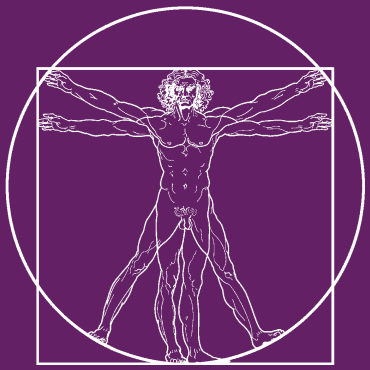
POCKET GUIDE TO ARTICLE 6

UNDER THE PARIS AGREEMENT



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UNDER THE PARIS AGREEMENT

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FOREWORD

This guide to Article 6 of the Paris Agreement is part of a series of publications intended to make the United Nations climate change process more accessible. The Pocket Guides are produced by the European Capacity Building Initiative (ecbi), which was launched in 2005 to support capacity and trust building activities and to address the lack of a level playing field between delegations, both North-South and South-South, in the UNFCCC process. To achieve this, ecbi has adopted a two-pronged strategy: bringing together negotiators for training and other opportunities to interact and build mutual trust; and producing timely briefing papers, reports, pocket guides, and other publications, typically in collaboration with negotiators and other experts. We continue to nurture and build these networks, supporting new negotiators as they become experts themselves.

Our Pocket Guide series was launched after the adoption of the Paris Agreement in 2015. The series provides negotiators, both new and veteran, with valuable information on a particular UNFCCC-related topic. So far, we have produced Pocket Guides on finance, capacity building, gender equality, climate science, technology, adaptation, the Paris Agreement, loss and damage, response measures, Nationally Determined Contributions, and the "architecture" of the UN Framework Convention on Climate Change.

The Pocket Guides serve as a ready reference to the key decisions that have already been adopted and provide information and analysis on the outstanding issues, including from a developing country perspective. The Pocket Guides are designed to be detailed and useful without being overly long. They are available both online and in printed versions, in English and, funding permitting, other languages. The feedback on these Guides continues to be very positive, and it is heartening to see them proving useful.

The Pocket Guides are ecbi's small contribution to the armoury of information negotiators will need to be successful as they work to achieve success. We hope they will prove valuable and we continue to welcome all feedback.

GLOSSARY

A6.4ERs	Emissions credits issued under the Article 6.4 mechanism
A6.4M	Article 6.4 Mechanism
A6.4SB	Article 6.4 Supervisory Body
AIJ	Activities Implemented Jointly (under the UNFCCC)
Art. 6 TER	Article 6 Technical Expert Review
Art. 13 TER	Article 13 Technical Expert Review
AAU	Assigned Amount Unit (under the Kyoto Protocol)
BAT	Best Available Technology
BTR	Biennial Transparency Report
CARP	Centralized acccounting and reporting platform
CB	Capacity building
CDM	Clean Development Mechanism (under the Kyoto Protocol)
CER	Certified Emission Reduction (under the Kyoto Protocol)
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
CO_2	Carbon dioxide
COP	Conference of the Parties
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
DOE	Designated operational entity
EU	European Union
ETF	Enhanced Transparency Framework
ETS	Emissions Trading System
ERU	Emission Reduction Unit (under the Kyoto Protocol's JI)

GHG	Greenhouse gas
IET	International emissions trading
ITMO	Internationally transferred mitigation outcome
JI	Joint Implementation (under the Kyoto Protocol)
LDC	Least developed country
NDC	Nationally Determined Contribution
NIR	National Inventory Report
NMA	Non-Market Based Approach
OMGE	Overall mitigation in global emissions
PA	Paris Agreement
Parties	Governments that have ratified a particular international treaty
RMPs	Rules, modalities, and procedures for the Article 6.4 Mechanism
SBSTA	Subsidiary Body for Scientific and Technological Advice
SDM	Sustainable Development Mechanism
SIDS	Small Island Developing States
SoP	Share of Proceeds
tCO_2eq	(Metric) Tonne of Carbon Dioxide Equivalent
TER	Technical Expert Review
UN	United Nations
UNFCCC	UN Framework Convention on Climate Change
VCM	Voluntary Carbon Market

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INTRODUCTION

CLIMATE CHANGE: WHY INTERNATIONAL COOPERATION MATTERS

Climate change is a challenge that cries out for international cooperation. It defies borders and boundaries, crossing from one country to the next with impunity, violating human frontiers or state limits. It is far too serious and much too dangerous for one country to solve. Multilateralism is our only answer to this existential, global threat.

This recognition of the need for global cooperation goes beyond nations agreeing to all do something at home. It includes an acceptance that we should also be able to collaborate across borders in implementing activities that address climate change, and that we should engage with all sectors of society. Cooperation enables countries and non-state actors to do more, earlier and faster than what they could achieve individually.

EARLY ACTION: KYOTO AND ITS MARKET MECHANISMS

As early as 1992, the UN Framework Convention on Climate Change (UNFCCC) established the option of international collaboration through joint policies and measures by countries (also known as "Parties") that have ratified the Convention. The decision-making body (called the Conference of the Parties or COP) oversees implementation of the Convention and can adopt additional legal instruments in this regard. The first was the **Kyoto Protocol**. Agreed in 1997, it assigned binding country-specific greenhouse gas (GHG) emission caps to industrialized countries and "economies in transition" (countries from the former Soviet bloc). During the COPs, Parties to the Kyoto Protocol meet in what is known as the "Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol" (or "CMP") in order to take decisions to promote the effective implementation of the Protocol (UNFCCC 2022).

Market-based mechanisms under the Kyoto Protocol allow Parties to meet part of their Kyoto caps with "Kyoto units" bought from other Parties, thereby supporting emission reductions and removals (hereafter jointly referred to as "mitigation outcomes") abroad. The **Clean Development Mechanism (CDM)** generates Certified Emission Reductions (CERs) from mitigation projects in (developing) countries without emission caps. **Joint Implementation** creates Emission Reduction Units (ERUs) achieved by projects in countries with emission caps. **International emissions trading (IET)** enables trading Assigned Amount Units (AAUs) and other Kyoto units between countries with emission caps (see Chapter 2).

The Kyoto Protocol's pioneering and innovative market-based mechanisms generated valuable experience and capacity building. The Kyoto experience demonstrated that reducing GHG emissions can be compatible with development goals and that market-based approaches are powerful tools for harnessing private sector innovation and resources to identify and implement additional mitigation potential in countries with or without emission caps.

THE PARIS AGREEMENT AND ARTICLE 6

The idea of using carbon markets and other forms of international cooperation in meeting commitments carried through to the Paris Agreement of 2015. The successor to the Kyoto Protocol, the Paris Agreement calls for higher ambition, requires all countries to act and provides for international cooperation between countries. The long-term goal of the Paris Agreement is to limit the global temperature increase to well below 2°C, and preferably to 1.5°C, compared to pre-industrial levels. Almost all countries in the world are Parties to the Paris Agreement and they are required to submit **Nationally Determined Contributions (NDCs)** specifying their mitigation action. At the UNFCCC COPs, the "Conference of the Parties serving as the meeting of the Parties to the Paris Agreement" (or "CMA") convenes to take decisions and steer implementation.

Article 6 of the Paris Agreement provides for different options for countries to cooperate internationally to allow for higher ambition in NDCs both in terms of mitigation and adaptation to climate change while promoting sustainable development. Cooperation is voluntary. However, countries that choose to make use of cooperation must meet certain requirements. **Three key approaches** are available. Two take the form of carbon markets, while one is defined as a non-market approach.

Market-based cooperation that involves transfers of **mitigation outcomes**[1] (i.e., emission reductions or removals, or emission allowances) between a "buyer" and a "seller" is made possible under **Article 6.2**. It takes the form of **"cooperative approaches"** involving the use of **internationally transferred mitigation outcomes (ITMOs)**. An ITMO is defined as a real, additional, and verified emission reduction or removal that is authorised by the host Party for use towards another Party's NDC, international mitigation purposes (e.g., the CORSIA scheme for international aviation) or other purposes (such as voluntary offsetting[2]). Authorisation means the host country does not count the mitigation outcome towards its NDC, so it is available for transfer to and use by the buyer. ITMOs are generally measured in tonnes of carbon dioxide (CO_2) equivalent or another suitable metric (see Chapter 3). Under cooperative approaches, participating Parties are responsible for ensuring the environmental integrity of mitigation outcomes, applying robust accounting, and promoting sustainable development.

1 Mitigation outcomes refers to emissions reductions and/or removals expressed in tCO_2eq.

2 Offsetting refers to supporting mitigation outcomes outside the actor's value chain to counterbalance emissions within the actor's value chain, such that an actor's net contribution to global emissions is reduced. Offsetting claims are only valid under a rigorous set of conditions, including that the underlying mitigation outcomes are additional, not over-estimated, and exclusively claimed. They are typically done by using (permanently retiring or cancelling) carbon credits.

Article 6.4 defines an **international mechanism** which will issue **emission credits**[3] against mitigation outcomes that meet internationally defined quality criteria. It is governed by an international supervisory body under the guidance of the Paris Agreement (See Chapter 4).

Article 6.8 provides for **"non-market-based"** cooperation that does not involve the transfer of emission reduction or removal credits (see Chapter 6).

How do these mechanisms really work in practice? What specific activities will be allowed under each? How will each be regulated? And where can one find further information on them?

This Pocket Guide answers all these key questions. Providing a one-stop shop for those seeking to understand this key part of the Paris Agreement, the Guide includes not only the key details from the Agreement itself, but also the latest rules and decisions adopted by parties to operationalize the mechanisms up to and including the meetings of the Subsidiary Bodies in June 2022.

3 The term "emission credits" refers to certificates issued under a crediting standard against a mitigation outcome that meets relevant criteria.

WHAT DOES ARTICLE 6 OF THE PARIS AGREEMENT DO?

Article 6 of the Paris Agreement enables countries to **cooperate voluntarily** in implementing their NDCs. Such cooperation should increase their ambition regarding mitigation and adaptation to climate change, as well as promote sustainable development. Article 6 consists of nine paragraphs that together outline three options for voluntary cooperation.

Cooperative approaches under **Article 6.2** allow trading of ITMOs between two or more countries. They build on robust accounting to ensure the avoidance of double counting of the GHG emission reductions. Article 6.2 is not subject to international oversight, but countries must report on their cooperative approaches according to international rules. The **Article 6.4 mechanism (A6.4M)** is the successor to the Kyoto Protocol's CDM. According to rules set by the **A6.4 Supervisory Body (A6.4SB)**, emission credits **(Article 6.4 Emission Reductions or A6.4ERs)** are generated by mitigation activities. If authorised by the host country, A6.4ERs become ITMOs and can be used either by another Party to fulfil its NDCs or for other mitigation purposes. In case no authorisation is given, the "host Party" will benefit from the mitigation outcomes.

While market-based forms of cooperation are enshrined in Articles 6.2-6.7, Article 6.8 addresses **non-market approaches (NMAs)** in international cooperation on climate change mitigation and adaptation in a variety of fields, including to increase mitigation and adaptation ambition, enhance public and private sector participation in the implementation of the NDCs, and enable opportunities for coordination across instruments and relevant institutional arrangements.

WHY IS INTERNATIONAL COOPERATION THROUGH CARBON MARKETS IMPORTANT?

Climate change is a global commons problem that needs to be addressed at a global scale given the vast diversity of opportunities for, and costs of, reducing GHG emissions (IPCC 2021). Since climate change mitigation is considered a global public good, meaning it does not matter to the atmosphere where emissions are reduced or removals take place, international carbon markets can reduce overall mitigation costs (Schneider *et al.* 2018).

Collaboration between Parties using carbon markets can be traced back to the early 1990s. The concept emerged first in Article 4.2 of the UNFCCC under the term "joint implementation" for GHG mitigation involving several countries. While several European and North American countries interpreted this as an international carbon market, developing countries objected to this interpretation (Michaelowa *et al.* 2019). Therefore, in 1995, a compromise was adopted by the COP to embark upon a pilot phase of "Activities Implemented Jointly" (AIJ), enabling Parties to cooperate in developing mitigation activities but without generating emission credits. This allowed Parties to test different market mechanism design options.

The AIJ test phase was broadly successful and led to the decision to establish the Kyoto mechanisms—the Clean Development Mechanism and Joint Implementation (Michaelowa *et al.* 2019, Dutschke and Michaelowa 2000) (see sub-chapter below). These mechanisms were seen as providing an opportunity to lower the costs of reaching industrialised countries' emission targets.

