragraph 8 of this Article."

The framework has been more clearly defined in Decision 4/CMA.3. The Decision (Annex Paragraph 1 a) states that the framework "facilitates the use and coordination of non-market approaches" in the implementation of Parties' NDCs, "in the context of sustainable development and poverty eradication", and "(e)nhances linkages and creates synergies between, inter alia, mitigation, adaptation, finance, technology development and transfer, and capacity-building […]". The Decision sets a work plan for SBSTA, involving submissions by Parties, workshops, and technical papers by the UNFCCC Secretariat.

Part of this work relates to how to "Estimate and report the impacts of non-market approaches on mitigation and adaptation"[125] and also includes a proposal for a platform for recording and exchanging information.

It can be assumed that non-market approaches will take place within the frame of mitigation, adaptation, finance, technology development and transfer, and capacity-building, and second, that market approaches will be reported in two ways:

- Through a specific platform aiming at sharing information on non-market approaches.
- Through Parties' regular reporting in the Biennial Transparency Report.

There is no specific reference to Article 13 in any of the decision texts on Article 6.8. However, considering the areas relevant to Article 6.8

124. Asian Development Bank, "Decoding Article 6 of the Paris Agreement", Manila (2018). Available at: http://dx.doi.org/10.22617/TIM189218-2 (accessed 3 March 2023).
125. Decision 4/CMA.1, Annex, paragraph 8.

are mitigation, adaptation, finance, technology development and transfer, and capacity-building, and there are already modalities, procedures, and guidelines for how to report on these areas; it is reasonable to assume that non-market approaches will be reported under the sections of the modalities, procedures, and guideline as described in table A.1 below.

TABLE A.1

Possible reporting areas for activities under non-market approaches

Non-market Approach	Section in ETF modalities, procedures and guidelines (Decision 18/CMA.1)	
Mitigation	Paragraph 80	"Each Party shall provide information on actions, policies and measures that support the implementation and achievement of its NDC under Article 4 of the Paris Agreement, focusing on those that have the most significant impact on GHG emissions or removals and those impacting key categories in the national GHG inventory. This information shall be presented in narrative and tabular format."
Adaptation	Paragraph 104	"Each Party should provide information related to climate change impacts and adaptation under Article 7 of the Paris Agreement, as appropriate. As such, providing this information is not mandatory."
	Paragraph 105	"Information provided below could facilitate, inter alia, recognition of the adaptation efforts of developing country Parties."
	Paragraph 109	"Each Party should provide the following information, as appropriate: (a) Implementation of adaptation actions in accordance with the global goal for adaptation, as set out in Article 7, paragraph 1, of the Paris Agreement;"
Finance	Section V. C.	"Information on financial support provided and mobilized under Article 9 of the Paris Agreement''
	Section VI. D	"Information on financial support received by developing country Parties under Article 9 of the Paris Agreement"
Technology development and transfer	Section V. D	"Information on support for technology development and transfer provided under Article 10 of the Paris Agreement"
	Section VI. F.	"Information on technology development and transfer support received by developing country Parties under Article 10 of the Paris Agreement"
Capacity-building	Section V. E.	"Information on capacity-building support provided under Article 11 of the Paris Agreement"
	Section VI. H.	"Information on capacity-building support received by developing country Parties under Article 11 of the Paris Agreement"

Annex 3: Case study - Ghana tabular reporting

This Annex provides the completed table in the agreed electronic format for Ghana, as available on the CARP as of November 2025.

TABLE A.3.1

Submission

Table 1: Submission	
Party	GH
Version	X.Y
Reported year	January to December 2024
Date of submission	14/04/25
Review status of the initial report	*{Information in this field is populated by the CARP}*
Result of the consistency check of this AEF submission	*{Information in this field is populated by the CARP}*
First year of the NDC implementation period	2021
Last year of the NDC implementation period	2030
Reference to the Article 6 technical expert review report of the initial report	*{Link to be produced by the CARP}*

TABLE A.3.2

Authorizations

Table 2: Authorizations

Authorization				Authorization Details									
Auth. ID	Date of auth.	Cooperative approach ID	Version of the auth.	Authorized quantity	Metric	Applicable GWP value(s)	Applicable non-GHG metric	Sector(s)	Activity type(s)	Purposes for authorization	Authorized timeframe	First transfer definition for OIMP	Additional explanatory information
1001	11 Sept 2023	CA0002	N/A	1125655	GHG	100-year values from 5th assessment report by the IPCC		Agriculture	Methane avoidance	N/A	2021 to 2030	First international transfer	

TABLE A.3.3

Actions

Table 3: Actions

Action type and date				ITMO														
				Unique identifiers								Metric and quantity					ITMO details	
							ITMO unique identifier		Underlying units									
										Underlying unit unique identifier								
Action date	Action type	Action subtype	Cooperative approach ID	Authorization ID	First transferring participating Party ID	Party ITMO registry ID	First ID	Last ID	Underlying unit registry ID	First unit ID	Last unit ID	Metric	Applicable GWP value(s)	Applicable non-GHG metric	Quantity (t CO2 eq)	Quantity (in non-GHG metric)	Mitigation type	Vintage
11-Sep-23	Authorization	N/A	CA0002	1001								GHG					Emission reductions	

TABLE A.3.4

Holdings

Table 4: Holdings

				Unique identifiers					Metric and quantity					ITMO details	
				ITMO unique identifier		Underlying units									
							Underlying unit unique identifier								
Cooperative approach ID	**Authorization ID**	**First transferring participating Party ID**	**Party ITMO registry ID**	**First ID**	**Last ID**	**Underlying unit registry ID**	**First unit ID**	**Last unit ID**	**Metric**	**Applicable GWP value(s)**	**Applicable non-GHG metric**	**Quantity (t CO2 eq)**	**Quantity (in non-GHG metric)**	**Mitigation type**	**Vintage**
CA0002	1001								GHG					Emission reductions	

TABLE A.3.5

Authorized entities

Table 5: Authorized entities

	Authorized entity						
Date of the authorization	**Name**	**Country of incorporation**	**Identification number**	**Cooperative approach ID**	**Conditions**	**Change and revocation conditions**	**Additional explanatory information**
01-Sep-23	UNDP Country Office, Ghana	Ghana/ New York		CA0002	N/A		


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