DCC Department of Climate Change

ENERGY TRANSITION PARTNERSHIP

REPORT

GOVERNANCE OPTIONS FOR INTERNATIONAL TRADING OF CARBON CREDITS AND MITIGATION OUTCOMES FROM VIET NAM TO THE INTERNATIONAL MARKET

Hanoi, March 2025

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DEVELOPMENT AND IMPACT ASSESSMENT OF CARBON CREDIT AND ALLOWANCE GOVERNANCE MECHANISM IN VIET NAM

REPORT

GOVERNANCE OPTIONS FOR INTERNATIONAL TRADING OF CARBON CREDITS AND MITIGATION OUTCOMES FROM VIET NAM TO THE INTERNATIONAL MARKET

A report on identification of carbon credit potential, potential demand from international markets and identification of various scenarios for trading of carbon credits and mitigation outcomes from Viet Nam to the international market

Hanoi, March 2025

COLOPHON AND DISCLAIMER

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EXECUTIVE SUMMARY

The international trading of carbon credits, initially established under the Kyoto Protocol, has undergone a significant transformation with the adoption of Article 6 of the Paris Agreement, which enables countries to participate in cooperative approaches and centralised mechanisms for the transfer of carbon credits and mitigation outcomes, governed by enhanced transparency and accounting requirements. Viet Nam is well-positioned to participate in this evolving carbon market, building on its extensive experience with the Clean Development Mechanism (CDM), the Joint Crediting Mechanism (JCM) and voluntary carbon standards.

Although recent policy and legal developments in Viet Nam, including the Law on Environmental Protection 2020, Decree No. 06/2022/ND-CP, Decision No. 232/QD-TTg (2025), and Decree No. 119/2025/ND-CP, have established a foundational framework for the development of a domestic Emissions Trading Scheme (ETS), the governance of international carbon credit transfers under Article 6 of the Paris Agreement remains insufficiently defined. While Decree No. 119/2025/ND-CP, which amends and supplements Decree No. 06/2022/ND-CP, introduces key concepts and initial procedures for project approval under Article 6.4 and authorisation under Article 6.2, critical gaps persist. In particular, the absence of a strategic, transparent approach to the authorisation of mitigation outcomes for international transfer poses risks to both the mobilisation of international climate finance and the achievement of climate commitments.

This report "Governance options for international trading of carbon credits and mitigation outcomes from Viet Nam to the international market" was developed under the Technical Assistance "Development and Impact Assessment of Carbon Credit and Allowance Governance Mechanism in Vietnam" funded by the Southeast Asia Energy Transition Partnership (ETP) to support the Department of Climate Change (DCC), Ministry of Agriculture and Environment (MAE). The ultimate objective is to provide evidence-based recommendations that will allow Viet Nam to conceptual planning and improve readiness for participation in the international carbon market while ensuring alignment with its Nationally Determined Contribution (NDC) and long-term net-zero pledge.

Potential supply of carbon credits and mitigation outcomes from Viet Nam to the international market

The report provides an overview of the carbon crediting mechanisms currently implemented in Viet Nam, including CDM, JCM and major voluntary carbon standards such as the Gold Standard (GS), Verified Carbon Standard (VCS) and Global Carbon Council (GCC). It also reviews international criteria for transitioning CDM projects to Article 6.4 of the Paris Agreement and explores Viet Nam's potential for bilateral cooperation under Article 6.2.

Viet Nam's engagement with the CDM has been extensive. As of March 2025, the country had 258 Project Activities (PAs) and 16 Programmes of Activities (PoAs) registered, with more than 32.7 million Certified Emission Reductions (CERs) issued. Hydropower has dominated both project numbers and CER issuance, reflecting Viet Nam's natural resource endowments and early policy orientation. The CDM experience has contributed to the establishment of a relatively strong governance and institutional framework for carbon market engagement, which can be leveraged in transitioning to Article 6 while ensuring environmental integrity and sustainable development co-benefits.

Building on this foundation, Viet Nam's implementation of the JCM demonstrates growing institutional maturity and innovation in bilateral cooperation. By March 2025, 14 JCM projects had been registered, primarily in energy efficiency, with over 35,000 credits issued and several additional projects in the pipeline. Viet Nam ranks second among JCM partner countries in terms of both project volume and credit issuance. Compared to the CDM, the JCM features a more streamlined legal and procedural framework, stronger bilateral coordination, broader sectoral scope, and more consistent financing mechanisms, indicating valuable institutional learning.

