COPA
Cutting refrigerant emissions

GET READY WITH COPA FOR ARTICLE 6

A 5-STEP GUIDE FOR NATIONAL OZONE OFFICES

Climate and Ozone Protection Alliance (COPA)

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“MANY OZONE OFFICES SEE CLIMATE FINANCE AS SOMETHING THAT BELONGS TO THE CLIMATE TEAM, NOT TO THE MONTREAL PROTOCOL. BUT WHEN YOU STEP OUTSIDE THAT MINDSET, YOU REALIZE THAT ARTICLE 6 AND THE PARIS AGREEMENT CAN UNLOCK NEW FUNDING FOR MP-RELATED PROJECTS. THAT’S WHAT WE’VE BEEN WORKING TO PROVE.”

MATHATELA NTSATSI

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ABBREVIATIONS

ACR	American Carbon Registry
A6.4ER	Article 6.4 emission reduction
BTR	Biannual Transparency Reports
CAR	Climate Action Reserve
CDM	Clean Development Mechanism
CFC	Chlorofluorocarbon
CO2	Carbon dioxide
COP	Conference of the Parties – Paris Agreement
COPA	Coalition for Ozone Protection Alliance
EIA	Environmental Investigation Agency
EOF	End-of-Life
EPR	Extended Producer Responsibility
ESM	Environmentally sound management
ETF	Enhanced Transparency Framework
ETS	Emission Trading Systems
GHG	Greenhouse gas
GWP	Global warming potential
HCFC	Hydrochlorofluorocarbon
HFC	Hydrofluorocarbon
IPCC	Intergovernmental Panel on Climate Change
ITMO	Internationally transferred mitigation outcome
MADD	Mitigation Activity Design Document
MAIN	Mitigation Activity Information Note
MCTOC	Medical and Chemicals Technical Options Committee
MP	The Montreal Protocol
MLF	Multilateral Fund
MOP	Meeting of the Parties – Montreal Protocol
NDC	Nationally Determined Contribution
NOO	National Ozone Office
ODS	Ozone Depleting Substance
OECD	Organisation for Economic Co-operation and Development
PA	The Paris Agreement
PFC	Perfluorocarbon
PIC	Prior Informed Consent
RAC	Refrigeration and air conditioning
RMP	Rules, modalities and procedures
SDM	Sustainable Development Mechanism
TBM	Transboundary Movement
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VCC	Voluntary Carbon Credit
VCM	Voluntary carbon markets
VCS	Verified Carbon Standard
WEEE	Waste from Electrical and Electronic Equipment

1. INTRODUCTION

While the Montreal Protocol (MP) and the Paris Agreement (PA) have evolved as distinct international frameworks—with different histories, goals, and institutional responsibilities—they now intersect in ways that create new opportunities for action. For National Ozone Offices (NOOs), this convergence offers a timely chance to unlock climate finance for MP-related activities, particularly through Article 6 of the PA. However, this requires more than technical understanding: it calls for proactive alignment, interdepartmental coordination, and a readiness to tap into new mechanisms.

This guide helps policymakers in the NOO navigate that process. It outlines a clear, step-by-step approach for identifying overlaps between MP obligations and PA opportunities, particularly those related to Hydrofluorocarbon (HFC) mitigation[1] and turning them into bankable, high-impact mitigation activities. By leveraging Article 6 mechanisms, NOOs can secure funding for actions they are already pursuing under the Kigali Amendment or through national cooling strategies.

Did you know that HFCs trap far more heat than Carbon Dioxide (CO_2)?

The reason lies in their Global Warming Potential (GWP), which measures how much heat a gas traps in the atmosphere over 100 years compared to CO_2. The larger the GWP, the more the specific gas warms the Earth compared to CO_2, which by default has the GWP value of 1. For example, releasing just 1 kg of HFC-23 has the same warming impact (GWP 14,800) as 14.8 metric tons of CO_2!

1 A table of the Clobal Warming Potential Value can be found on the webpage of the Greenhouse Gas Protocol website, *www.ghgprotocol.org/sites/default/files/2024-08/Global-Warming-Potential-Values%20%28August%202024%29.pdf*.

Importantly, this guide addresses a common challenge: the siloed nature of MP and PA implementation within national governments. Climate finance is often seen as "someone else's portfolio," while valuable mitigation potential - especially from HFC banks - remains untapped. Through five practical steps, this guide empowers NOOs to initiate dialogue with climate counterparts, integrate cooling sector data into national climate planning, and design mitigation projects eligible for carbon finance.

The five steps are:

- **STEP 1 - Establish Active Engagement with the UNFCCC National Focal Point (NFP):** Foster collaboration between MP and PA implementation bodies to ensure alignment.
- **STEP 2 - Strengthen National GHG Inventory and Screen NDC:** Integrate MP and PA obligations into the national GHG inventory and NDC targets.
- **STEP 3 - Perform a Gap and an Opportunity Assessment:** Identify barriers to alignment and quantify potential GHG savings.
- **STEP 4 - Develop a Mitigation Activity Idea:** Conceptualize projects or programs that align with national and international goals.
- **STEP 5 - Design a Mitigation Activity:** Formalize project designs to enable participation in carbon markets under Article 6.

Each step builds upon the previous one, creating a cohesive pathway that enables policymakers to effectively bridge MP and PA commitments. Maintaining active and continuous engagement with the UNFCCC Focal Point[2] throughout the process is crucial. To ensure alignment and adaptability, it is imperative to revisit and reinforce step one after completing each subsequent step. This iterative approach fosters collaboration, strengthens coordination, and enhances the overall integration of MP and PA efforts.

The diagram on the right, showcasing how these steps build upon each other, help visualize this cohesive approach.

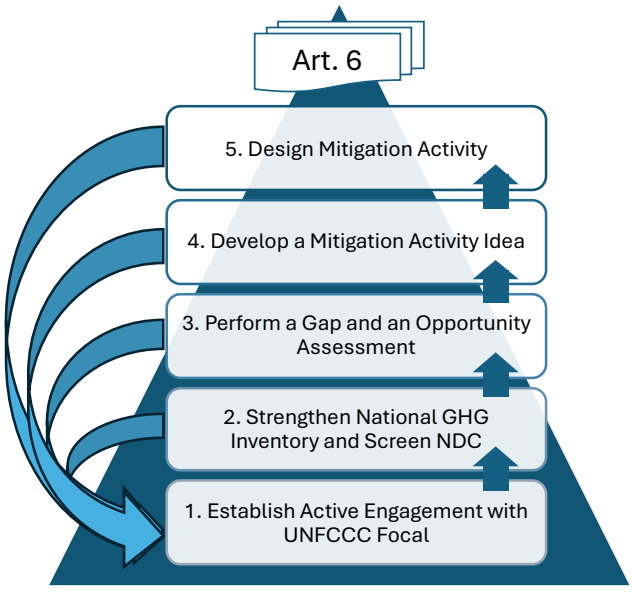


Figure 1: *Overview of the 5 steps for PA Art. 6 readiness for Refrigeration and Air Conditioning (RAC) activities (COPA design)*

2 The NFP is the country's main communication channel with the UNFCCC Secretariat. Every Party to the UNFCCC designates a focal point to manage broader climate diplomacy, reporting, and coordination.

Developed with input from Mr Ntsatisi, NOO officer in Lesotho, this guide combines technical content with real-world experience. Whether you're new to Article 6 or already exploring finance options for HFC bank management, this document provides the structure, rationale, and tools to move forward.

Meet the Expert
Mr Mathatela Ntsatsi
National Ozon Officer
Lesotho Meteorological Service (LMS)
Ministry of Environment

Dear Fellow COPA members and especially NOOs.

Let's get ready for the Paris Agreement Article 6. I am happy to share my own experiences on this with you because this is important!

At the National Ozone Units, we are experts on the Montreal Protocol and the Kigali Amendment. What we often do not know or consider is that colleagues working on the Paris Agreement implementation are often tackling similar or connected issues. We might work for the same Ministry (as in Lesotho) or sometimes even in the same building, but the exchange and collaboration are not prioritised during daily work. By that, both sides lose out on opportunities where we could align our work, e.g. in reporting and finding financing for activities. I know that from my own experience.

"A strong working relationship between the Ozone Office Unit and the Climate Change Unit is not just beneficial; it's essential." ***- MATHATELA NTSATSI***

The Montreal Protocol and the Paris Agreement may have started as separate frameworks, but in practice, they are deeply connected. If present data loss, missed funding opportunities, and fragmented mitigation initiatives are to be avoided, cooperation must be increased. However, the interpersonal relationships between these departments are equally important as the technical work. It is simpler to coordinate objectives, overcome obstacles, and advocate for integrated solutions that support both climate and ozone goals when there is trust and consistent communication. We can unleash ideas that have a genuine impact when we collaborate as colleagues as well as institutions.

Enjoy the reading!

Best Regards,
Mathatela Ntsatsi

By aligning MP work with PA mechanisms, NOOs can increase their impact, attract new funding, and help their countries deliver on both climate and ozone commitments - efficiently and effectively.

This report is prepared for staff working in National Ozone Offices who have a general understanding of the Paris Agreement and climate change. While readers may vary in their level of expertise, from beginners to experienced professionals, the report provides brief background information in each chapter to ensure accessibility. Suggested further reading is included throughout, allowing readers to deepen their knowledge as needed. For additional resources and updates, it is recommended to visit the Climate and Ozone Protection Alliance website at *www.copalliance.org*.