Given the long-term goals established by the Paris Agreement, international carbon markets will now support increased mitigation ambition over time, for instance by enabling more stringent targets to be set when NDCs are updated (Michaelowa *et al.* 2021). This applies both for the buyer and the seller of credits. The former reduces its costs of reaching NDC targets, while the latter generates revenues that can be partially earmarked

for mitigation. A direct sharing of emission credits between seller and buyer can also be undertaken; this is currently the case in the Japanese Joint Crediting Mechanism, a precursor of Article 6.2-type cooperation.

Therefore, international market-based cooperation under Article 6 can serve different objectives, including meeting and enhancing NDC targets, attracting investment, facilitating technology transfer, building capacities, or financing "high-hanging" mitigation measures that a country cannot implement without external financial support. In this sense, Article 6 is a complementary instrument for NDC implementation, in which any country could engage considering a pure "buyer", "seller," or "mixed" strategy depending on its goals.

In addition, non-state actors, such as private companies, sector associations, and NGOs, can engage in Article 6 cooperation as activity developers, credit sellers, and buyers. Non-state actors may use ITMOs or A6.4ERs to finance mitigation beyond their value chains and make claims about offsetting specific emissions or contributing to NDC achievement (Obergassel *et al*. 2020).

HOW WERE INTERNATIONAL CARBON MARKETS USED UNDER THE KYOTO PROTOCOL?

The Kyoto Protocol, adopted in 1997, set legally binding GHG emission reduction targets for 38 industrialised countries and economies in transition to a market economy (primarily countries of the former Soviet bloc). These countries were referred to as 'Annex I Parties' since they were listed in an annex to the Protocol. **Emissions allowances**[4], known as **Assigned Amount Units (AAUs)**—were allocated to countries, and Annex I Parties were allowed to use three market mechanisms to

4 An emission allowance is a tradable instrument representing the right to the owner to emit an amount of GHG. AAUs are not an emission credit but rather an allowance since they were defined in relation to an emissions cap, and not a result of an emission reduction against a baseline.

maximise economic efficiency when achieving their emission targets. These mechanisms allowed them to exchange AAUs and generate carbon credits from emission reduction and removal projects, namely:

- **International emissions trading (IET)** for the trading of AAUs between governments;
- **Joint Implementation (JI)** for projects in Annex I countries, generating Emission Reduction Units (ERUs); and
- **Clean Development Mechanism (CDM)** for projects in non-Annex I (developing) countries, generating Certified Emission Reductions (CERs).

IET essentially never took off due to a series of corruption scandals[5] and a situation colloquially referred to as "hot air", where some countries from the former Soviet bloc had overly generous emissions targets leading to a volume of AAUs exceeding the actual emissions level[6]. Nobody wanted to buy such surplus emissions budget because such trade would have a negative impact on global emissions. Total AAU trade remained below 300 million.

JI fared a little better than IET, but also encountered difficulties. The ERUs generated by JI activities were issued out of the host Party's AAUs. JI was developed under two modalities: "Track 1" and "Track 2". Under Track 1, the project's host Party could verify project-based reductions itself and subsequently transfer ERUs to another Annex I Party. Track 2 was subject to international oversight. JI initially led to only limited emissions credit transfer, primarily from economies transitioning from the former Soviet bloc to European countries. However, in 2012-2013, several hundred

5 In Slovakia, three ministers of environment had to step down because they had sold AAUs to private companies at a price about half of the current market price. In Ukraine, revenues from the sale of credits were diverted from their legally defined use.

6 The original idea behind IET had been that the US, whose emissions target was highly ambitious, would use IET to buy the emission reductions generated by the transition from a socialist to a market economy. However, the US never ratified the Kyoto Protocol.

million ERUs were issued within a few months from Track 1 projects in Ukraine and Russia; researchers severely criticised these transactions for lacking environmental integrity. Overall, 900 million ERUs were issued from 2008 until 2015 (UNFCCC 2022c).

The CDM was initially expected to be much less attractive than the other mechanisms, given the risk of projects in developing country contexts, the complicated approach with a **project cycle** of many mandatory steps, and the strong institutional oversight applied by the CDM Executive Board. These steps included development of a Project Design Document, getting a Letter of Approval for the project from the host country, validation by an independent auditor, project registration, monitoring of emission reductions, and independent verification, CER issuance, and forwarding. It was thus a surprise that the CDM became the most active international carbon market mechanism, with over 8000 registered projects and programmes. To date, under the CDM, nearly 2.3 billion CERs have been issued (UNFCCC 2022b).

For the CDM, the role and commitments of the host countries were limited to granting Letters of Approval, which did not have any consequences regarding domestic emissions mitigation due to the absence of host (developing) country emission targets (Michaelowa et al. 2019). After a slow start, however, the situation changed suddenly with the entry into force of the EU's "Linking Directive" in 2003 which allowed the use of CERs in the EU emission trading scheme (ETS) from 2005 onwards. This led to a rush of private companies in the host countries **"unilaterally" investing in CDM projects** and producing CERs as export commodities, a feature of the mechanism that had not been anticipated. Therefore, large emerging economies with a strong private sector and high emissions, such as China, India, Brazil, Mexico, and South Korea, became the largest suppliers of CERs. The CDM was initially dominated by industrial gas projects that provided a cheap GHG abatement opportunity but raised criticism for creating perverse incentives to increase production and not contributing to sustainable development (Michaelowa et al. 2019).

Even though from 2007 onwards CDM regulation was strengthened significantly due to the temporary suspension of lax auditors, the damage was done and the EU stopped CER imports in a series of steps. This, as well as uncertainty over the future of the Kyoto Protocol, triggered a massive decline in CER prices by 95% between 2011 and 2013, essentially stalling the development of new CDM projects.

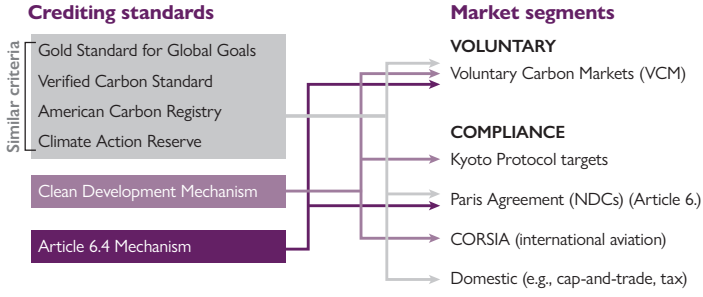
Despite the challenges described above, the pioneering nature of these mechanisms and the crucial work that was done in establishing accounting systems, rules and procedures, and building capacity in developing countries, created a relevant precedent for international collaboration through carbon markets. The **learning-by-doing approach** explored through the Kyoto Protocol mechanisms not only engaged the local private sector in climate change mitigation and increased awareness of mitigation opportunities, but also laid the foundation for domestic climate change policy, including emissions trading and other programmes, in many major developing countries.

In addition, these mechanisms showed the private sector the potential of emissions credits for **offsetting corporate emissions**. Even in the United States, which did not ratify the Kyoto Protocol, the private sector developed a strong interest in voluntary offsetting, partly in anticipation of potential future legislation and partly due to corporate social responsibility concerns (Ehrenstein and Valiergue 2021). Market players, including business associations representing corporate offset buyers, mitigation project developers, and non-governmental organizations, collaborated to set up **voluntary certification standard programmes** for the generation of voluntary emission credits. The CDM was a blueprint for their work. From 2003 onwards, the Gold Standard and, subsequently, the Verified Carbon Standard, as well as several other smaller programmes, emerged (Hamrick and Gallant 2018). These programmes differ in terms of which activity types are allowed, where projects may be located, and what regulations projects must adhere to (Verra 2020).

This was the starting point of what is known today as the **Voluntary Carbon Market (VCM)**, initially based on CDM methodologies which were subsequently complemented by programme-specific methodologies for mitigation activity types not covered by the CDM. The VCM programmes require projects to undergo third-party validation and verification to ensure the quality of emissions credits. After a first peak of activities in 2008-2010, overall activity in the VCM declined. From 2017 onwards, driven by a growing societal interest in combating climate change, generation of emission credits on the VCM as well as their use have sharply increased, surpassing USD 1 billion turnover in 2021.

Compliance and voluntary market "segments" have interacted since their emergence in the early 2000s and this interaction has accelerated since the Paris Agreement (see Figure 1).

Figure 1: Crediting standards/programmes and market segments



Source: Authors.

WHAT WAS AGREED IN ARTICLE 6 AND ITS RULEBOOK?

Negotiations under the UNFCCC regarding the use of market mechanisms after 2012 started at COP 13 in Bali in 2007. Subsequently, the failure of the Copenhagen COP in 2009 to provide clarity on the future of international carbon markets caused uncertainty for several years. Limited progress was

achieved by 2012 and no relevant acceleration was visible in the run-up to the Paris COP in 2015.

Unlike the Kyoto Protocol, whose mitigation commitments covered only developed countries, the Paris Agreement has **global participation in mitigation**, with all Parties engaged through **NDCs**. However, this broader participation comes at the cost of increasing complexity and the need to significantly modify the legal design of the mitigation regime. The international climate regime changed from a system of legally-binding emissions targets based on common metrics (common baseline, target period, coverage) to a **bottom-up system of voluntary government pledges** (Michaelowa et al. 2019; Depledge 2022).

In this context, the agreement on international carbon markets under Article 6.2 and 6.4 of the Paris Agreement came as a surprise, with the provisions on non-market approaches under Art. 6.8 being a concession to the opponents of carbon markets, such as Bolivia, Ecuador, and Venezuela (C2ES 2013).

However, while the overarching elements of Article 6 were agreed in Paris in 2015, negotiations on the detailed implementation of Article 6 were still needed. These quickly became stuck, and after two failed attempts in 2018 and 2019, the missing rules for Article 6 were a significant gap left to conclude the Paris Agreement's rulebook. The COVID-19 hiatus—with no COP taking place in 2020—allowed negotiators to undertake detailed technical work, and deft diplomacy by the COP 26 UK Presidency enabled the adoption in 2021 of a robust decision package through a carefully balanced compromise (Ahonen et al. 2021). This package, known as the **"Article 6 rulebook"** was adopted by the CMA at COP 26 in Glasgow in November 2021. It was built on the original Paris Agreement and is differentiated into three documents covering Article 6.2, 6.4, and 6.8. The rulebook sets out how international carbon markets under Article 6.2 and 6.4 will function in practice, along with a work programme for Article 6.8. The rulebook's provisions are discussed in Chapters 3, 4, and 6 below.

WHAT IS REGULATED BY THE ARTICLE 6.2 GUIDANCE FOR COOPERATIVE CARBON MARKET APPROACHES?

The guidance on cooperative approaches referred to in Article 6.2 (hereinafter referred to as the A6.2 guidance) is included in the annex of Decision 2/CMA.3, which Parties to the Paris Agreement sdopted in Glasgow in November 2021. The guidance document consists of seven chapters (see Box 1) that explain relevant concepts, procedures, and obligations for Parties participating in cooperative approaches. This includes **participation requirements** Parties must fulfil, rules on **accounting for ITMOs** through **"corresponding adjustments"**, reporting, reviewing procedures, tracking

Box 1: Content of the Decision 2/CMA.3 Annex, "Guidance on cooperative approaches referred to in Article 6, paragraph 2, of the Paris Agreement"

Chapter I.	**Internationally transferred mitigation outcomes**
Chapter II.	**Participation**
Chapter III.	**Corresponding adjustments**
	ITMO metrics
	Application of corresponding adjustments
	Other international mitigation purposes
	Safeguards and limits to the transfer and use of ITMOs
Chapter IV.	**Reporting**
	Initial report
	Annual information
	Regular information
Chapter V.	**Review**
Chapter VI.	**Recording and tracking**
	Tracking
	Article 6 database
	Centralized accounting and reporting platform
Chapter VII.	**Ambition in mitigation and adaptation actions**

ITMOs, and rules on how to raise ambition in mitigation and adaptation action (UNFCCC 2021a).

WHAT ARE COOPERATIVE APPROACHES AND THE CONDITIONS TO PARTICIPATE IN THEM?

The term cooperative approach is not defined per se in the adopted guidance. Still, it is commonly understood to relate to a **collaboration between two or more countries** that includes trading ITMOs. ITMOs can either be created by **"baseline-and-credit"** schemes, where the mitigation is calculated against a baseline or reference scenario, or through **transboundary transactions of allowances** by linking "cap-and-trade" schemes covering private and public entities. Current examples of Article 6.2 cooperative approaches are shown in Box 2 below.

The main requirements that countries must fulfil to engage in **cooperative approaches** include (UNFCCC 2021a, para 4):

1. Being a Party to the Paris Agreement (meaning ratified).
2. Implementing and **maintaining an NDC**, which means updating and communicating NDCs every five years as required under the Paris Agreement. The cooperative approaches a country engages in should contribute to achieving the NDCs, meaning delivering mitigation benefits for both the buyer and the seller country.
3. Having arrangements in place to **authorise** and **track ITMOs**, which requires a country to determine the national authority to grant authorisations under Article 6.2 cooperative approaches and have access to a registry to record information on transactions.
4. Providing the most recent National Inventory Report (NIR)[7] required under the Enhanced Transparency Framework (ETF). This means governments wanting to participate in international carbon markets

7 The NIR provides information on the national GHG inventory, collated according to the rules agreed by COP 24 in Katowice 2018.