In the voluntary carbon market (VCM), Viet Nam has also played an active role. Under the GS, 58 projects have been registered, generating over 13.6 million credits, while the VCS has registered 45 projects with a similar volume of credits issued. The GCC has approved 15 projects with a total annual reduction potential of 1.74 million tCO_2e. Despite this strong participation, governance of VCM activities remains fragmented. To align with emerging requirements under Article 6, particularly regarding transparency, credit authorisation, and corresponding adjustments, Viet Nam will need to develop a more coherent and robust regulatory framework to govern the generation, transfer, and use of voluntary carbon credits in both compliance and voluntary contexts.

Market-based approaches under Article 6 of the Paris Agreement, particularly Articles 6.2 and 6.4, offer important pathways for enhancing international cooperation in climate mitigation. Article 6.2 enables countries to transfer mitigation outcomes bilaterally or plurilaterally for use toward their NDCs or other international commitments such as CORSIA. While Viet Nam has yet to adopt formal regulations under Article 6.2, it has actively pursued bilateral dialogues with partners including Japan, Singapore, and South Korea, demonstrating growing interest in leveraging carbon market mechanisms to support low-carbon development. Article 6.4, by contrast, allows both public and private entities to generate internationally transferrable emission reductions (A6.4ERs), which can be authorised for NDC compliance or other uses. Viet Nam's extensive CDM experience positions it well for this transition.

Potential demand from the international carbon market for the carbon credits and mitigation outcomes from Viet Nam

On the demand side, three main categories of international buyers for carbon credits and mitigation outcomes from Viet Nam have been identified: (i) countries and entities purchasing Internationally Transferred Mitigation Outcomes (ITMOs) under Article 6.2; (ii) corporate buyers seeking offsets for voluntary climate targets; and (iii) airlines complying with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

Among ITMO buyers, seven countries, including Japan, South Korea, Singapore, Switzerland, Sweden, Norway, and New Zealand, have expressed interest or are actively procuring credits, with total projected demand (excluding Norway) estimated at 243.6–293.6 $MtCO_2e$ by 2030. These countries exhibit varying levels of ambition, credit requirements, and pricing expectations, from Japan's established JCM (~31.6 $MtCO_2e$ delivered of a 100 $MtCO_2e$ goal) to Singapore's integration of ITMOs into its carbon tax scheme and South Korea's conversion of credits into Korean Carbon Units (KCUs). Switzerland and Sweden maintain strong integrity standards and price caps, while Norway and New Zealand pursue broader bilateral cooperation strategies.

The VCM represents another demand stream, driven by companies aligning with initiatives such as the Integrity Council for the Voluntary Carbon Market (ICVCM), the Voluntary Carbon Markets Integrity Initiative (VCMI), and the Science Based Targets initiative (SBTi). However, the VCM is

currently oversupplied, with issuances surpassing retirements, and faces challenges around credit quality, project types, and governance transparency. These concerns are compounded by market misconduct and growing scrutiny over project-level credibility, especially for nature-based and avoided deforestation credits.

CORSIA introduces a compliance-driven demand for Emissions Units from ICAO-approved sources. Cumulative global demand for CORSIA-eligible units (EEUs) is projected to range between 64 and 162 $MtCO_2e$ annually, though supply remains limited. This imbalance is driving up credit prices, with Phase I prices estimated at USD 18–51/tCO_2e, and expected to rise to USD 27–91/tCO_2e by Phase IV. For Viet Nam, the diversity of demand profiles, from high-integrity government buyers to compliance-driven and voluntary markets, presents both opportunities and challenges. Securing access to these markets will require credible governance systems, alignment with buyer requirements, and a consistent supply of high-quality, transparently authorised mitigation outcomes.

International experience and key principles for Viet Nam on the governance of carbon credits and mitigation outcomes

The report includes a comparative review of international governance practices in selected host countries to draw lessons for Viet Nam's development of an Article 6-compliant carbon credit framework. Case studies were selected based on three criteria: (i) having an operational Article 6 framework with authorisation statements issued for pilot projects under Article 6.2; (ii) possessing a domestic ETS; and (iii) active participation in international carbon markets. Based on these criteria, the countries reviewed include Ghana, Rwanda, Thailand, Cambodia, and Chile.