Further reading recommendations:

- **Climate & Clean Air Coalition (CCAC)** – *Integrated action on cooling, climate, and air quality*
- **United Nations Environment Programme (UNEP)** – *Cooling Emissions and Policy Synthesis Report*
- **Link to Atingi course:** *Course: Cooling Carbon Markets | atingi*

2. PARIS AGREEMENT VS. MONTREAL PROTOCOL

2.1 PARIS AGREEMENT

This guide aims to assist policymakers responsible for implementing the MP, such as officers working at the NOOs - in getting "ready" for Article 6 participation under the PA. In this context, "readiness" extends beyond understanding; it involves taking tangible, operational steps.

However, where should you begin?
Before exploring the five steps for getting ready for Article 6 engagement, the following sections provide a brief overview of the legal frameworks underpinning the PA and MP.

The PA[3], adopted in 2015, is a legally binding international treaty under the United Nations Framework Convention on Climate Change (UNFCCC). It aims to address climate change by limiting global temperature rise to well below 2°C while pursuing efforts to cap it at 1.5°C above pre-industrial levels. The PA marks a milestone in multilateral climate negotiations, as it is the first binding agreement that unites all nations in the fight against climate change and in adapting to its impacts.

> ***"To limit global warming to 1.5°C, greenhouse gas emissions must peak before 2025 at the latest and decline 43% by 2030."***
>
> **IPPC (APRIL 2022)**

Under the PA, all signatory countries commit to submitting and implementing Nationally Determined Contributions (NDCs) that outline their climate action plans. These NDCs detail measures to reduce GHG emissions (mitigation activities) in line with the PA's goals. Additionally, countries may include strategies to build resilience and adapt to climate change impacts (adaptation activities).

3 UNFCCC Website: *www.unfccc.int/process-and-meetings/the-paris-agreement*

Countries report their GHG emissions to the UNFCCC using national inventory guidelines established by the Intergovernmental Panel on Climate Change (IPCC)[4]. While the IPCC requires reporting on HFCs, Ozone Depleting Substances (ODS) are not included in the list of mandatory gases to report on the PA, as agreements and reporting on this substance are covered under the MP.

For details on the reporting on GHG emission under the PA in relation to the MP, refer to the COPA Publication Potential Policy Framework for the Promotion of Sustainable ODS/HFC Banks Management (2023), available online.[5]

2.2 PARIS AGREEMENT AND FINANCING UNDER ARTICLE 6

Although all countries are expected to contribute to the goals of the PA through their NDCs, the Paris Agreement reaffirms that developed countries should take the lead in providing financial assistance to less endowed and more vulnerable nations, for example through implementation of and/or financial support for fulfilling conditional NDCs. For the first time, the PA also encourages voluntary contributions from other Parties.

Climate finance is essential for effective mitigation, as substantial investments are required to significantly reduce emissions and limit global warming.[6]

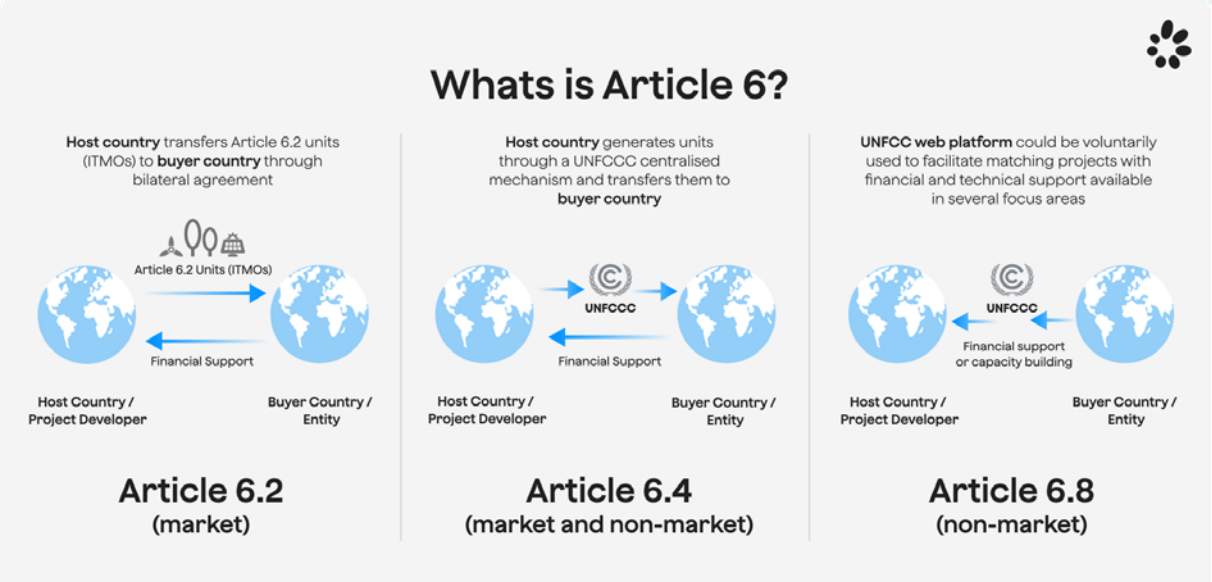
Article 6 is one of 29 articles of the PA. It establishes three distinct pathways for international cooperation to address climate change and to mobilise financial support for developing countries. Specifically, Article 6 allows countries to voluntarily engage in carbon trading to help meet their NDC targets. Through these mechanisms, international cooperation is facilitated, providing a route to channel financial flows toward mitigation efforts in developing nations.

Under Article 6, countries can trade carbon credits generated from verified reductions in GHG emissions, thereby supporting one or more countries in meeting their climate commitments.[7]

Article 6 consists of three sub-components:

- **Article 6.2:**
  Allows for the bilateral transfer of internationally transferred mitigation outcomes (ITMOs) between countries via international carbon markets.[8]
- **Article 6.4:**
  Establishes the Paris Agreement Crediting Mechanism (PACM), a new high-integrity, centralized carbon crediting mechanism overseen by a Supervisory Body under the UNFCCC. It supports project-based emissions reductions that can also be traded on international carbon markets.[9]
- **Article 6.8:**
  Focuses on non-market cooperative approaches to support sustainable development.[10]

4 The Intergovernmental Panel on Climate Change (IPCC) is the United Nations body for assessing the science related to climate change. Link: *www.ipcc.ch*
5 COPA Website: *www.copalliance.org/imglib/publications/231020_COPA_Broschu%CC%88re_PPF_final.pdf*
6 UNFCCC: *www.unfccc.int/process-and-meetings/the-paris-agreement*
7 UNFCCC what is article 6 of the PA: *www.unfccc.int/process/the-paris-agreement/cooperative-implementation*
8 UNFCCC PA 6.2: *www.unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement/cooperative-implementation/article-62*
9 UNFCCC PA 6.4: *www.unfccc.int/process-and-meetings/the-paris-agreement/article-64-mechanism*
10 UNFCCC PA 6.8: *www.unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement/cooperative-implementation/article-68*



By providing these mechanisms, Article 6 aims to enhance flexibility, ambition, and efficiency in achieving global climate goals.

To fully leverage the mechanisms under Article 6, policymakers need a clear understanding of its provisions and requirements. Comprehensive training on carbon markets and Article 6 is available through COPA via the Atingi Learning platform. This free online course, structured into six training modules, offers in-depth insights into how high-integrity carbon trading and international cooperation can enhance national climate action and unlock funding opportunities for sustainable cooling solutions and broader development goals. This course can be completed in approximately 5 to 7 hours and successful participants will receive a certificate attesting the knowledge gained. The course materials are available in English, Spanish and French versions.

The course is divided into 6 modules:

Module 1: Carbon market basics – Article 6 and voluntary carbon markets
Module 2: How can carbon credits address refrigerant banks?
Module 3: Readiness check: Participating in Article 6 and the Voluntary Carbon Markets with refrigerant projects
Module 4: The refrigerant carbon project development cycle
Module 5: Environmental integrity in refrigerant carbon market projects