Box 2: Examples of Article 6.2 Cooperative Approaches

Some ongoing initiatives of Article 6.2 cooperative approaches are listed below:

- Japanese Joint Crediting Mechanism: Defined as a mechanism that facilitates diffusion of leading decarbonizing technologies, products, systems, services, and infrastructure, as well as the implementation of mitigation actions, and that contributes to the sustainable development of its 19 partner countries through the generation of emission credits. The credits are shared between the respective partner country and the Government of Japan. For more info: https://www.jcm.go.jp/about
- Swiss Article 6 Agreements: To help achieve its NDC, Switzerland has signed bilateral agreements with ten partner countries. These agreements aim to establish framework conditions for cooperation. They define the requirements for recognising international transfers of mitigation outcomes and establish the legal framework for commercial agreements between seller and buyer of mitigation outcomes. For more info: https://www.bafu.admin.ch/bafu/en/home/topics/climate/info-specialists/climate--international-affairs/staatsvertraege-umsetzung-klimauebereinkommen-von-paris-artikel6.html
- Linked Emissions Trading System (ETS) between the EU and Switzerland: As an alternative to broaden the scope of the Swiss ETS, an agreement to link Switzerland and the EU ETS was enacted in 2020. It aims to regulate the mutual recognition of emission allowances from the two ETSs, each of which has its own legal basis. Aviation and fossil-thermal power plants are also integrated into this initiative. Under this linked system, participants in one ETS will be able to apply for admission to the auctions of emission allowances in the other ETS. For more info: https://www.bafu.admin.ch/bafu/en/home/topics/climate/info-specialists/reduction-measures/ets/linking-swiss-eu.html

must be able to submit their NIR either as a component of the Biennial Transparency Report (BTR) every second year or as stand-alone document annually (Decision 18/CMA.3, Annex, para 12), with data from two or a maximum of three years prior to the reporting year.

5. Defining the alignment of cooperative approaches with the **long-term low-emission development strategy** if the country has established one (UNFCCC 2021a, para 4(f)).

HOW ARE ITMOS DEFINED? WHAT CAN THEY BE USED FOR?

ITMOs are defined as mitigation outcomes generated **from 2021 onwards** that must be **real, verified, and additional**[8]. ITMOs must relate to *"emission reductions and removals, including mitigation co-benefits resulting from adaptation actions and/or economic diversification plans or the means to achieve them"* (UNFCCC 2021a, para 1(b)). The references to co-benefits were brought in by Arab countries that have specified their NDCs to provide adaptation benefits (in this case, to ensure freshwater availability), where mitigation co-benefits would, for example, be the reduction of energy use for desalination due to improvements in water efficiency. ITMOs can be denominated in tCO2eq (carbon credits and emission allowances) or a non-GHG metric if that is consistent with the Parties' NDCs (UNFCCC 2021a, para 1). **Non-GHG ITMOs** could be units related to renewable energy, clean energy exports, energy efficiency, forest cover (for example, areas of afforestation/reforestation), policy actions, regulations and standards, taxes and surcharges, subsidies, and incentives for various actions such as public transport, sustainable agriculture, and even short-lived climate pollutants such as black carbon (UNFCCC 2021).

ITMOs can be generated through cooperative approaches, as explained above, but also through the A6.4M. The key moment in which any emission credit or allowance becomes an ITMO is when it receives **authorisation** by the country where the mitigation was achieved (often referred to as the host country), as required by Article 6.3. ITMOs can be authorised by host countries (and then used by their buyers) for **different purposes**, including (UNFCCC 2021a, para 1(f)):

8 Additionality refers to ITMOs generated by activities that credibly demonstrate they would not have occurred in the absence of the incentives from the mechanism, considering all relevant national policies and legislation. Moreover, activities must prove they are not required by law or regulation and do not lead to locking in levels of emissions, technologies, or carbon-intensive practices (para 38 of Annex to Decision 3/CMA.3). More information about additionality demonstration is provided in Chapter 4.3.

- Achievement of an NDC.
- Other international mitigation purposes referring to carbon market compliance regimes that exist outside countries' NDCs—for instance, the carbon offsetting and reduction scheme for international aviation (CORSIA) of the International Civil Aviation Organization or any future regimes that may be agreed by the International Maritime Organization.
- Other purposes relating to anything else countries may want to authorise as ITMO transfers. Most importantly, it gives countries the option to authorise ITMOs generated through activities developed in the VCM. After authorisation, ITMOs can be transferred (possibly multiple times)[9] before a country or non-state actor uses them.

HOW MUST PARTIES ACCOUNT FOR ITMO TRANSFERS AND USE?

NDC achievement needs to be tracked in a way that it shows how the goals have been achieved through accountability processes specified under the ETF. Normally, sectors not covered by the NDC would be excluded from the accounting.

The A6.2 guidance describes how Parties must account for ITMO transfers through **corresponding adjustments** to their emission balance, also used to track the achievement of NDCs (UNFCCC 2021a, para 7).

The principle is simple: the host country "uncounts" the mitigation by adding the related emissions to its balance, and the acquiring country "counts" the mitigation by lowering its emission balance accordingly (see Figure 2). This **double bookkeeping** ensures double counting of mitigation

9 If ITMOs are designated for use against an NDC, a buyer country that would find out it does eventually not need the ITMOs (e.g., due to a domestic mitigation policy being more successful than anticipated) would be able to transfer the ITMOs onwards to a third country. Nothing in the Article 6.2 rules prevents such multiple transfers if these are transparently reported.

is avoided. If both the seller and the buyer would use the same mitigation to achieve their targets, emissions would not be lowered but increased due to the use of carbon markets. This would go against the aim of Article 6 and the goals of the Paris Agreement.

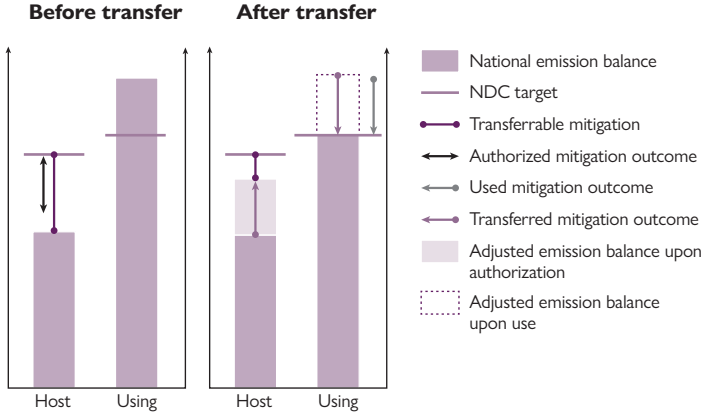
Double counting could take place in three ways: (i) double issuance when more than one carbon credit is issued for the same mitigation outcome, and more than one of these carbon credits is counted towards achieving mitigation goals; (ii) double use when the same carbon credit is counted twice towards achieving mitigation targets or goals, for instance if two entities claim mitigation outcomes from the cancellation of one carbon credit; or (iii) double claiming when the same mitigation outcome is claimed by two different entities towards achieving mitigation targets/goals, for example, once by the country or jurisdiction where the mitigation outcome occurs by reporting lower emissions or higher removals when tracking progress and demonstrating achievement of its mitigation target or goal, and once by the entity using the carbon credit. Therefore, in addition to applying the principle of "uncounting" properly, **unique identifiers** to prevent registration of the same activity/issuance of the same mitigation outcomes under more than one standard must be used.

The host country adjusts the balance for the year the mitigation occurred, while the acquiring country adjusts for the year of use of the credit. This means the corresponding adjustments are not necessarily undertaken in the same year.

Accounting by the host country through a corresponding adjustment is triggered by the **"first transfer"** of the ITMO. When an ITMO is authorised to achieve another Party's NDC, this relates to the first transfer between registries. When an ITMO is authorised for other international mitigation purposes or other purposes, the corresponding adjustment can be done at the **date of authorisation, issuance of credits, or use or cancellation** of the ITMO (as specified by the participating Party). These dates can **differ by many years**. Governments will have to define which of these dates they choose; however, the choice of an earlier date

would be preferable to ensure environmental integrity. The corresponding adjustment must always relate to the **year in which the mitigation was generated**. Moreover, the **use of an ITMO must occur in the same NDC implementation period** (running for ten years) in which the ITMO was created so accounting can be finalised after the end of the NDC target year. For instance, a mitigation achieved in one country in 2024 cannot be used to achieve an NDC with a target for the year 2035 (ECBI 2021).

Figure 2: Corresponding adjustments by two Parties: the principle



Source: ECBI (2021, p. 6).

In general, each participating Party shall apply corresponding adjustments, ensuring its accounting approach's transparency, accuracy, completeness, comparability, and consistency. Countries need to show no net increase in emissions within and between NDC implementation periods. This principle is particularly important for trades in non-GHG ITMOs because Parties must show the underlying mitigation impact is real.

The guidance specifies different approaches to perform corresponding adjustments. It highlights the following main aspects to be considered before selecting the best applicable approach by participating Parties:

- ***ITMO metrics:*** ITMOs denominated in **tCO_2eq** are accounted against an emission balance of sources and sinks covered by the NDC that is calculated for each year. ITMOs denominated in **non-GHG metrics** are accounted against a balance of the respective NDC target indicator. So, for renewable energy capacity, the balance would show the amount of installed renewable energy capacity in the country for each year (ECBI 2021). As an ITMO transfer must be accounted for regardless of whether the mitigation was generated within or outside a sector covered by the NDC, Parties must ensure the NDC and resulting emission balance covers the respective sub-sectors in which Article 6 mitigation activities are undertaken. Otherwise, the host country must "make up" for the mitigation transferred through additional action in the sectors covered by its NDC and has a higher risk of not achieving its NDC target.
- ***Type of NDCs:*** Some Parties have put forward NDCs that include **targets for each year** of the NDC implementation period. These are called **multi-year targets**. In this case, the adjusted emission balance for every year can be compared to the emission target of the country for that year (UNFCCC 2021a). (See Box 3 for more information about NDC design considerations).

Most Parties, however, have put forward a mitigation target for a **single year**, the end-year of the NDC implementation period. Here, Parties can only account for NDC achievement in this final year. If a Party does not relate its accounting to the whole NDC implementation period preceding the target year, then ITMOs transacted prior to this year would not be accounted for. In that case, accounting for achievement of the NDC would not be representative of the NDC's implementation throughout the entire implementation period. If the acquiring Party at the same time reduces its

Box 3: NDC design considerations relevant for Article 6 accounting

Countries are mandated by the Paris Agreement to update and enhance their NDCs every five years — increasing their ambition by every cycle. The first round of "intended" NDCs as submitted from 2014 onwards are converted into the first NDCs when countries ratified the Paris Agreement. Many countries have submitted their updates for the new cycle in 2020/2021.

According to de Villafranca Casas et al. (2021), many NDC targets remained unchanged or were found to be less ambitious due to changes in parameters such as baseline emissions that were shifted upwards. Many countries also lack a clear implementation plan.

Critical elements of NDC design, according to de Villafranca Casas et al. (2021), include:

1. Ambition level (absolute mitigation ambition or NDC target expressed in terms of emission reductions or removals to be achieved, or using other quantitative metrics, adaptation, finance, technology transfer, and capacity building).
2. Completeness (sectors and gases coverage, target type).
3. Details of implementation (NDC measures, alignment to net zero target or long-term target, national policies that include or promote actions to achieve the targets).
4. Transparency (clarity of methodological approach, including the intention to use voluntary cooperation under Article 6).

Understanding the interlinkages between Article 6 cooperation and host country NDC implementation is crucial for ensuring that Article 6 cooperation contributes to–and does not undermine–implementation of NDCs or the long-term goals of the Paris Agreement. National Article 6 strategies and criteria should be developed in parallel with NDC implementation planning.

For more information about NDC guidance and design: https://ecbi.org/sites/default/files/2020%20Pocket%20Guide%20to%20NDCs_0.pdf

mitigation effort by the acquired amount, this could potentially lead to an increase in global emissions.