A key insight emerging from these case studies is the critical importance of establishing a comprehensive, coherent governance framework that aligns closely with national climate strategies. Carbon credits are not only tools for international mitigation cooperation but also important instruments for attracting climate finance into domestic low-carbon development. Successful implementation depends on clear institutional arrangements, consistent crediting methodologies, transparent authorisation procedures, and well-defined rules on carbon ownership, project cycles, and timelines, all structured to uphold environmental integrity and compliance with Article 6 requirements.

Drawing from these international experiences, the report identifies a set of core governance principles applicable to the Vietnamese context. These include: (i) the development of a positive list of eligible mitigation activities aligned with NDC roadmaps; (ii) the application of a Corresponding Adjustment fee to reflect the opportunity cost of ITMO authorisation; and (iii) the designation of a share of mitigation outcomes reserved for domestic NDC achievement, which limits the proportion of credits authorised for international transfer. Together, these principles form the basis for structuring Viet Nam's governance options and ensuring that international trading of carbon credits supports both climate ambition and national interest.

Governance options and recommendations for carbon credits and mitigation outcomes in Viet Nam

Based on Viet Nam's current policy context, international experience, and key governance principles, this report proposes a structured set of options for managing the international transfer of carbon credits and mitigation outcomes under Article 6 of the Paris Agreement. These options are organised into three main scenarios, each reflecting a different level of market engagement and ambition. For each scenario, variations are introduced by applying two key governance

instruments: (i) the share of mitigation outcomes retained for domestic NDC achievement, and (ii) the application of a Corresponding Adjustment fee.

A preliminary assessment of the options is conducted, including an analysis of governance elements such as the use of positive lists to define eligible activities, quantitative limits to avoid overselling, and price-based controls to internalise opportunity costs. Scenario 1 is the most conservative, involving no authorisation of emission reductions for international transfer. While this approach eliminates the risk of ITMOs, it also forgoes opportunities to access climate finance, enhance mitigation ambition, and promote innovation through international cooperation.

Scenario 2 involves authorising emission reductions only from the 19 mitigation measures that contribute exclusively to the conditional NDC target. These actions are clearly additional to Viet Nam's unconditional commitment, and thus there is no strong justification to reserve a portion of the outcomes for domestic use. This option provides a cautious entry point into international markets while maintaining NDC integrity. Scenario 3 expands the scope of authorisation to 56 mitigation measures that contribute wholly or partly to the conditional NDC. Although this scenario offers greater mitigation potential and crediting opportunities, it presents challenges in determining additionality due to overlaps between conditional and unconditional contributions in the NDC. To address this, both sector-specific and measure-specific approaches are proposed to determine the appropriate share of mitigation outcomes to be retained domestically and the portion eligible for international transfer.

To operationalise these options, further variations are developed by applying the two key safeguard instruments. Scenario 4 builds on Scenario 3 by incorporating a sector- or measure-specific retention mechanism, ensuring that sufficient mitigation outcomes are preserved to meet unconditional NDC targets. Scenario 5 applies a quantitative cap to Scenario 2, limiting the volume of credits authorised for transfer (e.g., to 50% of conditional contributions). Scenario 6 does the same for Scenario 3, adding a safeguard against overselling while allowing broader participation in international markets. In parallel, Scenarios 7 and 8 introduce a Corresponding Adjustment fee to Scenarios 2 and 3, respectively. These fees, potentially linked to the domestic carbon price under Viet Nam's future ETS, reflect the opportunity cost of international transfers and can serve as a financing mechanism to support domestic climate action.

In total, eight scenarios are developed by combining the three core authorisation options with variations that introduce retention measures and price-based controls. These scenarios offer a structured framework for evaluating the trade-offs between environmental integrity, financial opportunity, administrative complexity, and alignment with Viet Nam's NDC commitments. They provide policymakers with a menu of governance options that reflect increasing levels of engagement, ambition, and institutional readiness. A comprehensive economic and environmental impact assessment of these eight scenarios will be carried out in the next Deliverable, providing evidence to inform the development of a robust, transparent, and strategically aligned governance framework for Viet Nam's participation in international carbon markets under Article 6 of the Paris Agreement.