Link to Atingi course: *Cooling Carbon Markets | atingi*

2.3 MONTREAL PROTOCOL & KIGALI AMENDMENT

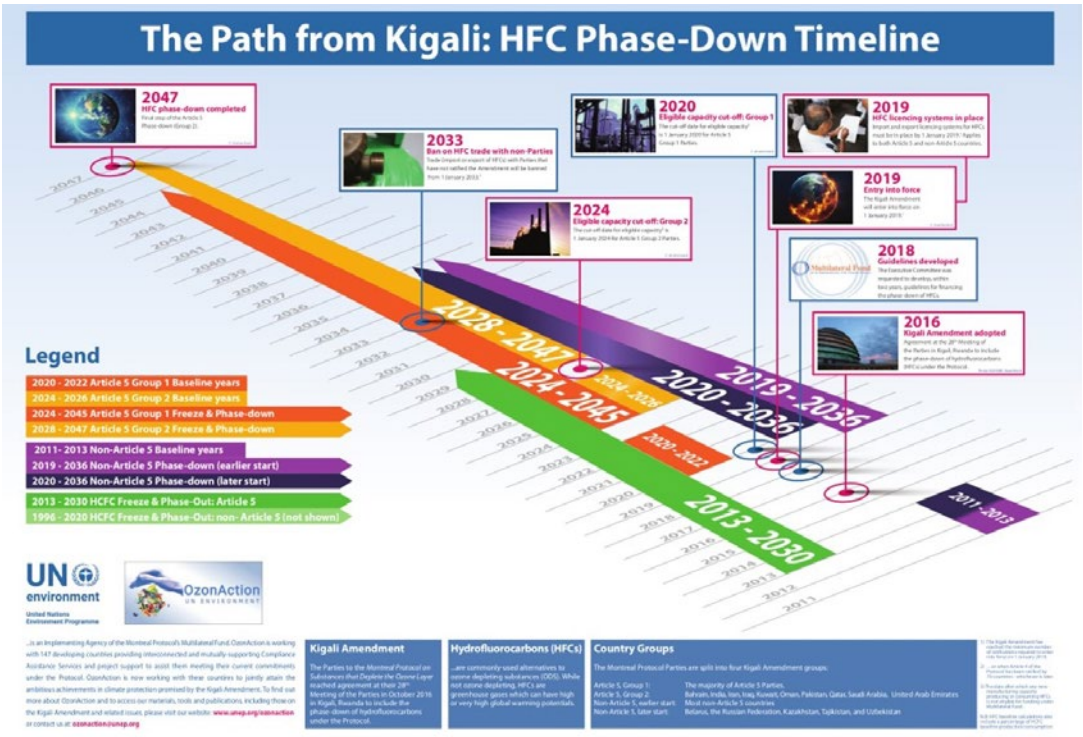
The Montreal Protocol was signed in 1987 to protect the global ozone layer by phasing out the production and consumption of ODS. ODS are mainly chloro-fluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs).[11]

The Kigali Amendment (KA) to the MP, approved in 2016, requires the additional phase-down of production and consumption of some HFCs developed as replacements for ODS in air conditioning, refrigeration and other sectors. While HFCs do not directly deplete the ozone layer, they often contribute significantly to global warming via a high GWP. The full implementation of the Kigali Amendment would avoid another 0.3–0.5°C of warming by 2100 (WMO et al., 2022).[12]

Most of today's ODS and HFC banks, i.e. the substances currently contained in existing equipment and not (yet) released into the atmosphere, stem from the RAC sector, followed by foam blowing agents in the appliance and building insulation foam sector and, to a lesser extent, in fire protection systems.[13]

The MP and its KA aim to reduce the global production and use of ODS and HFC and their associated emissions by setting specific phase-out targets. The phase-out of CFC was completed in 2010 while the target for HCFC is set for 2030. HFCs are still widely used in different equipment and remain potent GHGs. Under the MP, developed and developing countries, or Article 5 countries[14], have different schedules for the phase down of HFC consumption. The last milestone is for Article 5 countries to reach 20% of the baseline levels by 2047 (UNEP 2020).

Figure 2: *The KA pathway to implement the HFC phase down*[15]



11 COPA Publication, Website: *www.copalliance.org/imglib/publications/COPA_Publication_ODS_HFC_%20Destruction_Reclamation.pdf*

12 World Meteorological Organization (2022). Executive Summary. Scientific Assessment of Ozone Depletion: 2022, GAW Report No. 278, Geneva: WMO. *www.ozone.unep.org/system/files/documents/Scientific-Assessment-of-Ozone-Depletion-2022-Executive-Summary.pdf*

13 COPA Publication Policy Framework, p6: *www.copalliance.org/imglib/publications/231020_COPA_Broschu%CC%88re_PPF_final.pdf*

14 For a list of all Article 5 parties, visit: *www.ozone.unep.org/classification-parties.*

15 UNEP Website: *www.unep.org/ozonaction/who-we-are/about-montreal-protocol*

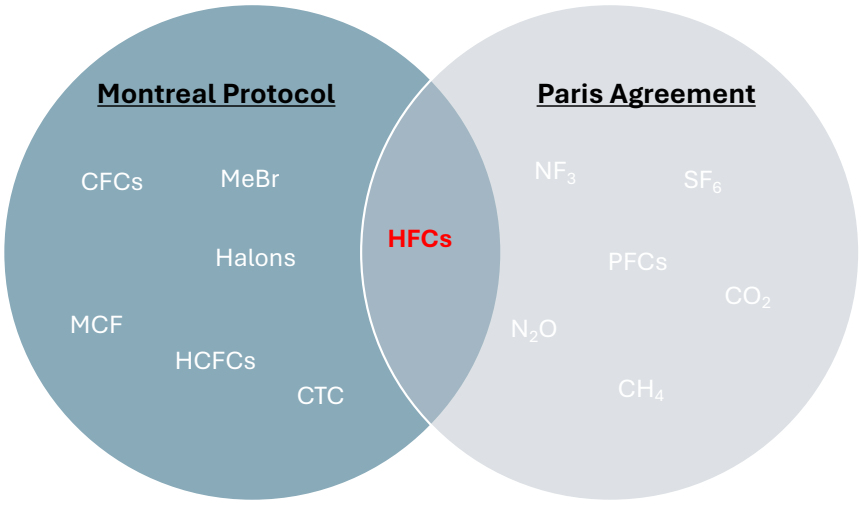
For COPA Guidelines and materials on how to conduct an inventory of used or unwanted controlled substances: ODS and HFC Banks for the MP, please visit the COPA website for the webinar: **Sustainable ODS and HFC Banks Management through Complementary Action of the Climate and Ozone Protection Alliance to the Multilateral Fund.**

The *updated version of the guideline on how to conduct an inventory on ODS and HFC banks* was presented and is available online. This guideline was updated to reflect all requirements stated by the decision of the Executive Committee to the Multilateral Fund 91/66 on the provision of a funding window for establishing an inventory of controlled substances and a plan for their treatment.

Link: *https://www.copalliance.org/news-events/guideline-inventory-ods-hfc*

2.4 MITIGATING HFCS: HIGH-IMPACT CLIMATE ACTION

HFCs are among the most potent GHGs due to their high GWP. While the MP has successfully driven the global phasedown of CFCs and HCFCs substances, establishing the recovery of the ozone layer, the presence of HFCs contained in used or disposed equipment, foams, and refrigerant systems is still growing. Although the production is adequately addressed through the MP/KA, the emissions of HFCs continue to pose a significant climate risk. Addressing the potential and actual HFC emissions, especially from the RAC Sector, presents a critical opportunity for synergy between the MP and the PA, particularly through the Article 6 mechanisms described above.



HFCs and CFCs have GWP values thousands of times higher than CO_2, meaning that even small-scale emissions reductions result in significant climate benefits. By capturing, reclaiming, or destroying high-GWP refrigerants and foam-blowing agents, such mitigation activities can generate substantial volumes of carbon credits, attracting financing through international cooperation such as the PA Article 6.2 or the project-based mechanisms under PA Article 6.4. (*See section 2.3*)

Carbon Credits and Carbon Markets

Carbon credits, often also called carbon offsets, refer to carbon emissions reductions or removals, measured in tonnes of carbon dioxide equivalent (tCO_2e). Each credit normally represents one fewer tonne of carbon dioxide, or another greenhouse gas equivalent, (CO_2e) being emitted into the atmosphere. Carbon credits can be generated through projects which take in carbon from the atmosphere (e.g. through carbon sinks such as reforestation) or by reducing the amount of carbon released into the atmosphere (e.g. by using or enabling renewable energy instead of fossil fuelled energy). Carbon markets enable the buying, selling, transfer and exchange of carbon credits. There is a lot of information available about carbon credits and carbon markets on the internet, both from Governments, NGOs and private sector stakeholders. For example,

Below is the link to the page from the German Federal Ministry of Economic Affairs and Climate Action explaining different concepts related to carbon markets:

- BMWK – Carbon market enables efficient climate protection

Carbon Traders, verifiers or carbon project generating credits also explain the concepts on their webpages, e.g.:

- What are carbon credits?
- Carbon Credits Explained | Climate Impact Partners
- The Voluntary Carbon Market explore (ICVCM)

The following emission reduction (or mitigation) activities in the RAC sector could be eligible for carbon crediting[16]:

- **Refrigerant Recovery and Reclamation:** Capturing used refrigerants from decommissioned equipment, purifying them, and reintroducing them into the market prevents their emissions while reducing the demand for continuous virgin HFC production.
- **Safe Destruction of Refrigerants:** The thermal or chemical destruction of obsolete or high-GWP refrigerants permanently prevents emissions that would otherwise occur through leakage or improper disposal.
- **Leak Detection and Prevention**: Advanced monitoring and maintenance reduce fugitive emissions from refrigeration and air conditioning (RAC) systems, contributing to both energy efficiency and direct GHG mitigation through lower leakage rates.
- **Transition to Low-GWP Refrigerants:** Retrofitting or replacing RAC equipment with systems utilizing natural refrigerants with low GWP such as CO_2, ammonia and propane reduces reliance on high-GWP alternatives.
- **Foam Blowing Agent Recovery and Destruction:** Extracting and safely disposing of blowing agents from old insulation foams mitigates emissions that would otherwise be released through degradation or improper disposal.