Therefore, to engage in market-based cooperation, all participating Parties must formulate a clear basis for accounting that is harmonised internationally and considers NDC implementation over time. Two approaches can be applied to perform the corresponding adjustments for single-year NDC targets (UNFCCC 2021a, para 7 (a, b)):

a) Provide an **indicative multi-year emissions trajectory**, and trajectories or budget for the NDC implementation period, consistent with implementation and achievement of the NDC. Then, annual adjustments can be applied in the same manner they are applied to multi-year NDCs. The advantage is that such a trajectory or budget gives all involved stakeholders certainty regarding the amount of ITMOs a Party can transfer or must purchase over the course of the NDC implementation period. However, translating a (distant) NDC target in a concrete trajectory may be technically and/or politically challenging for many Parties. A numerical example for a five-year NDC period is shown in Table 1.

Table 1: Accounting against a multi-year trajectory for single-year targets (host Party perspective)

	2015	2020	2021	2022	2023	2024	2025 (target year)
Accounting trajectory (pre-defined)	20	20	19	18	17	16	15
NIR reported emission balance	20	22	21	17	15	14	13
Accumulated surplus emissions (pre-adjustment)		2	4	3	1	-1	-3
ITMO transfer					1	1	
Corresponding adjustment					1	1	
Adjusted emission balance					16	15	
Accounting surplus/ deficit after adjustment		2	4	3	2	1	-1 (NDC is achieved)

Source: ECBI (2021), p. 9

b) Calculate the **average annual amount of ITMOs first transferred and used** over the NDC implementation period, by taking the cumulative amount of ITMOs and dividing by the number of elapsed years in the NDC implementation period. This allows the Party to undertake annual "indicative" adjustments equal to this average amount and a "final" corresponding adjustment in the NDC single target year. Averaging could increase the volume of transfers, as the acquiring Party would need to buy more ITMOs than needed to achieve its NDC in the target year. However, averaging could lead to delayed engagement of governments in carbon markets as it only becomes clear at the end of the NDC period how much is needed

to achieve the NDC. Also, how much a country needs to buy (or can sell) over the entire period depends on the mitigation gap or overachievement of a single year. This is very uncertain, as emissions in the future target year may be impacted by temporary occurrences, such as weather patterns or other external shocks like the COVID-19 pandemic. A numerical example for a five-year NDC period is shown in Table 2.

Table 2: Rolling average accounting for single-year targets (host Party perspective)

	2015	2020	2021	2022	2023	2024	2025 (target year)
Accounting trajectory (pre-defined)	20	20	19	18	17	16	15
NIR reported emission balance	20	22	21	17	15	14	13
Accumulated surplus emissions (pre-adjustment)		2	4	3	1	-1	-3
ITMO transfer					1	1	
Rolling average ITMO transaction	0	0	0	0	0,25	0,4	0,333333333
Corresponding adjustment					0,25	0,4	0,333333333
Adjusted emission balance					15,25	14,4	13,33333333
Accounting surplus/deficit after adjustment		2	4	3	1,25	-1,4	-3,4 (NDC is achieved)

Source: ECBI (2021), p. 9

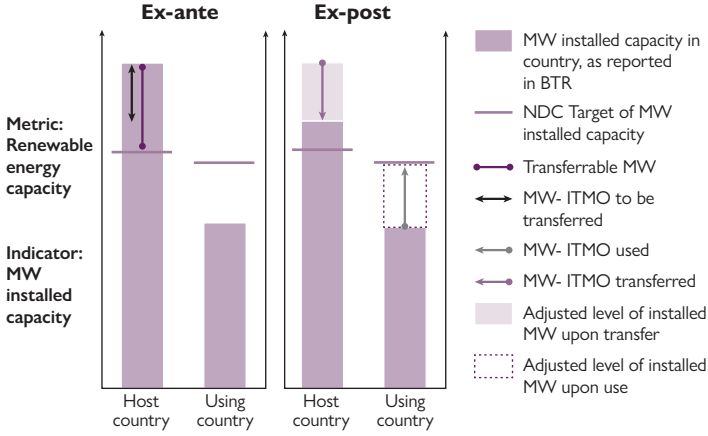
Parties agreed that for the NDC implementation periods from 2030 onwards, one single approach should be adopted and be mandatory for all Parties. This will be a key issue for the review of the guidance from 2028 onwards. While having decided to harmonise accounting in the future, further exemptions are in the Article 6.2 guidance to enable participation of Parties with different NDCs. For instance, not all Parties have submitted NDCs based on sectors and categories, but some put forward a list of policies and measures. For the first NDC, these Parties can calculate an emission balance that includes the relevant categories and pools that are related to these policies and measures and account against this balance.

An example of other metrics and the possible application of corresponding adjustments is presented in Figure 3. The **non-GHG metric** in this case corresponds to renewable energy capacity, which can be measured by the indicator "installed capacity in MW" (ECBI 2021). If an international transfer is done either for GHG and non-GHG ITMOs, this reported annual "level" of the indicator is then correspondingly adjusted based on the same principle of subtracting the quantity of ITMOs authorised and first transferred for the calendar year in which the mitigation outcomes occurred, and adding the quantity of ITMOs used for the calendar year in which the mitigation outcomes are used (ECBI 2021).

While accounting for non-GHG ITMOs can be done towards corresponding NDC targets without converting them to tCO_2eq, Parties must report on the underlying mitigation impact of the activity in order to demonstrate they are ensuring environmental integrity. Therefore, the method for converting the non-GHG metric into tCO_2eq must be described in detail, ensuring it is appropriate for the specific non-GHG metric and the mitigation scenario in which it is applied. It must also represent the emission reductions or removals that occur within the geographical boundaries and time frame in which the non-GHG mitigation outcome was generated. A demonstration of how the selection of the conversion method and conversion factor(s) applied is undertaken is required. It must

include the specific scenario in which the mitigation action occurs and a transparent description of the method, the source of the underlying data, how the data are used, and how the method is applied in a conservative manner that addresses uncertainty and ensures environmental integrity (UNFCCC 2021a).

Figure 3: Example of corresponging adjustment in non-GHG metrics for non-GHG NDC targets



Source: ECBI (2021), page 7.

HOW IS INTERNATIONAL OVERSIGHT ENSURED?

Given that no international body oversees Article 6.2 cooperation, the only way to ensure international oversight on how Parties are adhering to the Article 6.2 guidelines is through the **reporting and review cycle**. The **reporting guidelines** and **review process** are a key lever to ensure there is no "race to the bottom", assuring high quality and environmental integrity when parties use ITMOs to achieve their NDCs. Besides, the application

of a **"robust accounting"** in accordance with CMA guidance to prevent double counting is fundamental at this stage (Michaelowa *et al.* 2020).

In that sense, the oversight of A6.2 will be based on:

- Reports from the participating Parties in accordance with the guidelines in the annex to Decision 2/CMA 3 and with the rules of the ETF under Article 13 of the Paris Agreement (Decision 18/CMA.1, Annex). This calls on Parties to report to the CMA on information related to ITMOs and Article 6 cooperative approaches in the context of the structured summary on NDC implementation and achievement, based on paragraph 77d of these rules.
- UNFCCC available repositories of information that will contain all the relevant information reported by the participating Parties, such as an Article 6 database and a **centralized accounting and reporting platform**.
- **Article 6 Technical Expert Review** (hereinafter referred as A6TER) processes and findings.
- Recording and tracking processes performed by participating Parties.

REPORTING ON ARTICLE 6 PARTICIPATION THROUGH THE ENHANCED TRANSPARENCY FRAMEWORK

The ETF provides guidance to Parties on reporting their GHG emissions, progress toward their NDCs, climate change impacts and adaptation, support provided and mobilized, and support needed and received. It also includes processes for technical experts to review reported information and a multilateral peer review where Parties can ask questions of one another. The rules for the ETF as contained in Decision 18/CMA.1 and the guidance for operationalizing the modalities, procedures, and guidelines as contained in Decision 5/CMA.3 indicate that Parties which have joined the Paris Agreement need to report through the BTR. According to Decision 18/CMA.1, paragraph 3, the **first BTR** must be submitted by all Parties no later than **31 December 2024**. Least developed countries (LDCs) and small island developing states (SIDS)

have discretion to submit their first BTR later (Decisions 1/CP.21, para 90, and 18/CMA.1, para 4).

It is worth noting that the adequacy and appropriateness of the Party's NDC (including the adequacy and appropriateness of the description of that NDC in the BTR), and the indicators chosen to track progress made in implementing the NDC, are not subject to review under the ETF (Decision 18/CMA.1, para 149(b)). However, the Party's tracking of progress made in implementing its NDC, including the description of its NDC and information provided for each selected indicator used for tracking progress, is subject to review in accordance with Decision 18/CMA.1 (paras 146(a) and 150(b)). In that sense, the progress a Party has made in implementing and/or achieving the NDC needs to be summarized in the **"structured summary"** of the BTR and reviewed by a technical expert review team (Art.13 TER).

In this structured summary, Parties will have to provide information on each selected indicator to follow up NDC implementation, and on their participation in cooperative approaches under Article 6. The elements already agreed under paragraph 77d are the minimum reporting elements that would be required to be reported by all countries participating in cooperative approaches (See Box 4).

Sub-paragraph iii of paragraph 77(d), in particular, refers to "any other information consistent with decisions adopted by the CMA on reporting under Article 6" and creates the opening needed to add additional informational elements into the structured summary that may be required, consistent with the CMA decisions on reporting under A6 (Michaelowa et al. 2020). This could include, for instance:

- A list of the cooperative approaches and transactions that involve the use of ITMOs for international mitigation purposes other than achievement of its NDC.
- ITMOs authorised, as well as gross and/or net levels of ITMO transfers.
- ITMOs from outside (as opposed to ITMOs from inside) the NDC scope.

Box 4: The link between the Enhanced Transparency Framework and Article 6 (Paragraph 77d of Decision 18/CMA.1)

Paragraph 77d—Each Party that participates in cooperative approaches that involve the use of internationally transferred mitigation outcomes towards an NDC under Article 4, or authorises the use of mitigation outcomes for international mitigation purposes other than the achievement of its NDC, shall also provide the following information in the structured summary consistently with relevant decisions adopted by the CMA on Article 6:

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

(ii) An emissions balance reflecting the level of anthropogenic emissions by sources and removals by sinks covered by its NDC adjusted on the basis of corresponding adjustments undertaken by effecting an addition for internationally transferred mitigation outcomes first-transferred/transferred and a subtraction for internationally transferred mitigation outcomes used/acquired, consistent with decisions adopted by the CMA on Article 6;

(iii) Any other information consistent with decisions adopted by the CMA on reporting under Article 6;

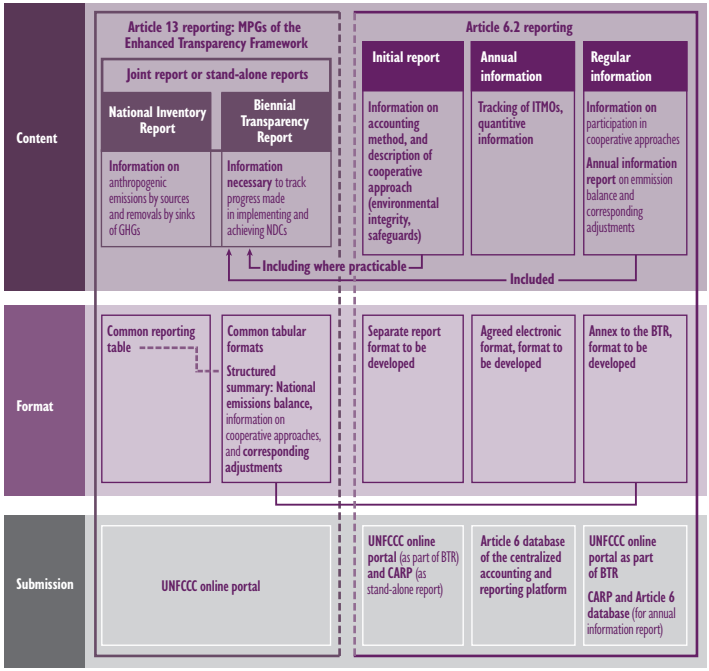
(iv) Information on how each cooperative approach promotes sustainable development; and ensures environmental integrity and transparency, including in governance; and applies robust accounting to ensure, inter alia, the avoidance of double counting, consistent with decisions adopted by the CMA on Article 6.

- Information related to transfers, acquisitions, balances, and corresponding adjustments for non-GHG ITMOs.
- The application of overall mitigation in global emissions (OMGE), explained in the Article 6.4 section below.
- The application of "share of proceeds", explained in the Article 6.4 section below.