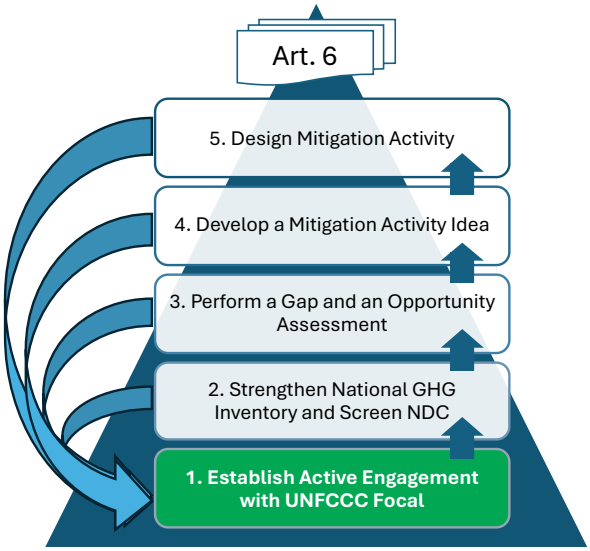
Further reading recommendations:

- **UNFCCC Paris Agreement** (Official Text),
  - *www.unfccc.int/process-and-meetings/the-paris-agreement*
- **Montreal Protocol & Kigali Amendment** (UNEP),
  - *www.unep.org/explore-topics/ozone-action/what-we-do/montreal-protocol*
  - *www.unep.org/ozonaction/who-we-are/about-montreal-protocol*
- **Article 6 of the Paris Agreement – UNFCCC Overview**,
  - *www.unfccc.int/topics/market-and-non-market-mechanisms/work-streams/market-mechanisms-under-the-paris-agreement*
  - *www.unfccc.int/process/the-paris-agreement/cooperative-implementation*

16 See more background on these activities at: *www.carboncontainmentlab.org/projects/refrigerants.*

3. STEP 1: ESTABLISH ACTIVE ENGAGEMENT WITH NFP

First and foremost; Aligning the objectives of the MP and the PA requires effective collaboration between the (mostly) two national institutions or departments that are responsible for their implementation. Building this collaboration is essential to bridge gaps, identify synergies, and create a unified strategy for integrated mitigation activities.



In developing countries, i.e. Article 5 countries under the MP, the NOOs are the government units responsible for managing the national programmes to comply with the MP. Each developing country has a National Ozone Office (NOO) or National Ozone Unit (NOU) that is supported by the Multilateral Fund (MLF) through an Institutional Strengthening project.[17]

Under the PA, all Parties (this include all countries, both developing and developed) are required to designate both a National Focal Point (NFP) and a Designated National Authority (DNA), each serving distinct but complementary roles. The NFP acts as the main liaison between the country and the UNFCCC, responsible for coordinating national climate policy, overseeing the preparation and submission of NDCs, and managing official communications with the UNFCCC Secretariat.

In contrast, the DNA plays a more specialized role under Article 6, particularly in relation to international carbon market mechanisms. The DNA is responsible for authorizing mitigation activities under Article 6.4, confirming their alignment with national sustainable development goals, and issuing corresponding adjustments to avoid double counting of emission reductions. While the NFP ensures coherence in national climate strategy and reporting, the DNA facilitates participation in carbon markets by providing regulatory oversight and project-level approvals.

The work and responsibilities of the NFP and DNA are typically anchored within a national ministry that holds a central role in addressing climate change, such as the Ministry of Environment. However, this arrangement can vary between countries, also depending on historical responsibilities of different Ministries, e.g. such as Energy, Agricultural or Finance Ministries. It is also common for climate change and Paris Agreement coordination to be managed through an inter-ministerial committee, where all relevant ministries are represented.[18]

> ***"Back in 2008, I worked in the climate change Unit, reporting under the PA, when I first encountered the Montreal Protocol. The person responsible for the National Ozone Office had left, and I had to figure out how to link the two. That was when I first started seeing the connection between climate and ozone policies – and that connection is still evolving today."***
>
> **MATHATELA NTSATSI**

17 UNEP NOU contacts: *https://www.unep.org/ozonaction/networks/national-ozone-unit-contacts?_ga=2.20882352.928663219.1743617615-1102643905.1709115221*

18 NFP und the Paris Agreement: *https://unfccc.int/process/parties-non-party-stakeholders/parties/national-focal-point*

3.1 INITIATING A NATIONAL MP-PA DIALOGUE

The first step in fostering a MP-PA Article 6 collaboration for the NOO is initiating structured and purposeful dialogue with the people working at the NFP and the DNA[19]. Both the NFP and DNA play a pivotal role in managing PA-related responsibilities, including tracking and reporting NDC progress and facilitating participation in Article 6 mechanisms.

By initiating and opening a dialogue with the PA NFP or DNA, the MP-implementing department will gain a deeper understanding of the national climate commitments outlined in the NDC and how these align with MP objectives. This includes identifying strategies where managing ODS and HFC banks can contribute to reducing GHG emissions eligible/accountable under the PA. For instance, while the MP primarily targets substances that harm the ozone layer, the mitigation of HFC substances often additionally results in significant climate benefits, creating natural overlaps with PA goals. (*See the previous section 2*)

This initial exchange is also an opportunity to discuss the potential for Article 6 mechanisms, such as of internationally transferred mitigation outcomes (ITMOs), to facilitate funding and technical support for HFC bank-related activities.

3.2 IDENTIFYING OVERLAPPING OBJECTIVES

Effective integration of the MP and the PA Article 6 activities requires a clear understanding of where the MP and PA commitments align. One significant area of overlap is the reduction of emissions from HFC banks, as such emission mitigations contributes both to ozone layer protection and to achieving GHG reduction targets under the PA.

By examining these overlaps, policymakers can pinpoint opportunities for mutual reinforcement. For example, projects aimed at safely managing, avoiding or destroying HFC banks can be framed as dual-purpose initiatives that meet MP compliance requirements while simultaneously contributing to NDC targets under the PA. Such projects also have the potential to generate additional co-benefits such as improved energy efficiency, economic savings, and public health improvements, as well as other Sustainable Development Goals (SDGs).

Furthermore, identifying these synergies helps highlight the areas where Article 6 mechanisms can support such MP-PA aligned initiatives. This includes designing projects under Article 6.2 or leveraging the Sustainable Development Mechanism under Article 6.4 for HFC management activities.

Sustainable Development Goals (SDGs)
In 2015, all United Nations member states agreed on 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development. The SDGs call for developed and developing countries to work in a global partnership towards a sustainable economic growth that is compatible with social justice within ecological limits. More information on the Sustainable Development Goals can be found here: *https://sdgs.un.org/goals*

SUSTAINABLE DEVELOPMENT GOALS

19 The official DNA is listed on the webpage of the UNFCCC, please see *https://unfccc.int/process-and-meetings/the-paris-agreement/article-64-mechanism/national-authorities#How-to-designate-a-national-authority-for-the-Article-64-mechanism*

3.3 ESTABLISHING A COORDINATION MECHANISM

To ensure sustained and effective collaboration, a mechanism for regular coordination between the MP and PA implementing bodies must be established. This coordination framework should facilitate open communication, shared planning, and joint implementation of mitigation strategies.

Key elements of this mechanism could include:

- **Regular Engagement:**
  Periodic meetings between the NOO and the NFP and DNA to exchange, discuss progress, align priorities, and address challenges.
- **Joint Planning:**
  Collaborative development of action plans that integrate MP-related activities into the broader national climate strategy, contributing to the NDCs.
- **Broader Stakeholder Inclusion**:
  Bringing in other relevant stakeholders, such as ministries of energy, finance, and environment, as well as private sector and civil society representatives, to ensure a comprehensive approach.

By institutionalizing this collaboration, countries can enhance their capacity to align MP and PA goals, streamline decision-making, and unlock funding opportunities under Article 6.

3.4 FOUNDATION THROUGH STEP 1

If the NOO establish an active engagement with the national "Climate Divisions" such as the NFP and the DNA, it creates a strong foundation for integrating the MP and PA efforts. The collaboration fosters a shared understanding of national priorities, identifies synergies between obligations, and sets the stage for implementing mitigation activities that address both ozone depletion and climate change mitigation efforts.

This unified approach not only maximizes efficiency and impact but also positions the country to effectively participate in the international carbon finance mechanisms under the PA, ensuring that HFC mitigation efforts receive the recognition and support they deserve.

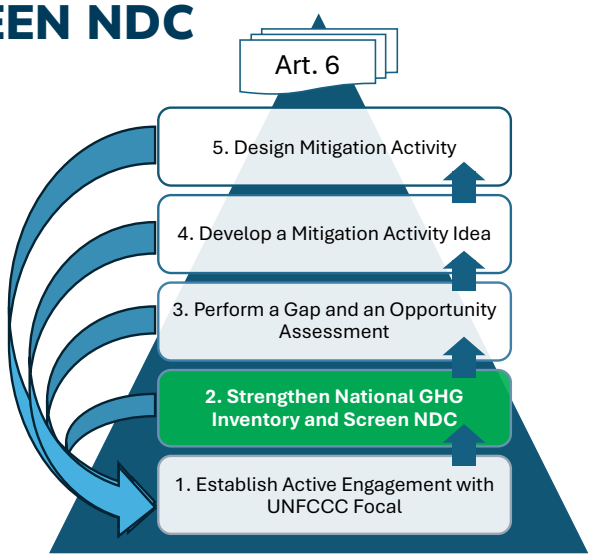
The next chapter, covering Step 2, will focus on strengthening the national GHG inventory, reviewing the NDC to further advance MP–PA alignment, and building the technical capacity of the NOU needed for robust mitigation planning.

Further reading recommendations:

- **UNFCCC Guide on Nationally Determined Contributions (NDCs)**, *www.unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs*

4. STEP 2: STRENGTHEN NATIONAL GHG INVENTORY AND SCREEN NDC

Once contact has been established between the NOO and the NFP, an effective alignment between MP and PA responsibilities requires robust data systems and clearly articulated targets. The national GHG inventory and the NDC are foundational tools for tracking and implementing national climate actions under the PA, equivalent to the reporting requirements under the MP. This chapter focuses on aligning these systems to fully integrate MP and PA obligations, enabling policymakers to target mitigation activities effectively and report progress transparently.



4.1 ASSESSING THE NATIONAL GHG INVENTORY

The national GHG inventory is a requirement under the PA and is particularly important for participation in Article 6.2. It serves as a critical baseline and starting point for monitoring emissions, tracking progress toward mitigation goals, and avoiding double counting emission reductions. To support alignment with the PA, the NOO should ensure that the national GHG inventory accurately captures emissions from HFC and other substances relevant to the PA that are reported under the obligations of the MP.

A thorough assessment of the national GHG inventory by the NOO should include:

- **Data Coverage:**
  Ensuring that estimated emissions from HFC banks are adequately documented in CO_2eq, particularly those resulting from stockpiles, leaks, or improper disposal.
- **Methodological Consistency:**
  Evaluating whether the inventory uses standardized methodologies, such as those recommended by the Intergovernmental Panel on Climate Change (IPCC), to ensure accuracy and comparability.
- **Identification of Gaps:**
  Highlighting areas where data is incomplete or methodologies require updating, especially regarding substances regulated under the Kigali Amendment to the MP.

Proposing updates to address any data gaps identified during the assessment ensures that the inventory reflects the full scope of the country's emissions profile, including those from substances related to MP and KA obligations. (*See textbox in section 2.1* for recommended reading on reporting on GHG emission under the PA in relation to the MP.)

4.2 REVIEWING THE NDC WITH A "MP LENS"

To identify potential sectors and activities that are in alignment with Article 6 of the PA, the NOO should review and screen the NDC using a "MP Lens" to pinpoint areas and targets that could align with the MP and KA. Financial opportunities under Article 6 are linked to a country's NDC targets - meaning that mitigation targets and activities included in the NDC are generally eligible for Article 6 financing.

> ***"We first proposed to include HFC emissions in Lesotho's NDC, after a recommendation from GIZ. The Consultant chose to eliminate the compounds because the climate team initially did not understand the relationship between the two international agreements. The National Ozone Office was still baffled, and no one asked her why, or took our concern into account. Later, as the climate benefits and reporting obligations became clearer, they were included in the NDC again. That was a huge milestone for aligning MP and PA commitments."***
>
> **MATHATELA NTSATSI**

Incorporating HFC mitigation activities into a country's NDC presents an opportunity to align the goals of the MP and the PA – enhancing planning efficiency while also leveraging international support.

The NOO review process of the NDC should focus on:

- **Assessing Current Targets:** Identifying whether HFC-related emissions are explicitly addressed in the NDC. If not, consider and formulate opportunities to include these as part of broader climate mitigation strategies.
- **Conditional and Unconditional Contributions**: Determining where HFC bank-related activities could be proposed as conditional targets, contingent on international financing, or integrated into unconditional commitments.
- **Highlighting Co-Benefits:** Emphasizing how addressing HFC emissions contributes to sustainable development goals, such as improved public health and energy efficiency, strengthens the case for inclusion.

The free COPA online course **Cooling Carbon Markets** provides insights that can be helpful when reviewing the NDC. Especially the course Module 3, 4 and 6. *See the information box in chapter 2.2* or click the link for direct access: *Course: Cooling Carbon Markets | atingi*

Module 3: Readiness check for refrigerant projects in Article 6 and Voluntary Carbon Markets
Module 4: The refrigerant carbon project development cycle
Module 6: Case study

4.3 CLARIFY NATIONAL CLIMATE ACTIONS IN STEP 2

By incorporating HFC mitigation activities, the NDC becomes a more comprehensive representation of the country's climate actions, demonstrating its commitment to addressing both ozone layer depletion and climate change. As outlined in the previous chapter, the NDC defines a country's commitments under the PA, including specific targets for GHG emissions reductions across various sectors, using the national GHG Inventory as the baseline for any mitigation target to be implemented.

The next chapter will delve into performing a gap assessment to identify barriers and opportunities for integrating MP and PA obligations, including quantifying the potential GHG savings from aligned mitigation activities.

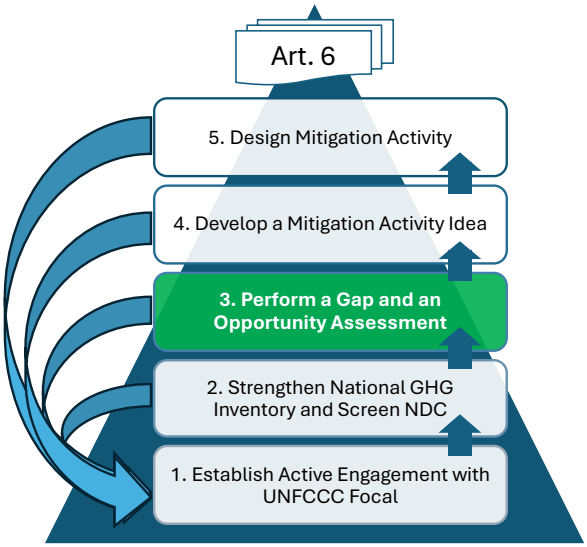
Further reading recommendations:

- **IPCC – Guidelines for National Greenhouse Gas Inventories** *www.ipcc-nggip.iges.or.jp/public/2006gl/*
- **UNFCCC Biennial Transparency Reports (BTRs) & GHG Reporting**: *www.unfccc.int/topics/ghg-inventories-and-reporting*

5. STEP 3: PERFORM A GAP AND AN OPPORTUNITY ASSESSMENT

After establishing an active exchange between the NOO and the NFP, updating the GHG Inventory and screening the NDC, it is time for step 3 in getting ready for the PA Article 6 financing opportunities: the GAP and opportunity assessment.

Aligning the MP and PA obligations requires a clear understanding of existing gaps, barriers, and opportunities between the two agreements. A detailed gap assessment helps the NOO and other policymakers identify the necessary amendments needed to integrate these frameworks more. This step includes making an estimate of the potential GHG savings (emission reductions) from pursuing such an alignment, i.e. the CO2 equivalent of the Art 6. opportunity assessment. After that, the guide provides a list of actionable solutions to bridge the gaps, overcome barriers and enhance the alignment of the MP and PA cooling measures.



5.1 THE COOLING PLEDGE IN THE PA

At the 28th UNFCCC Climate Conference (COP28) in Dubai (2023)[20], the growing climate impact of the cooling sector was formally recognized through the launch of the Cooling Pledge. Given that cooling already accounts for around 7% of global greenhouse gas emissions - a figure expected to triple by 2050 due to rising temperatures and economic growth[21, 22] - many would say this recognition was long overdue. Despite its critical role in food security, healthcare, and climate resilience, the cooling sector has historically been overlooked in climate policy. (*See chapter 2 for more details* of the historical division of PA and MP.)

Without targeted action, emissions from air conditioning, refrigeration, and cooling-related energy use could significantly undermine global climate goals. In response, more than 60 countries committed to the Cooling Pledge, aiming to integrate sustainable cooling strategies into their NDCs, improve energy efficiency, and phase down high-global-warming-potential refrigerants in line with the KA to the MP.

By linking climate action under the Paris Agreement with commitments under the Montreal Protocol, the Cooling Pledge fosters international cooperation to accelerate sustainable cooling solutions - delivering both emissions reductions and equitable access to cooling worldwide.

> ***"At COP28, when the Cooling Pledge was introduced, it became clear that cooling would no longer be just an MP issue – it was becoming a climate issue, too. That moment showed us that aligning MP and PA is not optional; it's essential for securing finance and technical support."***
>
> **MATHATELA NTSATSI**

5.2 ASSESSING COMPATIBILITY BETWEEN MP AND PA

The first activity for a NOO or NOU in the step 3 gap assessment is evaluating how well current cooling sector activities of the MP align with the requirements of the UNFCCC under the PA. Establishing compatibility between these international frameworks ensures that mitigation efforts can simultaneously address climate and ozone protection goals, increasing efficiency and reducing resources.

Key compatibility considerations include:

- **Compliance with Reporting Standards:**
  - Ensuring that emissions from HFC banks are accounted for fully in both the GHG inventory (for the PA) and in the reporting obligations under the MP.
  - Verifying that dually eligible activities, such as HFC phase-down measures under the Kigali Amendment to the MP align with and contribute to the achievement of NDC targets under the PA.
- **Standardizing Methodologies:**
  - Align the GHG inventory reporting methodologies with IPCC guidelines and reporting frameworks under the UNFCCC and the MP. This ensures compatibility and transparency in reporting emissions reductions.
  - Synchronizing reporting timelines and formats for the MP and PA, where possible, to minimize duplication and enhance efficiency.
- **Maximizing Synergies:**
  Identifying shared objectives between MP and PA activities, such as emissions reductions and sustainable development benefits, to enhance their impact and efficiency.

By identifying and addressing gaps in the above areas, NOOs and other policymakers ensure that current and future cooling sector activities are compatible and reported with both frameworks. This alignment of MP and PA requirements streamlines data collection and reporting, enabling policymakers to track progress toward both MP and PA commitments with greater precision. (*See textbox in section 2.1* for recommended reading on reporting on GHG emission under the PA in relation to the MP.)