In this regard, parties must submit an initial report, annual information, and regular reports (See Figure 4). A description of each one and the detail of its reporting is provided below:

- The initial report must be submitted at the latest upon first authorisation of ITMOs by the participating Parties. The report can be provided in conjunction with the country's next due BTR, where practicable. In the initial report, Parties must demonstrate that they meet the participation requirements. They must also detail their accounting approach for the NDC implementation period (including related information on their NDCs) and describe the cooperative approaches they participate in, including ITMO metrics and corresponding adjustment method to apply. While the information on NDCs and accounting must only be submitted once per NDC implementation period, the description of a cooperative approach must be provided every time an ITMO from a new approach is being authorised. For each cooperative approach, a copy of the authorisation by the participating Party, a description of the approach, its duration, the expected mitigation for each year of its duration, the participating Parties involved, and authorised entities must be provided (UNFCCC 2021b).
- As soon as Parties engage in cooperative approaches, they must submit **annual information** no later than 15 April of the following year in an agreed electronic format. This annual information is not tied to any reporting obligation under the ETF and only relates to information necessary to track the international flow of ITMO transfers (UNFCCC 2021b).
- Then, as an annex to participating Parties' BTRs and in line with the submission date (31 December), the following **regular information** must be provided biennially:

Figure 4: Reporting requirements for cooperative approaches



Source: Michaelowa et al. (2020).

- ***Parties' participation information***, including requirements fulfilment, updates to the information provided in its initial report, all kinds of authorizations enacted, applicable changes to earlier authorizations and corresponding adjustments undertaken in the latest reporting period. It is also requested to describe how they ensure double counting is avoided, how progress towards implementation and achievement of its NDC do not lead to a net increase in emissions, and how to ensure ITMOs used for all the

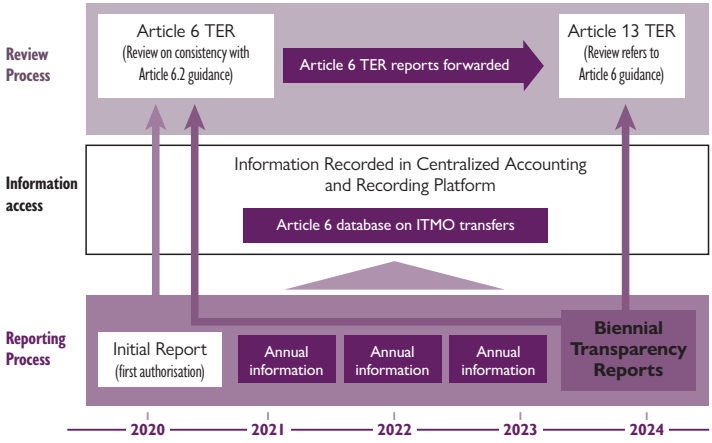
purposes mentioned will not be further transferred, cancelled, or otherwise used (UNFCCC 2021b).

- ***Information on each cooperative approach*** in which the Party is participating, describing: the contributions to the mitigation of GHGs and the implementation of its NDC; how the Party is ensuring environmental integrity through robust governance and methods that ensure mitigation is below a business-as-usual course of action; mitigation co-benefits resulting from adaptation actions and/or economic diversification plans; avoidance of negative impacts; contributions to sustainable development objectives of the Party; application of safeguards and limits set out; contribution to adaptation actions; and delivery to OMGE (UNFCCC 2021b).

Review of reports

Once the Parties have submitted their reports, the A6TER will start in order to analyse consistency with the guidance. The review report will include recommendations on how to improve consistency with the guidance and relevant decisions of the CMA and how to address inconsistencies in quantified information reported and/or identified by the A6TER or the UNFCCC Secretariat (UNFCCC 2021b, paras 25-27). The expert review team under the A6TER must then send the report to the Article 13 expert review team referred to in chapter VII of the annex to Decision 18/CMA.1, and both reports will be available on the centralized accounting and reporting platform (see Figure 5).

Figure 5: Reporting and review process



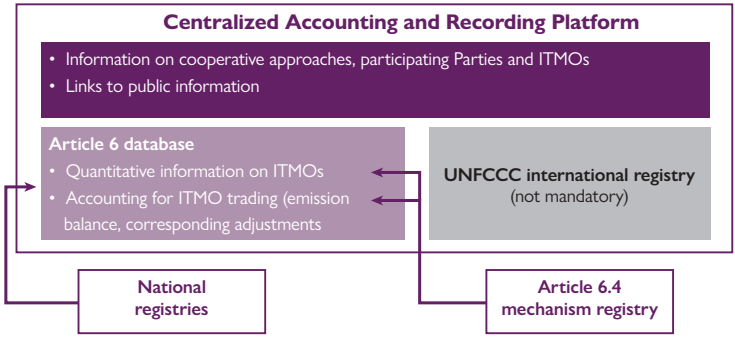
Source: Authors.

The **centralized accounting and reporting platform** will contain an international registry for participating Parties and the Article 6 database, which will record all submitted information on ITMO authorization, first transfer, transfer, acquisition, use towards NDCs, authorisation for use towards other international mitigation purposes, and voluntary cancellation (including for OMGE, if applicable). ITMOs must have unique identifiers delivering information on the participating Party, vintage[10], activity type, and sector (UNFCCC 2021b).

The **Article 6 database** will support the expert review through recording of corresponding adjustments and emission balances (UNFCCC 2021b) and enable the Secretariat's consistency check between the information reported by the participating Parties (see Figure 6).

10 Vintage refers to the year when the mitigation occurred, determining the age of the emission credits.

Figure 6: Infrastructure for recording and tracking ITMOs



Source: Michaelowa et al. (2020).

HOW WILL PARTIES ENSURE INTEGRITY AND AMBITION?

The A6.2 guidelines have introduced various obligations for Parties to guarantee environmental integrity and Parties must regularly report on these. Safeguards and limits to the transfer and use of ITMOs are fundamental to maintaining environmental integrity. Parties' reports need to show the following:

- Their participation in cooperative approaches does not lead to a net increase in global emissions but contributes to mitigation and the implementation of the host Parties' NDC.
- **Robust and transparent governance processes** have been established.
- The quality of the mitigation outcomes through stringent reference levels, conservative baselines, and below business-as-usual emission projections has been ensured. These reference levels, baselines, and projections must consider all existing policies and address potential leakage.
- The risk of non-permanence of mitigation is minimised and any reversal of emission removals is addressed in full.

Furthermore, participating Parties and stakeholders using cooperative approaches are strongly encouraged to commit to contribute resources for adaptation, through contributions to the Adaptation Fund (Hoch et al. 2021). This is related to two mandatory procedures explained in the section on the Article 6.4. mechanism, regarding "share of proceeds" and OMGE.

WHAT FURTHER WORK IS NEEDED TO COMPLETE THE ARTICLE 6.2 GUIDANCE?

While most of the Article 6.2 guidance was agreed at CMA3 in 2021, some issues regarding technicalities still need to be agreed to fully operationalize cooperative approaches. According to Decision 2/CMA.3, the Subsidiary Body for Scientific and Technological Advice (SBSTA) is to develop recommendations for a decision at CMA4 (November 2022) on, inter alia:

- How to consider **special circumstances of the LDCs and SIDS** in the application of this guidance.
- Methods for corresponding adjustments for multi-year and single-year NDC targets, in particular, for establishing an indicative trajectory, trajectories, or budget. Also, methods for averaging, including with respect to relevant indicators and methods for calculating cumulative emissions by sources and removals by sinks, and for demonstrating the representativeness of averaging for corresponding adjustments.
- Whether ITMOs could also include **emission avoidance**. This is an important discussion to see whether Parties are able to sell (and use against their NDC) not only emission reductions and removals but also the protection of biomass carbon stock and/or the non-exploitation of fossil fuels, even in scenarios where it cannot be credibly justified that in the absence of a mitigation activity emissions would occur. While finance for conservation is urgently needed, the question is whether Parties should be allowed to purchase ITMOs and offset their national emissions with them if no action has occurred that reduces global emission levels and just maintains them as they are.

- Tables and outlines for reporting, including the agreed electronic format referred in Article 13 of the Paris Agreement (Decision 18/CMA.1, Annex).
- Decisions on the composition and coordination of the **review team** under the A6TER and recommendations for guidelines for the reviews. This includes provisions to ensure the reviews assess the consistency of the information provided on the cooperative approach. Also, guidelines are needed on how to deal with confidential information. Lastly, a decision is needed on what happens if participating Parties fail to implement the recommended improvements proposed by the expert reviewers.
- Decisions on how to implement the new infrastructure, including guidance for registries.
- Development of a **capacity-building programme** to be implemented by the Secretariat mainly through the regional collaboration centres.

HOW WILL THE ARTICLE 6.4 MECHANISM (A6.4M) WORK?

The Paris Agreement established an **international baseline and credit mechanism** (Article 6.4 Mechanism or A6.4M) to contribute to climate change mitigation and **support sustainable development**. Like its predecessors (the Kyoto Protocol's CDM and JI), the A6.4M registers activities that reduce emissions or enhance carbon dioxide removals that meet its requirements and issues **emission credits (A6.4ERs)** from these activities (UNFCCC 2021c, Annex, para 1(b)).

The rules, modalities and procedures (hereafter referred to as the **Article 6.4 rules**) to operationalise A6.4M were adopted by the CMA in 2021, alongside a two-year work programme to elaborate the Article 6.4 rules further (Decision3/CMA.3, Annex) The current Article 6.4 rules consist of eleven chapters (see Box 5) that together outline the requirements that an activity seeking to be registered under the A6.4M and issue A6.4ERs needs to meet, as well as aspects that need to be developed for the A6.4M to become fully operational.

The **Article 6.4 Supervisory Body (A6.4SB)** is responsible for overseeing the A6.4M and developing the relevant procedures that determine the activity cycle, methodology development and the share of proceeds to support adaptation and cover administrative costs.

Host country governments can **decide freely whether to authorise A6.4ERs to become ITMOs**. If, and only if, A6.4ERs are authorised by the host country as ITMOs under Article 6.2 (see Chapter 3), they can be used towards NDCs for international mitigation purposes and/or other purposes (UNFCCC 2021b, Annex, para 43). Non-authorised A6.4ERs can be used for supporting the host country in meeting its NDC, for instance by providing results-based climate finance or voluntarily contributing to the host country's NDC (see Figure 10).

Box 5: Outline of Decision3/CMA.3 specifying the rules, modalities, and procedures for the mechanism established by Article 6, paragraph 4, of the Paris Agreement

Chapter I.	**Definitions**
Chapter II.	Role of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
Chapter III.	**Supervisory Body** Rules of procedure Governance and functions Role of the Secretariat
Chapter IV.	**Participation responsibilities**
Chapter V.	**Activity cycle** Activity design Methodologies Approval and authorization Validation Registration Monitoring Verification and certification Issuance Renewal of crediting period First transfer from the mechanism registry Voluntary cancellation Other processes
Chapter VI.	**Mechanism registry**
Chapter VII.	**Levy of share of proceeds for adaptation and administrative expenses**
Chapter VIII.	**Delivering overall mitigation in global emissions**
Chapter IX.	**Avoiding the use of emission reductions by more than one Party**
Chapter X.	**Use of emission reductions for other international mitigation purposes**
Chapter XI.	**Transition of CDM activities and use of CERs towards first NDC**

WHICH TYPE OF ACTIVITIES WILL BE ELIGIBLE UNDER THE A6.4M?

Activities that **reduce emissions and/or increase removals** are eligible under the A6.4M. Mitigation co-benefits of adaptation actions and/or economic diversification plans are also eligible (UNFCCC 2021c, para 31(a)). **Removal activities** are referred as "anthropogenic activities that remove carbon dioxide from the atmosphere and ensure its long-term storage in terrestrial, geological, or ocean reservoirs, or in long-lasting products" (UNFCCC 2022d). These activities could include afforestation, reforestation, revegetation, sustainable forest management, wetlands restoration and re-wetting, direct air carbon dioxide capture and storage, agroforestry, and urban forestry, among others. In terms of their scale, activities can be standalone projects (such as a landfill gas collection and utilisation system), programmes (for instance, a programme for promoting energy-efficient household appliances), or other activities (such as a policy on renewable energy feed-in tariffs or energy efficiency standards). These are subject to approval by the A6.4SB.

To be eligible under the A6.4M, an activity needs to be additional and deliver real, measurable, and long-term benefits related to climate change (UNFCCC 2021c, Annex, para 31(i)). It must not lead to an increase in global emissions. In addition, an eligible activity must minimise the risk of non-permanence of emission reductions across different NDC implementation periods, **fully address reversals**[11], **minimize the leakage risk**[12], and minimise and, where possible, **avoid negative environmental and social impacts**. **Local or subnational stakeholder consultation** is also mandatory (UNFCCC 2021c, Annex, para 31).

11 According to the concept note 'Removal activities under the Article 6.4 Mechanism', reversals refer to the risk that removals generated by any activity could be reversed because of human actions, natural disturbances, and climate change (UNFCCC 2022d, p.13)

12 According to the concept note 'Removal activities under the Article 6.4 Mechanism', carbon leakage is defined as "the increase in emissions that occurs outside the boundary of a removal activity but is shown to be caused by the same activity" (UNFCCC 2022d, p.14)

HOW WILL THE A6.4M BE GOVERNED?