This integrated approach facilitates efficient and coordinated targeted mitigation efforts, such as addressing emissions from ODS and HFC banks, while enhancing transparency and access to international support. The country is thereby better positioned to identify and implement high-impact mitigation activities, attract carbon finance, and contribute meaningfully to global climate and environmental goals. In other words, the MP-PA combability assessment helps identify both **barriers** and **opportunities** for an efficient alignment, as detailed more in the next sections.

5.3 ANALYSING BARRIERS TO INTEGRATION

A comprehensive analysis of the identified policy, technical, and institutional barriers in the previous section is essential to identify challenges that hinder the effective integration of MP and PA mitigation efforts.

Insights from the NDC screening and GHG inventory assessment in the previous step 2 *(see Chapter 4)* should be kept in mind here, as it can highlight discrepancies, such as missing emissions data or misaligned targets, that need to be addressed.

Key barriers to consider:

- **Policy Gaps:**
  Absence of clear regulations linking HFC bank management to national climate strategies.
- **Technical Limitations:**
  Insufficient data collection and reporting systems for tracking emissions reductions from cooling sector interventions.
- **Institutional Challenges:**
  Lack of coordination between the agencies responsible for implementing MP and PA obligations. (This is closely linked to the previous compatibility assessment step.)

20 United Nations Environment Programme (December 2023), Global Cooling Pledge, *www.unep.org/resources/report/global-cooling-pledge*

21 ClimateWorks Foundation. Cooling: A Critical Climate and Development Challenge. Available at: *www.climateworks.org/programs/cooling/* [Accessed March 2025].

22 International Energy Agency (IEA). The Future of Cooling: Opportunities for energy-efficient air conditioning. Available at: *www.iea.org/reports/the-future-of-cooling* [Accessed March 2025].

5.4 ESTIMATING POTENTIAL GHG REDUCTIONS

Now it is time for one of the most critical aspects of the gap and opportunity assessment exercise, quantifying the potential GHG savings achievable by aligning MP with the PA efforts.

For the NOO to estimate the potential emission reductions from the cooling sector eligible for the PA Article 6, it is important to use the knowledge accumulated through the previous steps outlined in this guide. Specifically, the emission reduction estimates should be done in alignment with the PA and the NDC requirements, e.g. in the format of CO_2eq, and for the timeframes provided in the NDC targets.

Key aspects to consider for potential GHG reductions aligned with both MP and PA obligations are:

- **Focus on High-Impact Areas:**
  Assess emissions reductions from properly managing and disposing of HFC banks.
- **Quantify Results:**
  Calculate potential GHG reductions in tonnes of CO_2 equivalent per year, highlighting high-priority interventions, in relation to the targets and the timeframes used in the NDC.
- **Illustrate Benefits:**
  Demonstrate how these potential emissions reductions contribute to achieving NDC targets and global climate goals by linking the mitigation measures directly to relevant NDC targets.

This analysis should be conducted in close communication and exchange between the NOO and the NFP (*see step 1 in chapter 3*). Not only does the GHG reduction estimates help to prioritize mitigation activities, it may also support access to potential funding from Article 6 components (or other carbon financing sources) by showcasing the impact potential in CO_2eq.

5.5 EVALUATING RESOURCES BARRIERS

The successful implementation of aligned mitigation activities depends on adequate resources, technical expertise, and access to (carbon) finance. The duly evaluation of the availability of barriers to implementation resources and financing are thus required of the NOO before initiating any actual Article 6 activity implementation.

Key factors to evaluate include:

- **Infrastructure and Expertise:**
  Assess the availability of facilities for HFC reclamation, recycling, destruction and disposal and the capacity of national institutions to manage the foreseen mitigation efforts.
- **Policy and Market Barriers:**
  Identify obstacles to accessing carbon finance for HFC-mitigation activities from the cooling sector, such as gaps in the national regulatory frameworks or limited participation and experiences from the Article 6 mechanisms.
- **Capacity Gaps:**
  Highlight areas where national technical and institutional capacities need to be strengthened to support the identified potential mitigation activities, e.g. lack of knowledge of adequate methodologies, MRV-systems or MP-PA reporting requirements.

Understanding these factors provides a clear picture to the NOO and its PA counterparts of the resources needed to implement the identified aligned HFC mitigation efforts in the cooling sector effectively.

5.6 PROPOSING ACTIONABLE SOLUTIONS TO OVERCOME BARRIERS

Once the barriers to the identified and intended HFC mitigation activities – those aligned with both the MP/KA and Article 6 of the PA – are identified, the next step is to propose targeted actions to overcome them. Addressing these barriers requires tailored solutions that support the integration of MP and PA activities.

Recommended actions to address the barriers to Article 6 financing for MP aligned HFC mitigation activities depend on the local context (*see barriers in previous section 5.5* and *step 2 in chapter 4*) but could include:

- **Policy Reforms:**
  Update national regulations to integrate HFC management into broader climate strategies, enable participation of national institutions and the cooling sector in Article 6 mechanisms. (see the COPA Publication Potential Policy Framework for the Promotion of Sustainable ODS/HFC Banks Management (2023), available online.[23])
- **Capacity Building:**
  Provide training for national institutions on advanced methodologies for MP and PA aligned emissions tracking, baseline setting, and mitigation project development, with a particular focus on HFC management and mitigation.
- **Technological Support:**
  Facilitate access to technologies for HFC reclamation, recycling, destruction, energy-efficient cooling, promotion of natural refrigerants as low-GWP alternative.
- **Leverage Partnerships:**
  Engage with international organizations, development agencies, and the private sector to mobilize resources and expertise. For example, establish national stakeholder roundtables, expert groups, or advisory boards focused on advancing cooling and HFC mitigation efforts, e.g. by supporting development of national cooling strategies.

These proposed actions contribute to creating an enabling environment for implementing HFC and other cooling sector mitigation activities within the PA in alignment with the NDC, while also facilitating access to carbon finance opportunities under Article 6.

5.7 RESULTS & ROADMAP OF STEP 3

A well-executed gap and opportunity assessment – following the steps outlined in this chapter – provides the NOO and other policymakers with:

- A clear understanding of gaps in aligning MP and PA efforts;
- Quantified GHG reductions achievable through targeted interventions;
- A roadmap of actionable solutions to overcome barriers and enhance integration.

This comprehensive understanding empowers the NOO to support national efforts to align cooling sector activities with both MP and PA goals, positioning the country to access carbon finance for these activities through Article 6. Depending on national circumstances - including the nature of identified HFC mitigation opportunities, the existing legal framework, and available technical expertise - the gap assessment should result in a national cooling action plan. This plan may include a range of HFC mitigation efforts (e.g., project ideas aligned with both the NDC targets and MP-KA obligations) that are eligible for Article 6 financing and contribute meaningfully to global climate and ozon protection goals.

23 COPA Website: *www.copalliance.org/imglib/publications/231020_COPA_Broschu%CC%88re_PPF_final.pdf*

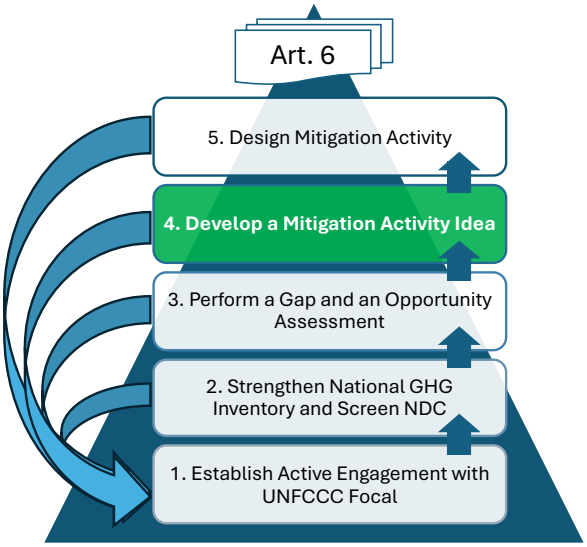
The next chapter (Chapter 6) will focus on developing a Mitigation Activity Idea Note (MAIN) based on the results of the gap and opportunity assessment. The MAIN serves as the foundation for designing impactful, finance-ready projects in the form of a Mitigation Activity Design Document (MADD), which will be covered in the final step (*Chapter 7*) of this guide.

Further reading recommendations:

- **Global Cooling Pledge – COP28 Initiative (UNEP)** *www.unep.org/news-and-stories/story/global-cooling-pledge*
- **IEA – The Future of Cooling (International Energy Agency)** *www.iea.org/reports/the-future-of-cooling*

6. STEP 4: DEVELOP A MITIGATION ACTIVITY IDEA NOTE

The development of a Mitigation Activity Idea Note (MAIN) is a crucial step in translating alignment between the MP and PA objectives into actionable Article 6 projects. In other words, this is the step where the NOO is going from exchange and assessment to prepare for implementation of a specific HFC- or cooling sector mitigation activity under the Paris Agreement. The MAIN outlines the concept for a mitigation activity or program, forming the foundation for securing carbon finance under the PA Article 6 mechanisms.



This chapter provides a framework for identifying, designing, and prioritizing eligible PA Article 6 projects in the cooling sector, with a focus on HFC mitigation measures aligned to the MP Kigali Amendment. The starting point should be a clear understanding of the practical mitigation opportunities within the country's context, coupled with an analysis of feasibility, impact, and stakeholder readiness. Basically, building on the knowledge and outcome from the activities covered in the step 1-3 in this guide and illustrated in the figure.

> ***"One lesson I've learned is: if you're not in the room when Article 6 projects are being decided, your sector won't be included. That's why the NOU and ozone offices must proactively develop concept notes and bring them for disucssion with the climate team – otherwise, the opportunities will pass them by."***
>
> **MATHATELA NTSATSI**

SPAR6C "Article 6 Toolbox"

Supporting Preparedness for Article 6 Cooperation (SPAR6C) is a five-year multi-country project launched in 2022. The project aims to support countries to increase climate ambition by enhancing readiness of Colombia, Pakistan, Thailand, and Zambia to participate in the international carbon market under Article 6 Paris Agreement. As part of the program, the SPAR6C "Article 6 Toolbox" create guidance and tools that can be used by countries pursuing Article 6 financing opportunities under the PA.

- SPAR6C homepage: *https://www.spar6c.org/*
- Article 6 Toolbox: *https://www.spar6c.org/toolboxa6*

For NOUs approaching step 4 of this COPA Article 6 Guide, the report from the SPAR6C Article 6 Toolbox - Guide 5: *Screening and developing Article 6 activities* (2023), might provide valuable complementary guidance when developing the MAIN.

6.1 IDENTIFYING ELIGIBLE PROJECTS AND ACTIVITIES

The first action in this step is to identify possible mitigation activities that could generate significant greenhouse gas reductions. For NOOs, this step would specifically include identifying mitigation measures aligned with both the Kigali Amendment and the Paris Agreement, such as HFC emission reductions or Energy Efficiency measures outlined in the national strategy and / or included as targets in the NDC. The assessments conducted in step 3 should provide a good starting point for this project identification. Specifically, looking at the potential GHG savings achievable from targeted interventions (*see chapter 5.4*) or at the activities included in the cooling strategy roadmap (*chapter 5.7*) from the gap and opportunity assessment could be helpful for identifying projects.

For sectors like refrigeration, air conditioning, and foams, this could include specific mitigation activities such as:

- Avoidance, Recovery, Reclamation, Recycling and destruction of HFC banks
- Transitioning to low-global-warming-potential (low-GWP) and / or natural refrigerants
- Leak detection, repair, and maintenance programs
- Expansion of refrigerant reclamation and reuse systems
- Foam blowing agent recovery and destruction

6.2 STAKEHOLDER MAPPING - ENGAGING "ANCHOR STAKEHOLDERS"

Equally important as identifying suitable HFC mitigation projects for Article 6 participation is understanding who the relevant stakeholders for implementing these activities are and how to engage them effectively. Successful mitigation activities, particularly those seeking carbon finance, depend on cooperation across government, private sector, and civil society.

A stakeholder mapping of the relevant stakeholders, their expected contribution and role in the identified HFC-mitigation project as well as any barrier (awareness, capacity, legal) for their active engagement (*see chapter 5.3* and *5.5 from step 3*) will help cast light on what stakeholders to approach for support in developing the MAIN.

Key stakeholders often include representatives from several or all the below groups. The final list of stakeholders will depend on the national circumstances and the sectors covered by the intended mitigation activity:

- **Government ministries:**
  environment, energy, finance, trade, transport
- **Private sector actors:**
  RAC manufacturers, service providers and RAC technicians, WEEE facilities, Facilities for HFC storage and reclamation, destruction facility operators, hazardous waste transportation companies, importers
- **Financial institutions:**
  such as local banks, Development Banks, potential carbon credit buyers
- **Civil society and community groups:**
  Especially for mitigation activities where social or environmental co-benefits arise, e.g. such as (female) RAC Associations, Youth Employment initiatives, Local Waste Management Groups, Training Associations, etc.

The goal at this stage in step 4 is to identify the so called **"anchor stakeholders"** for the identified HFC mitigation activities - i.e. those stakeholders who are both essential to the project implementation and willing to co-develop the concept. The above-mentioned stakeholder map should thus also clarify what incentives or capacity-building efforts that are needed to bring missing but critical players to the table or engage in the action.

6.3 DRAFTING THE MAIN: FROM IDEA TO CONCEPT

With the scoping study and stakeholder mapping completed, the next step for getting ready for Article 6 is to draft the actual MAIN document. There are general templates available online for the MAIN document, but often potential carbon credit buyer will ask to receive information in a preferred format. If the potential mitigation activity hasn't got a potential carbon credit buyer at this stage, these online available templates provide a good starting point. However, be aware that the final financier might require adjustments to be made to the MAIN to align with their standards.

For example, the Swizz KliK Foundation (The Foundation for Climate Protection and Carbon Offset)[24] is a private organisation founded in 2012 by the Swiss Petroleum Association (now Avenergy Suisse) with the objective of fulfilling the legal obligation of the industry to offset the emissions from motor fuels. To fulfill this purpose, the KliK Foundation finances climate protection activities that demonstrably reduce greenhouse gases, including under the framework of the PA Article 6. The KliK Foundation was one of the first to support Article 6.4 pilot projects and the development of ITMOs.

24 KliK Foundation Website: *https://www.klik.ch/en/foundation/*

The MAIN Template provided by the KliK Foundation can be found here *www.a.storyblok.com/f/246794/x/c42e38703b/main_template_231117.pdf*

Independent of the template use, the MAIN document is normally required to summarize the below points related to the proposed mitigation activity, providing information on:

- **Objectives:**
  What climate and ozone goals will the activity achieve?
- **Scope and activities:**
  Which mitigation measures are prioritized, and why?
- **Mitigation potential:**
  Estimated GHG reductions in CO_2eq based on scoping results and in relation to a baseline scenario
- **Implementation pathway:**
  Proposed partners, roles, and resources needed for implementation (from stakeholder mapping)
- **Preliminary financing strategy:**
  What are the opportunities for PA Article 6, specifying if focus is on Article 6.2 or 6.4, or on other potential climate finance streams such as e.g. the Green Climate Fund (GCF) or the voluntary carbon market (VCM)

The MAIN document builds a case for why the selected HFC mitigation activity is technically sound, feasible, and financeable while summarizing how it will contribute to limiting the ongoing climate change.

6.4 REFINING THE CONCEPT THROUGH ITERATION

Once the draft MAIN is complete, it should be shared with the (national or international) anchor stakeholders for review and further refinement. This is a critical step to test assumptions, identify risks, and strengthen the activity design. Stakeholder feedback may lead to adjustments in scope, changes in the proposed implementation strategy, or the addition of new partners. If the NOO develops a MAIN, the draft as well as the final version should be shared and developed in close collaboration and communication with the NFP (*see step 1, chapter 3*).

The iterative process ensures that the MAIN is not just a paper exercise but a living document, shaped by the people and institutions who will ultimately be responsible for implementing the activity.

6.5 OUTCOME OF STEP 4

The processes included in the Step 4 activities will produce tangible results and move the initial HFC mitigation idea from the NOO closer towards actual implementation under the Paris Agreement Article 6.

At the end of step 4, the NOO Team should have at their hands:

- A well-defined MAIN, backed by technical analysis, a financial concept and stakeholder consensus
- A clear understanding of the next steps required to move toward detailed project design
- A committed team of stakeholders ready to support the activity's development and eventual implementation

The proposed approach provides a strong foundation for advancing to the next and final step in this guide: the Mitigation Activity Design Document (MADD) phase while ensuring alignment with both MP/KA and PA objectives.

Further reading

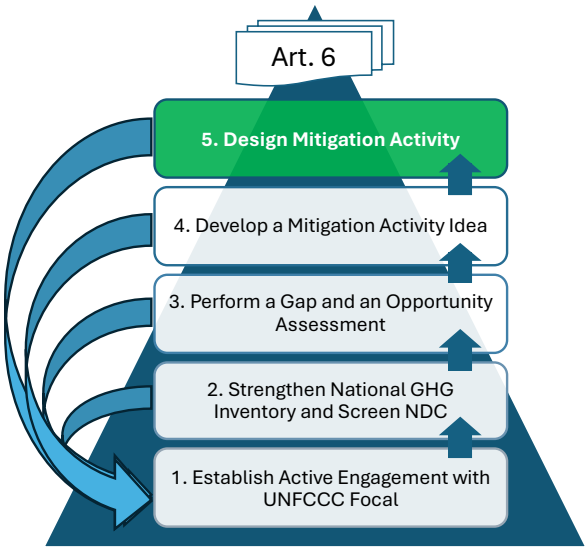
- Toolbox Series for Article 6 Implementation: *https://www.carbon-mechanisms.de/en/publications/details/a-toolbox-series-for-article-6-implementation-2*
- MAIN Template Example: *https://a.storyblok.com/f/246794/x/c42e38703b/main_template_231117.pdf*
- KLIK International Download Hub: *https://www.klik.ch/en/foundation/download-hub/*

7. STEP 5: THE MITIGATION ACTIVITY DESIGN DOCUMENT

Once a MAIN has been developed, refined and endorsed, the next and final step in this NOO Article 6 guide is to formalize the HFC mitigation project idea into a comprehensive Mitigation Activity Design Document (MADD).

The MADD serves as the foundation for enabling participation in Article 6 mechanisms, detailing the proposed mitigation project's structure, methodologies, and compliance with international standards.

This chapter outlines the basic steps required to prepare the MADD, ensuring that the mitigation activity is eligible for carbon finance and aligned with national and global climate goals.