The A6.4M is governed by the **A6.4SB** under the guidance of the CMA. The A6.4 SB, which held its first meeting in July 2022, is composed of 12 members from all UN regions, and LDC and SIDS groups who can serve a maximum of four years.

The A6.4SB has the following tasks (UNFCCC 2021c, Annex, paras 21, 24):

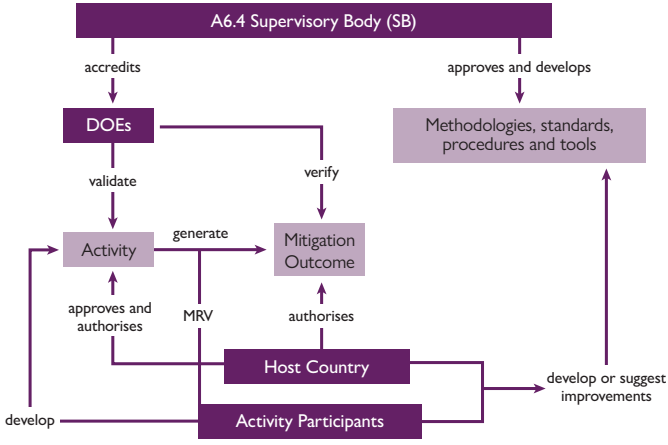
- **Ensure transparency** of decision making and make publicly available its decision-making framework and decisions, including standards, procedures, and related documents.
- Implement the specific **requirements and processes** to operate the A6.4M, including the **accreditation of independent auditors**, the so-called Designated Operational Entities (DOEs); the approval and/or development of methodologies; the mechanism's registry; the provision of a share of proceeds to assist developing country Parties; the delivery of OMGE; the approval and supervision arrangements of host country national arrangements; the application of robust social and environmental safeguards[13]; and the development of **sustainable development assessment tools**, standards, and procedures.
- Support the implementation of the A6.4M through the development of a public website and promote the availability of DOEs in all regions.
- Implement **capacity-building activities** based on the capacity-building programme of the UNFCCC Secretariat through its regional collaboration centres to assist Parties who want to participate in the mechanism. The assistance will be focused on the establishment of the necessary institutional arrangements to implement the requirements to be defined by the A6.4SB, and the development of technical capacity to design and set baselines for application in host Parties (UNFCCC 2022c).

13 It should be noted that safeguards were included in all the three carbon market decisions for the first time since the Kyoto Protocol regime (Decision 2, 3 and 4 CMA.3).

An overview of the governance of the A6.4M is shown in Figure 7.

An important feature of the A6.4SB is the possibility for stakeholders, activity participants and participating Parties to appeal, or express grievances about, the decisions mandated by the A6.4SB through an **independent grievance process** (UNFCCC 2021c; UNFCCC 2022f).

Figure 7: Governance of the A6.4M



Source: Authors based on UNFCCC (2021b).

What role will the host country play under the Article 6.4M?

Prior to participating in the mechanism, the host Party needs to fulfil various **participation requirements**. These include the designation of a **national authority** for the A6.4M, the provision of information to the A6.4SB on how its participation contributes to sustainable development, and the types of A6.4M activities it will consider approving (see Figure 7). Moreover, it needs to demonstrate publicly how the activities and their associated emission reductions or removals would contribute to the

achievement of its NDC, its long-term low GHG emission development strategy, if applicable, and the long-term goals of the Paris Agreement (UNFCCC 2021c, para 26I).

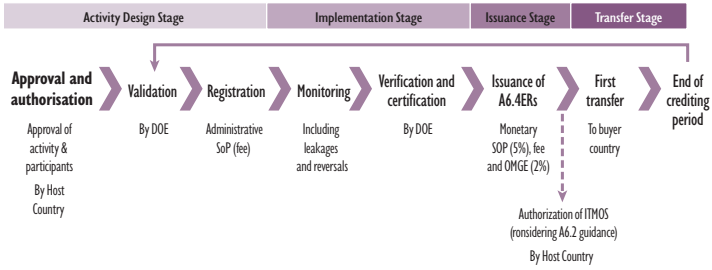
The A6.4M requires activities and their **crediting period renewals** to be **approved by the host country**, and activity participants to be authorised by the host country to participate in activities. This requires careful consideration by the host country of the activity's impact on the achievement of its NDC. Under the Article 6.2 process (see Chapter 3), the host country may authorise A6.4ERs for use towards NDCs, for international mitigation purposes, and/or for other purposes. The first transfer of A6.4ERs would trigger the host country to make corresponding adjustments in line with Article 6.2 guidance (see Chapter 3). The host country may also request a voluntary cancellation of correspondingly adjusted A6.4ERs to deliver further OMEG.

Host countries can also communicate to the A6.4SB any additional methodological requirements (e.g., stringent baselines) to be applied to activities in their national territory under the A6.4M (UNFCCC 2021c, Annex, para 27).

WHAT ARE THE A6.4M REQUIREMENTS FOR ACTIVITIES?

The A6.4 **activity cycle** resembles the CDM project cycle. The A6.4 SB will oversee the activity cycle, from activity registration to the issuance of A6.4ERs. The cycle is developed in four main stages as shown in Figure 8. Different actors are involved throughout the entire cycle, starting with the **host Party** and the **activity participants** who will define the scope of the activity in its design phase, the selection of the appropriate methodology including the baseline setting approach, additionality demonstration, monitoring, and determination of crediting period length.

Figure 8: A6.4M activity cycle



Source: Authors.

As a second step, the **independent auditor** (DOE) will validate the activity against the A6.4M rules' requirements prior to registration. In case of a successful validation, the DOE submits a request for registration with the validation outcomes to the A6.4SB. A monetary administrative fee—a part of the share of proceeds—needs to be paid by the activity participants to cover the administrative expenses when registering an activity with the A6.4M (UNFCCC 2021c, Annex, paras 47 and 48). After a monitoring period (whose duration can vary), the calculated mitigation outcomes are verified by the DOE. Subject to successful verification, the DOE will request the issuance of A6.4ERs. **Five percent of A6.4ERs will be retained at issuance** to support adaptation in developing countries and transferred to the Adaptation Fund, while **two percent will be cancelled to provide OMGE** (UNFCCC 2021b, Annex, para 69). Moreover, a **monetary contribution** related to the activity's scale will be paid. However, the level of this payment still needs to be decided by the CMA (UNFCCC 2021c, Annex, para 67).

What are the A6.4M's methodological principles and requirements?

Under the A6.4M, activities must demonstrate **additionality** using a **robust assessment** that shows the activity **would not have occurred without the incentives from the mechanism**, considering **all relevant national policies**. A6.4ERs are to represent mitigation that exceeds any mitigation required by law or regulation, and avoid locking in emission levels, technologies, or practices incompatible with the host country's NDC and the long-term goals of the Paris Agreement (UNFCCC 2021c, para 38).

The A6.4M approach to demonstration of additionality is more stringent than under CDM. While in principle CDM rules for additionality testing require taking all relevant costs and revenues into account, the CDM Executive Board did not clarify how national and sectoral policies, such as renewable energy feed-in tariffs, should be considered. Under the A6.4M, the additionality test needs to consider all relevant national policies and legislation. Consequently, two key dimensions of additionality testing can be identified under Article 6.4: **regulatory** additionality and **financial** additionality (II-AMT 2022).

Activities must apply approved mechanism methodologies for demonstrating additionality, **setting baselines**, and **monitoring and reporting** the activity's emissions and mitigation outcomes. Mechanism methodologies may be developed by activity participants, host Parties, or other stakeholders. Proposed methodologies are submitted to the A6.4SB for approval. The A6.4SB can also develop methodologies on its own initiative (UNFCCC 2021c, Annex, para 35). While under the Kyoto mechanisms and the voluntary carbon market baselines were generally calculated at the business-as-usual level (a "scenario that reasonably represents the anthropogenic emissions by sources of GHGs that would occur in the absence of the activity"), A6.4M baselines now have to apply these more stringent principles (UNFCCC 2021c, Annex, para 33):

- encourage **ambition over time**;
- be **below** business as usual;

- **align to the long-term temperature goal** of the Paris Agreement;
- contribute to the equitable sharing of mitigation benefits between the participating Parties, contribute to reducing emission levels in the host Party, align with its NDC and, if applicable, with its long-term low GHG emission development strategy (if it has submitted one) and the long-term goals of the Paris Agreement;
- consider uncertainty, leakage, **policies and measures**[14], and relevant circumstances, including national, regional, or local, social, economic, environmental, and technological circumstances; and
- address reversals, where applicable.

Principles already applied in the past under the Kyoto mechanisms include:

- being **real, transparent, conservative, and credible**;
- avoiding **leakage**, where applicable;
- recognizing **suppressed demand**[15]; and
- including **relevant assumptions, parameters, data sources and key factors**.

Under A6.4M, the baseline must be set using a performance-based approach based on best available technologies, an ambitious benchmark, or actual or historic emissions adjusted downwards (UNFCCC 2021c, Annex, para 36).

14 While the CDM rules originally required taking national policies into account in baseline setting, the CDM Executive Board decided to allow the exclusion of certain policies from the baseline scenario (Spalding-Fecher 2013). This could result in higher baseline emissions compared to fully taking national policies into account. A6.4M does not allow for such exclusions.

15 Decision 3/CMP.1 para 46 (CDM modalities and procedures) stated that the determination of the project´s baseline may include a scenario where future anthropogenic emissions by sources are projected to rise above current levels, due to the **specific circumstances** of the host Party, such as higher levels of population growth, less economic development, social and cultural preconditions, among others. This is commonly referred to as "suppressed demand". Specific criteria to apply this approach are described in the "Guidelines on the consideration of suppressed demand in CDM methodologies" (UNFCCC 2011).

Unlike for the CDM and joint implementation activities, where activities could lead to absolute emission increases in host Parties, A6.4M rules require that activities do not lead to a net increase in global emissions and that they align with the long-term goal of the Paris Agreement. These requirements need to be reflected in **baseline setting** (II-AMT 2022). How the principle of **suppressed demand** can be aligned with that rule remains unclear; generally, these two principles are not consistent with one other.

For what purposes can issued A6.4ERs be used and how are they tracked?

In general, the Article 6.4 rules differentiate between two types of A6.4ERs: authorised and non-authorised A6.4ERs.

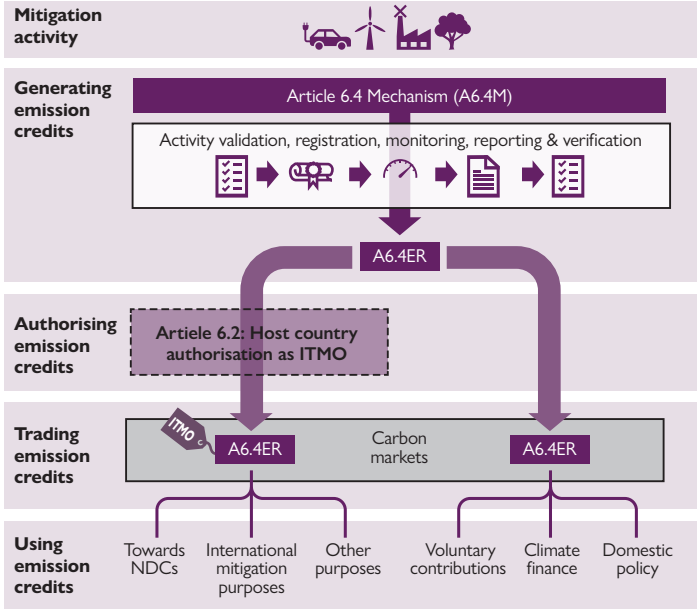
Authorised A6.4ERs do not count towards the host country's NDC. The host Party can authorise A6.4ERs for three possible uses: towards the achievement of NDCs, for international mitigation purposes (such as CORSIA) and/or for other purposes (the voluntary carbon market). Use towards NDCs or for international mitigation purposes requires authorisation and consequent corresponding adjustments (UNFCCC 2021c, Annex, para 43). If the host Party authorises mitigation outcomes for other purposes, as defined by the host Party [16], it must apply corresponding adjustments. But the host country can choose not to authorise A6.4ERs and then does not have to apply a corresponding adjustment.

Non-authorised A6.4ERs may, but do not necessarily, count towards the host country's NDC. They can be used for complying with domestic policies (for example, to reduce a carbon tax liability), for delivering results-based climate finance (making payments against the delivery of A6.4ERs as "proof" of results) and for voluntary contributions towards the host country's NDC (see Figure 9).

16 Efforts in Glasgow to define such uses by other stakeholders were not successful.

Voluntary emission credit buyers may choose to use A6.4ERs because of their approval under the Paris Agreement. Voluntary buyers seeking to contribute to ambition-raising beyond NDCs would need to voluntarily cancel ITMOs to achieve the ambition-raising effect.

Figure 9: Overview of different use cases for A6.4M units



Source: Perspectives Climate Group (2022).

An **international A6.4 mechanism registry** will be set up to track and record the issuance, first transfer, and voluntary cancellation of A6.4ERs. The registry is administered, maintained, and operated by the UNFCCC Secretariat and must contain the following features (UNFCCC 2021c, Annex, paras 63-65):

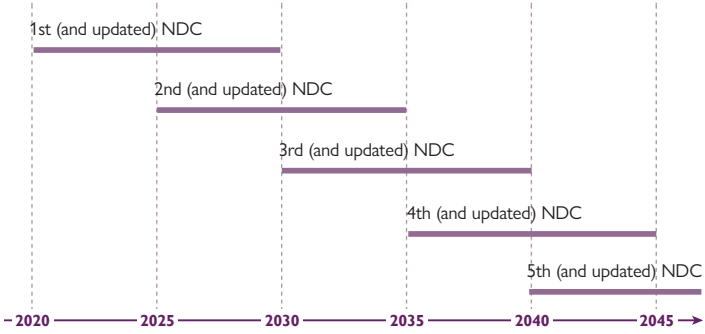
- provide at least a pending account, holding account, retirement account, cancellation account, account for cancellation towards OMGE, and a share of proceeds for adaptation account;
- hold an account for each Party and each public or private entity authorised by a Party if the identification requirements are fulfilled; and
- operate at best practice standards for registries and be connected to the international registry referred to in Decision 2/CMA.3 for Article 6.2.

What are the crediting periods under A6.4M?

Crediting period lengths are pre-defined at five years, renewable twice, or 10 years with no option to renew. Activities that involve removals get 15-year crediting periods, renewable twice (UNFCCC 2021b, Annex, para 31). The renewal would be subject to approval by the A6.4SB (after DOE assessment on updates). The host Party must approve the updates and can determine shorter crediting periods.

Linked to the crediting period and the year in which the mitigation outcomes are generated (known as the **"vintage"**), a relevant issue that remains unclear is the timing of NDC updates and the implications in terms of reporting and accounting. The Glasgow decision about **common time frames** (Decision 6/CMA.3) formally requires NDC end-years to be synchronized at five-year intervals, with a 10-year NDC period, building on the first NDC period 2020-2030. However, it did not specify if the second NDC will cover the entire 10-year period from 2025-2035, and the third NDC the period 2030-2040. This would lead to a potential overlap of two NDC periods (see Figure 10).

Figure 10: Overlapping NDC periods as per the common time frames decision



Source: Perspectives Climate Group (2022).

In this sense, an A6.4ER or an ITMO generated in 2027 could be allocated either to the first or second NDC period. This situation would be confusing since the corresponding adjustments may happen many years after the credit has been issued, and even after the end of the NDC period in which the mitigation outcomes can be used. For example, if an ITMO is generated in 2023, issued in 2025, and used in 2030 in the last year of the first NDC period, given the reporting lag of two years, the corresponding adjustment will only happen in 2032, that is, two years into the second NDC period.

To prevent this overlap between two NDC periods, it would be necessary to ensure that the unique identifier of each ITMO clearly specifies to which NDC period the ITMO belongs. The "allocation" of an ITMO to the NDC period needs to be done by the acquiring country at the time of the transfer, and the country should not be able to change this allocation.

HOW CAN CDM ACTIVITIES AND CREDITS TRANSITION TO THE ARTICLE 6.4 MECHANISM?

The A6.4M rules enable **ongoing CDM activities** to request their **transition** into the A6.4M to the respective host country by no later than **31 December 2023** (UNFCCC 2021c, para 73(a)). The transition must be approved by the A6.4SB and the activity must fulfil all relevant A6.4M requirements (as well as requirements on corresponding adjustments in case of mitigation outcomes authorised under Article 6.2) no later than **31 December 2025** (UNFCCC 2021c, Annex, para 73(b, c)). The activity can use the methodology that was approved under the CDM until either the end of its crediting period or 31 December 2025—whichever happens earlier (UNFCCC 2021c, Annex, para 73(d)).

The CERs of activities registered **after 2012** can be **used towards achievement of the first NDC** if they are transferred into the mechanism registry and identified as **pre-2021** emission reductions (UNFCCC 2021c, Annex, para 75). Estimates of the total volume of CERs that could be transitioned range between 115 million (unused CERs) and 340 million CERs (including new issuance from dormant projects) (Michaelowa et al. 2021d). However, a mandatory cancellation in the registries of countries with emission caps under the Kyoto Protocol is due after an additional period established under the Protocol known as the **"true-up period"**, which allows countries to trade Kyoto units for 100 days after the end of the commitment period to fulfil their emission caps.

Moreover, requests for registration, renewal of crediting period, and issuance of CERs that relate to emission reductions occurring **after 31 December 2020** can no longer be decided on by the CDM Executive Board (UNFCCC 2021d, para 7). The CDM Executive Board can only **provisionally** treat registrations, renewals, or issuances under the

existing temporary measures[17] but the final decision will be made by the A6.4SB upon receiving the request for transition. The CDM Executive Board will continue processing requests for issuance related to emission reductions prior to 31 December 2020 until at least the end of the true-up period in 2023.

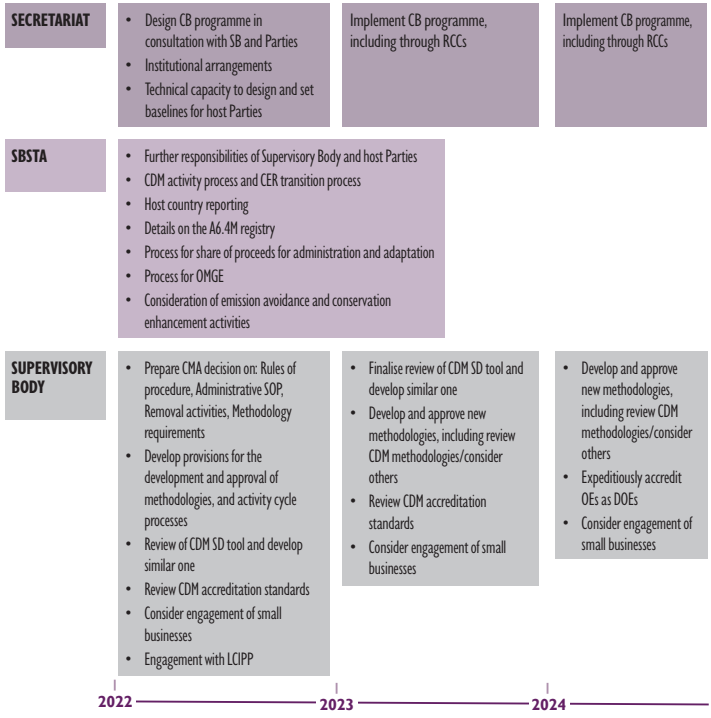
WHAT ARE THE NEXT STEPS TO OPERATIONALISE THE A6.4M MECHANISM?

In 2021, the CMA requested the A6.4SB to perform various tasks to operationalise the A6.4M (UNFCCC, 2022b, paras 5 to 9). The A6.4SB met for the first time from 25 to 28 July 2022. At the meeting, participants agreed on the prioritization of tasks requested by the CMA, as follows:

- Governance and management matters such as the rules of procedure of the A6.4SB, which were adopted at the meeting (UNFCCC 2022g).
- Work plan for 2022-2023 (UNFCCC 2022h) (see Figure 11).
- Initial guidance based on the concept notes elaborated by the Secretariat for the following topics:
  - Support structure of the A6.4SB, which refers to the existing and new arrangements that can assist, on a technical level, its work in relation to some issues such as methodologies, accreditation, and activity cycle, through the establishment of committees, panels, working groups, and rosters of experts (UNFCCC 2022i).
  - Share of proceeds under A6.4M (UNFCCC 2022j).
  - Guidelines for implementation of methodological principles, approaches, and methods for the establishment of baseline and additionality (UNFCCC 2022f).
  - Removal activities under the A6.4M (UNFCCC 2022e).

17 "Temporary measures" refers to the clarification "Regulatory requirements under temporary measures for post-2020 cases", CDM-EB109-A01, adopted by the Executive Board at its 109th meeting.

Figure 11: Summarized A.6.4M workplan for 2022-2024



Source: Authors.

Consequently, the A6.4SB agreed to work on draft recommendations for the share of proceeds, methodological guidance, and removal activities through internal working groups. It will discuss them at the second and third meetings, which will also convene in 2022, and present final recommendations for consideration at CMA4 alongside COP27 in November 2022.

Based on the draft recommendations of the A6.4SB, SBSTA will carry out certain tasks to further operationalize the A6.4M, including the

development of recommendations based on the draft recommendations, as well as other relevant issues (further safeguards, capacity-building programme, among others).

Based on this further work, the following milestones are scheduled to be completed in 2022:

- level of monetary adaptation share of proceeds for A6.4M;
- level of administration share of proceeds for A6.4M;
- requirements for the development and assessment of mechanism methodologies; and
- requirements for the development and assessment of mechanism methodologies pertaining to activities involving removals.

The programme for 2023 includes:

- a review of the sustainable development tool in use for the CDM 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 A6.4M;
- the CDM methodologies transitioned;
- development of new (top-down) methodologies and standardized baselines; and
- the start of implementing a capacity-building programme.

Full operationalization of A6.4M is to be achieved by 2025.

HOW WILL PARTIES BE SUPPORTED IN PREPARING FOR MARKET-BASED COOPERATION?

Under the CDM, different multilateral and bilateral programmes focused on technical assistance. This was often related to specific carbon funds that had an interest in buying carbon credits from activities benefitting from **capacity building**. Key lessons learned in terms of capacity building under the CDM include the need for a holistic approach that covers the whole process through better coordination between initiatives, more systematic education and training to ensure sustained capacity, and less dependence on capacity-building funds and expertise from abroad (Michaelowa et al. 2022).

Capacity-building efforts to strengthen Parties' and activity developers' Article 6 readiness include not only well-established initiatives, but also some new initiatives and organisations. One of the key outcomes from COP26 in Glasgow was the mandate to design and implement a **capacity-building programme** mainly through the UNFCCC's regional collaboration centres. The programme is expected to focus mainly on helping developing country Parties participate in the international carbon market (Michaelowa et al. 2022).

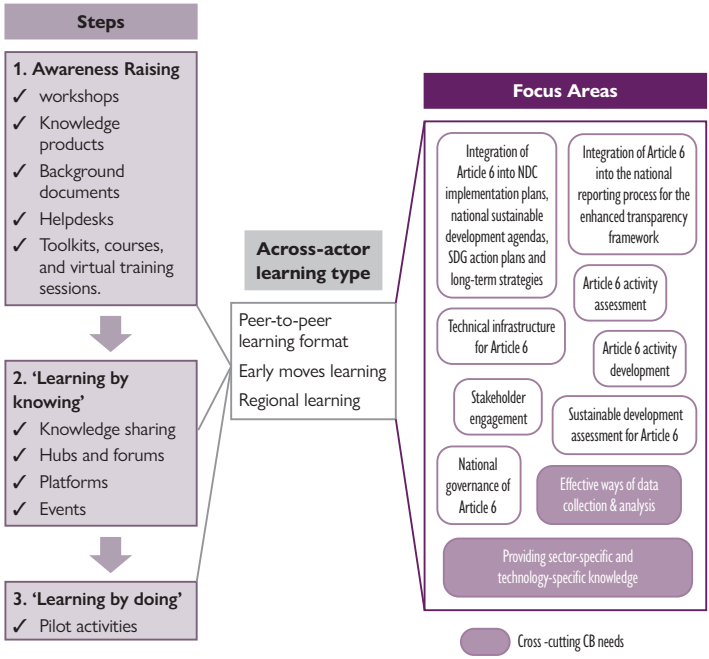
In the Article 6 decisions, a number of capacity-building needs are identified for market-based cooperation. For instance, under Article 6.2, capacity-building efforts are to support the development of institutional arrangements, including for authorisation and accounting processes as well as reporting processes. This will help ensure ambition in cooperative approaches and, in the case of LDCs and SIDS, support meeting the participation requirements (UNFCCC 2021a, para 12). The Article 6.4 decision requests the UNFCCC Secretariat to design a capacity-building programme, in consultation with the A6.4SB, with an emphasis on defining

the necessary institutional arrangements to implement the requirements of the A6.4M and enhancing the technical capacity for developing and applying the methodologies (UNFCCC 2021c, para 14).