"Article 6 is still new, and even climate departments are learning how to work with it. Policymakers design policies, but they don't implement projects. That's why we need the right mix of technical experts, financiers, entrepreneurs, and implementers to take these mitigation activities forward. Our role as policymakers in the Ozone Units is to pass the baton – creating the right frame-works, ensuring alignment with national and international goals, and opening doors to funding and partnerships. But ultimately, it's these stakeholders who must take the handover and run with the projects, turning policy into action and delivering real impact on the ground."

MATHATELA NTSATSI

7.1 DRAFTING THE MADD

The MADD provides a detailed blueprint for the proposed HFC mitigation activity, outlining all necessary technical, methodological, and operational elements.

Just as with the MAIN document, there are different templates available online for the MADD too. Below is one example, but more templates are expected to be developed with the progressing of operationalisation of the Paris Agreement Article 6.

25 GCR About us Website: *https://gcr.epa.gov.gh/about-us/*

The **Ghana Carbon Registry (GCR)** is a Registry established by the Government of Ghana. It is an online database for collecting and tracking transactions from mitigation activities at sector, city and corporate levels.[25] On their website, the GCR provide an overview of the "Mitigation Activity Cycle" outlining 12 steps required for completing a mitigation project implementation. The Ghana Article 6 office provides a template for what they call the Mitigation Outcome Activity Design Document, or MOADD Template.

- Ghana MOADD Template (in word): *https://gcr.epa.gov.gh/wp-content/uploads/2022/03/Mitigation-Outcome-Activity-Design-Document-Template.pdf*

Key components of the MADD normally include the below data, most of which should be at hand from completing the previous steps in this guide:

Baseline Scenario:
- Establish the current emissions levels or status quo without the intervention of the proposed activity. (*see step 2, chapter 4*)
- Justify the baseline using verifiable data and recognized methodologies, ensuring accuracy and credibility.

Mitigation Methodology:
- Describe the approach and techniques used to achieve emissions reductions, including the calculation methodologies. (*see step 3, chapter 5*)
- Ensure alignment with the Intergovernmental Panel on Climate Change (IPCC) guidelines and Article 6 requirements.

Monitoring Plan:
- Outline a strategy for tracking progress, collecting data, and verifying emissions reductions throughout the project lifecycle. (*see step 4, chapter 6*)
- Specify indicators, frequency of data collection, and responsible parties to ensure transparency and accountability.

A well-prepared MADD establishes the technical foundation of the project, demonstrating its feasibility and impact potential through real data.

7.2 OBTAINING AN INDEPENDENT VALIDATION

Before submitting the MADD for authorization, it must undergo an independent validation from a third party to ensure compliance with Article 6 requirements and international standards. This is a requirement for Article 6 compliance and cannot be skipped. The costs of the external validation must be included in the cost calculation estimate when developing an Article 6 eligible project.

The independent third-party validation includes:

- **Validation of Methodologies:** Verifying that the mitigation methodology and baseline scenario align with approved standards and are appropriate for the project context.
- **Assessment of Feasibility:** Evaluating the technical, financial, and operational feasibility of the activity.
- **Identification of Risks:** Highlighting potential environmental, social, or implementation risks and recommending mitigation measures.

25 GCR About us Website: *https://gcr.epa.gov.gh/about-us/*

This third-party review enhances the credibility of the MADD and builds confidence among stakeholders and potential financiers.

Note: There might be specific requirements or eligibility issues for the independent third-party review in each country, so be sure to find out what kind of verification that is required and accepted in your country context.

7.3 SUBMITTING A REQUEST FOR AUTHORIZATION

Once the independent validation is complete and present a positive outcome, the next step is to submit the MADD to the DNA or NFP for the formal authorization of the project and the carbon credit trade on the national level.

The authorization request should normally include:

- A summary of the MADD, highlighting the project's objectives, scope, and expected outcomes. (Gap assessment outcome in step 3 and MADD in step 4)
- Evidence of alignment with national priorities, including contributions to NDC targets and sustainable development goals. (MP-PA overlaps in step 1, NDC review in step 2)
- Documentation of stakeholder consultations and support, demonstrating inclusivity and local engagement. (Stakeholder mapping in step 4)

The DNA's authorization of the MADD is a critical milestone, signifying national endorsement and allowing the project to proceed to the Article 6 registration stage. (Details on the responsibilities of the DNA can be found in *step 1, chapter 3*)

7.4 REGISTERING THE MADD FOR ARTICLE 6

The final step, in addition to the national requirements for PA Projects (which are specific for each country), in formalizing the HFC mitigation project activity from the MADD under the PA Article 6 is registering it with the Article 6 registry provided by UNFCCC. This registration ensures transparency of the pursued carbon trading and enables tracking of emissions reductions and ITMOs.

The Article 6 registration process of the MADD involves:

- **Submitting** the authorized MADD and supporting documents to the relevant Article 6 registry platform.
- **Verifying** the project's compliance with registry requirements, including alignment with international reporting standards.
- **Receiving confirmation of registration**, which formalizes the project's eligibility for carbon finance and participation in Article 6 mechanisms.

The Article 6 registration makes the proposed mitigation project official and marks the transition from project planning to initiating implementation, unlocking opportunities for carbon trading and financial support.

7.5 ESTIMATED COSTS FOR PREPARING THE MADD

The activities required for preparing an HFC mitigation activity for financing opportunities under the PA Article 6 are costly. Preparing a MADD (step 5) involves several activities, each requiring resources, expertise, and time. Not to mention the resources required to fulfil the activities in the steps 1-4, outlined in chapters 3-6 in this guide.

The total cost estimate may vary based on the complexity of the project, the availability of in-house and national expertise, and the specific requirements of the DNA and registry. The final costs thus depend on the local context as well as on the project activity itself.

Below is an estimated general cost breakdown for the process. The information does not imply the expression of any opinions whatsoever concerning the cost, neither does they imply accuracy, endorsement or recommendation by COPA to preferences. Note that the information provided in this document does not constitute legal or other professional advices.

Item	Budget range
Preparation of MADD	USD 50,000 – 70,000
Validation of MADD	USD 20,000 – 30,000
	USD 70,000 – 100,000
Authorisation and registration	USD 5,000 – 10,000
Total	USD 75,000 – 110,000

7.6 COMPLETING STEP 5

This final step 5 equips NOO and other policymakers with the tools to transform conceptual projects into operational mitigation activities, ready for international collaboration and funding. By going through and completing the activities included in the five steps outlined in this Article 6 readiness guide, the NOO should achieve a fully developed MADD at this point. The authorized and registered MADD should be meeting all Article 6 requirements and positioning the HFC mitigation project in a favourable situation to:

- Attract carbon finance and technical support, based on the information provided in the MADD.
- Contribute to national climate goals, including NDC targets.
- Deliver global benefits through emissions reductions and sustainable development impacts.

The next chapter will focus on the implementation of the registered mitigation activity, with an emphasis on ensuring its long-term success and sustainability.

Further reading recommendations:

- UNFCCC PA 6.2: *www.unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement/cooperative-implementation/article-62*
- UNFCCC PA 6.4: *www.unfccc.int/process-and-meetings/the-paris-agreement/article-64-mechanism*
- UNFCCC PA 6.8: *www.unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement/cooperative-implementation/article-68*
- Cost Considerations for Carbon Market Participation, *www.goldstandard.org/articles/carbon-pricing-and-project-financing*
- The Carbon Mechanism: *www.carbon-mechanisms.de/en/introduction/the-paris-agreement-and-article-6*

8. WHO IS ON YOUR TEAM?

After the MADD is approved, it's not the end – but rather the beginning – of the mitigation project activity. Even though it might feel like a long journey to get to this point, this is where the actual implementation of all the activities planned in the authorized and registered MADD begins. In this final chapter, you'll get a brief outlook on what comes next.

As stated in the introduction, the objective of this guide is to assist policymakers responsible for implementing the MP - such as NOO or NOUs - to become "Article 6 ready" under the PA. That means the steps and activities described in this guide are presented from the perspective of the NOO.

In short, this is a guide for NOUs on how to identify and develop activities that reduce emissions from HFC banks while contributing to global climate goals. The overall aim is to unlock additional financing for such HFC-related mitigation efforts. Aligning national efforts for HFC mitigation with both MP and PA targets opens the door to carbon finance.

This approach makes sense on several levels. It is resource-efficient and offers dual benefits: reducing HFC emissions slows climate change while simultaneously supporting ozone layer recovery.

It's a team effort!

Developing a mitigation project under Article 6 of the Paris Agreement is not a one-person show - it requires a national team of dedicated, engaged, and resourceful experts. As Mathatela puts it, it's essential for the NOU to work together with the "Paris Agreement people" such as the NFP and the DNA, to identify overlapping mitigation opportunities under the MP and PA, and to combine efforts to meet the targets set in the NDC.

In this context, it's important to emphasize that the "team" for Article 6 isn't just the Ozone Office or the Climate Department - it's the whole country. Each area of expertise, such as the NOO / NOU or the NFP/DNA, acts as a sub-team. During stakeholder mapping, the other team members should be identified and engaged.

Using the metaphor of a relay race, we can think of developing an Article 6 project as the finish line. To reach it, each team member carries the baton for a specific leg of the race - moving the project forward, together, toward success.

After the MADD is approved, the metaphorical baton is passed to a new team for a race towards implementation. This implementation team may include members responsible for the construction (if applicable), MRV, corresponding adjustments (in the case of an Article 6.2 project and ITMO transfer), financial transactions, NDC updates, and more.

Only with the right team, it is possible to win the race!

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