Some **Article 6 readiness initiatives** already began prior to the adoption of the Article 6 rulebook. These initiatives aim to create awareness and capacity on political, institutional, and technical requirements for Article 6 cooperation through a few pilot initiatives. According to Michaelowa et al. (2022), capacity building can take many different forms that are suitable for its different areas and stages. In that sense, to support Parties in building capacity to participate in Article 6, the following steps are suggested: (1) awareness raising through knowledge products; (2) knowledge sharing; and (3) a "learning-by-doing" approach (Michaelowa et al. 2022). Since all these steps imply a process of learning from others, different **across-actor** types of learning, such as **peer-to-peer** formats, **early mover** initiatives, and **regional working teams**, could also be relevant to consider in guiding the capacity-building process (see Figure 12).

Moreover, various countries have announced capacity-building initiatives. Michaelowa et al. (2022, p.12) show that 26 initiatives are currently providing capacity-building support for Article 6. The majority of these initiatives cover the following focus areas: integration of Article 6 into NDC implementation plans; national sustainable development agendas; SDG action plans and long-term strategies; integration of Article 6 into the national reporting process for the ETF; national governance of Article 6; technical infrastructure for Article 6; Article 6 activity development; and sustainable development assessment for Article 6 and stakeholder engagement. Additional focus areas are shown in Figure 12.

Figure 12: Suggested capacity-building steps and focus areas for Article 6



Source: Authors, based on Michaelowa (2022a).

Capacity-building efforts will require further work with both public and private stakeholders. Moving forward, it will be helpful to capitalise on the capacity-building experiences thus far and pursue a close coordination between the different initiatives to ensure that **synergies** are exploited and gaps closed (Michaelowa et al. 2022).

HOW WILL NON-MARKET APPROACHES BE PROMOTED?

At COP16 in Cancun in 2010, Parties agreed to consider the establishment of **non-market-based approaches (NMAs)** "to enhance the cost effectiveness of, and to promote, mitigation action" (UNFCCC 2010). Two years later at COP18 in Doha, NMAs started to be negotiated under SBSTA, which asked Parties to submit experiences and good practices to help define them. Some of the experiences submitted included domestic policies, measures to promote sustainable development, energy efficiency, mitigation, and adaptation. At COP19 in Warsaw in 2013, Bolivia requested that "NMAs should be defined as non-financial, non-market-oriented, non-marketable, non-tradable, and non-transferable", which provided a framework definition of NMAs (Michaelowa et al. 2021b). However, many questions remained unanswered on issues such as cooperation and coordination, as well as on the additional benefits of NMAs. As a result, no concrete results could be achieved before COP21 in Paris (Michaelowa et al. 2021b).

Article 6.8 defines NMAs as an approach that assists Parties in implementing their NDCs that does not rely on market-based approaches, and does not involve the transfer of any mitigation outcomes (UNFCCC 2015). Article 6.9 refers to a **framework for NMAs**, while Decision 1/CP.21 includes a mandate for a **work programme for NMAs** (UNFCCC 2015). Decision 4/CMA. 3 from Glasgow finally adopted the work programme (UNFCCC 2021d, para 2).

Regarding the **framework for NMAs**, the Annex to Decision 4/CMA.3 sets out the main objective to facilitate the use and coordination of NMAs and enhance linkages, and to create synergies between mitigation, adaptation, finance, technology development and transfer, and capacity building (UNFCCC 2021d, Annex, para 1(a)). In this regard, NMAs that fall under the framework are identified by the participating Parties.

NMAs are expected to be innovative and include transformational actions that have significant potential to deliver higher mitigation and adaptation ambition, promote the participation of the public and private sectors and civil society, and coordinate the instruments and institutions involved. Also, NMAs must contribute to achieving sustainable development and the long-term temperature goal of the Paris Agreement, applying safeguards to avoid or minimise negative environmental, economic, and social impacts (UNFCCC 2021d, Annex, para 3). Examples of NMAs range from pure adaptation initiatives to nature-based solutions with mitigation co-benefits and new financial mechanisms. The latter are, however, not supported by industrialised countries.

To implement NMAs, a **work programme** was started in 2022 by SBSTA. The work programme is to be developed through activities such as workshops, engagement with stakeholders, submissions, technical papers, and synthesis reports, as well as collaboration with relevant bodies and processes under or related to the Convention and Paris Agreement (UNFCCC 2021d, Annex, para 7). The work programme will identify NMAs, initially in the following **focus areas** (UNFCCC 2021d, para 3):

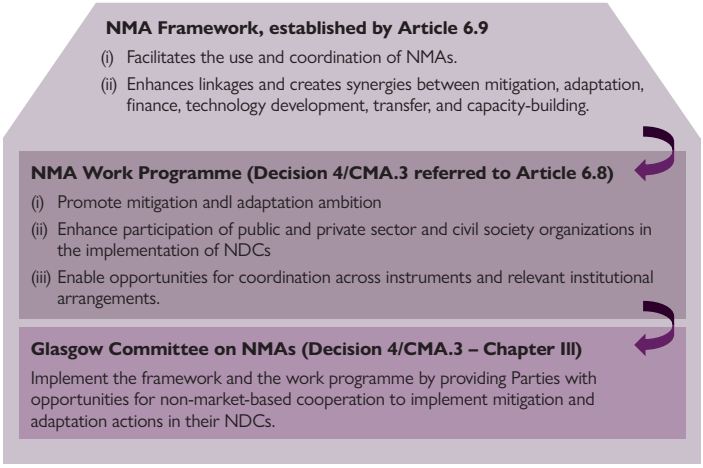
- adaptation, resilience, and sustainability;
- mitigation measures; and
- development of clean energy sources

The work programme is also expected to identify and implement measures to enhance existing linkages, create synergies, and facilitate NMA coordination and implementation. This includes the development of tools with the support of the UNFCCC Secretariat, such as a web-based platform to record and share information of NMAs based on the findings of the work programme (UNFCCC 2021d, Annex, para 8). This is to include case studies, best practices, and lessons learned in the development and implementation of NMAs. Moreover, **knowledge sharing** focuses on how to replicate successful NMAs, enable policy frameworks, enhance the engagement of different stakeholders, and visualize and estimate the

mitigation co-benefits and impacts resulting from adaptation actions and/or economic diversification plans that assist in the implementation of NDCs. It should also identify guidelines, procedures, and safeguards to implement NMAs (UNFCCC 2021d, Annex, para 8(b.ii).

In terms of NMA governance, the CMA established the **Glasgow Committee on NMAs** to implement the framework and work programme (see Figure 13). The Committee will be convened by SBSTA, operate as a contact group, and meet twice a year. This Committee must **develop and recommend** a schedule for implementing the work programme activities, including the timeline and expected outcomes for each activity, as well as details about the functions, forms, targeted users, and content of the UNFCCC web-based platform (UNFCCC 2021d, para 4). In 2027, Parties will review the Committee's work during its first five years and decide whether or not different institutional arrangements are needed (UNFCCC 2021d, Annex, paras 4-6).

Figure 13: Governance of NMAs



Source: Authors, based on UNFCCC (2021d).

To initiate the development of the work programme, Parties and observers were invited to submit views and information in early 2022 on ongoing **relevant experiences** and NMAs in the initial focus areas that have potential to be facilitated under the framework. Suggestions for new focus areas, views on the detailed information in the UNFCCC web-based platform, and comments on the proposed schedule for implementing work programme activities were also requested. A key in-session workshop was held in June 2022 in conjunction with SBSTA to work on the submissions received, including broad expert support. The Secretariat will use these inputs to review and adjust the work programme in the coming years.

The **synthesis report** requested prior to the June 2022 SBSTA session reported a total of 15 submissions received by Parties or groups of Parties, as well as eight observer organisations (UNFCCC 2022a). Regarding the existing NMAs, **focus areas** included adaptation, resilience, sustainability, mitigation measures to address climate change and contribute to sustainable development (mainly results-based payments), and development of clean energy sources. Furthermore, **potential areas** were identified: social inclusivity, financial policies and measures, circular economy, blue carbon, just transition of the workforce, and an adaptation benefit mechanism (UNFCCC 2022a). It should be noted that even though gaps exist in the conceptualization of NMAs, some Parties proposed concrete NMAs, such as: the **Adaptation Benefits Mechanism** aiming to mobilise private funds for adaptation; or the initiative hosted by the UN Capital Development Fund called "LoCAL", which aims to support vulnerable countries to enhance adaptative capacity and resilience and is defined as a country-based mechanism to channel climate finance to local government authorities for adaptation. The ongoing pilot activities could help to build experience at different scales, triggering the replication process, and promoting the implementation of NMAs. Since this is a **Party-driven process**, their relevance will be decided by Parties' engagement. In that sense, considering that the NMA work programme can contribute

to enhanced ambition, it is quite clear that their implementation would generate added value to Parties' commitments under their NDCs.

In terms of next steps, the following actions will be significant to operationalize the work programme of NMAs:

- second meeting of Glasgow Committee of NMAs (November 2022);
- review of the work programme by CMA 7 (November 2025);
- review of the work programme by SBSTA 64 (June 2026); and
- review of the work programme by SBSTA 65 (November 2026).

WHERE CAN I FIND FURTHER INFORMATION OR SUPPORT?

Given the complexity of, and interlinkages between, the mechanisms proposed in Article 6, we have compiled the following structured list of sources to provide further detailed information:

1. General information and data repositories:
    a. All **UNFCCC decisions on Article 6** as well as negotiation texts and party submissions, compiled by the UNFCCC Secretariat, which are likely to prove particularly useful during the negotiations: https://unfccc.int/process/the-paris-agreement/cooperative-implementation#eq-1
    b. All **A6.4 Supervisory Body meeting documents**: https://unfccc.int/process-and-meetings/bodies/constituted-bodies/article-64-supervisory-body/meetings-of-the-article-64-supervisory-body
    c. A collection of **grey and peer-reviewed literature on Article 6**, compiled by the European Roundtable on Climate Change and Sustainable Transition (ERCST): https://ercst.org/article-6-library/
    d. **Database on Article 6 activities**, compiled by UNEP-CCC: https://article6pipeline.org/
    e. Database on **activities that can transition from the CDM to Article 6**, compiled by UNEP-CCC: http://www.cdmpipeline.org/
    f. **Database on the Joint Crediting Mechanism (JCM)**, an Article 6.2 initiative between Japan and countries on all continents, providing all documents regarding methodologies, registered projects, credit issuances, etc.: https://www.jcm.go.jp/ as well as publications reaching back to the setup of the mechanism: http://carbon-markets.env.go.jp/eng/en_publications/index.html

2. Overview reports
   a. World Bank (2022): State and trends of carbon pricing 2022. This report, which is updated annually, compiles information on all international carbon markets: https://openknowledge.worldbank.org/bitstream/handle/10986/37455/9781464818950.pdf?sequence=7&isAllowed=y
   b. Perspectives and Climate Focus (2020): Article 6 piloting: State of play and stakeholder experiences. This report provides an overview of all Article 6 pilot initiatives, as well as detailed descriptions of each initiative: https://www.climatefinanceinnovators.com/wp-content/uploads/2020/12/Climate-Finance-Innovators_Article-6-piloting_State-of-play-and-stakeholder-experiences_December-2020.pdf
   c. Betz, Regina; Michaelowa, Axel; Castro, Paula; Kotsch, Raphaela; Mehling, Michael; Michaelowa, Katharina; Baranzini, Andrea (2022): The Carbon Market Challenge: Preventing abuse through effective governance, Cambridge University Press, Cambridge: https://www.cambridge.org/core/elements/carbon-market-challenge/9261122253200C956EAF02B5C9AF53C8
3. **Article 6-related initiatives** (platforms, partnerships, and working groups):
   a. Carbon Market Mechanisms Working Group (CMM-WG). This group develops technical papers on key aspects of Article 6: https://www.carbon-mechanisms.de/en/news-details/cmm-wg
   b. International Initiative for Development of Article 6 Methodology Tools (II-AMT). This initiative brings together experts from all continents to develop tools that can be grafted on CDM methodologies to make them "Article 6 proof": https://www.perspectives.cc/public/initiatives/international-initiative-for-development-of-article-6-methodology-tools-ii-amt/

c. Initiative for Climate Action Transparency (ICAT). This initiative aims to improve reporting, also in the context of Article 6: https://climateactiontransparency.org/our-work/icat-toolbox/
d. World Bank initiatives
    i. Climate Warehouse programme, which develops a "registry of registries" for all forms of international carbon markets using blockchain technology: https://www.theclimatewarehouse.org/
    ii. Climate Market Club (or "Club"), a group of national governments and non-sovereign members that agree on common principles and jointly develop modalities for piloting activities under Article 6.2 of the Paris Agreement: https://www.theclimatewarehouse.org/work/climate-market-club

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