ABBREVIATIONS

A6.4ERs	Article 6.4 Emission Reductions
BAU	Business-As-Usual
BTR	Biennial Transparency Report
BVCM	Beyond-value-chain-mitigation
CAR	Climate Action Reserve
CCP	Core Carbon Principles
CCS	Carbon capture and storage
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CIAO	International Civil Aviation Organization
COP	Conference of the Parties
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
CPAs	component project activities
CTF	Carbon Transaction Facility
DCC	Department of Climate Change
DNA	Designated National Authority
EE	energy efficiency
EPA	Environmental Protection Agency
ETF	Enhanced Transparency Framework
ETF	Enhanced Transparency Framework
ETP	Southeast Asia Energy Transition Partnership
ETS	Emissions Trading System
FOEN	Federal Office for the Environment
GCC	Global Carbon Council
GGGI	Global Green Growth Institute
GHG	Greenhouse gas
GS	Gold Standard
ICVCM	Integrity Council on Voluntary Carbon Markets
IET	International Emission Trading
ITMO	Internationally Transferred Mitigation Outcome
JCM	Joint Crediting Mechanism
JI	Joint Implementation
KAU	Korean Allowance Unit
KCU	Korean Credit Unit
KFS	Korea Forest Service
KOC	Korea Offset Unit
LEP 2020	Law on Environmental Protection 2020

LoA	Letter of Approval
MAE	Ministry of Agriculture and Environment
MESTI	Ministry of Environment, Science, Technology, and Innovation
MOEJ	Ministry of the Environment of Japan
MONRE	Ministry of Natural Resources and Environment
MOPA	Mitigation Outcome Purchase Agreement
MoU	Memorandum of Understanding
MRV	Monitoring, Reporting and Verification
NDC	Nationally Determined Contribution
NOGER	Norwegian Global Emission Reduction
NZ ETS	New Zealand Emissions Trading Scheme
OIMP	Other international mitigation purposes
PA	Project Activities
PDD	Project Design Documents
PIN	Project Idea Note
PoA	Programmes of Activities
SBTi	Science Based Targets initiative
SDGs	Sustainable Development Goals
SEA	Swedish Energy Agency
TSVCM	Taskforce on Scaling the Voluntary Carbon Markets
UNDP	United Nations Development Program
UNFCCC	United Nations Framework Convention on Climate Change
VCM	Voluntary carbon market
VCMI	Voluntary Carbon Markets Integrity Initiative
VCS	Verified Carbon Standard
VCU	Verified Carbon Units

I. INTRODUCTION

I.1. International trading of carbon credits and enhanced transparency under Paris Agreement

International trading of carbon credits was first established under the Kyoto Protocol in 1997, introducing market-based mechanisms to reduce greenhouse gas (GHG) emissions. The three primary mechanisms were the Clean Development Mechanism (CDM), Joint Implementation (JI), and International Emission Trading (IET). The CDM allowed developed countries to invest in emission reduction projects in developing nations and earn Certified Emission Reductions (CERs), which could be used to meet their emission reduction targets or traded in the international carbon market. This mechanism helps channel financial resources and technology transfer to developing countries, supporting sustainable development while enabling cost-effective emission reductions for developed nations. As of the end of March 2025, Viet Nam has successfully participated in the CDM with registration of 258 Project Activities (PAs) and 16 Programmes of Activities (PoAs), ranking fourth globally. The total number of issued CERs was 32,778,841 tCO_2e out of 86 registered projects (UNFCCC, 2025b).

Although the trading of carbon credits under the Kyoto Protocol provided financial incentives for emission reductions, it was primarily limited to developed countries with binding commitments, leading to uneven global mitigation efforts.

With the adoption of the Paris Agreement in 2015, the carbon trading landscape shifted towards a more comprehensive and inclusive framework based on Nationally Determined Contribution (NDC). Unlike the Kyoto Protocol, the Paris Agreement requires all countries to set and update their emission reduction commitments. Article 6 of the agreement introduced two new market-based mechanisms: cooperative approaches under Article 6.2, allowing countries to trade Internationally Transferred Mitigation Outcomes (ITMOs), and the centralised mechanism under Article 6.4, which replaced the CDM with stricter transparency and sustainability requirements.

The Paris Agreement also established enhanced integrity measures to prevent double-counting and ensure additionality. Corresponding Adjustments (CAs) mandate that countries selling carbon credits adjust their GHG inventory to reflect the transfer, ensuring that emission reductions are not counted twice. Additionally, transparency and robust accounting under the Enhanced Transparency Framework (ETF) require comprehensive reporting on carbon transactions to align with national and global climate goals. Given the stricter requirements under the Paris Agreement, it is necessary for a country that plans to participate in the international carbon market to develop a strategic governance approach to maintain a balance between incentivising international carbon credit trading and mitigating the risks of overselling.

Recognising the vital role of carbon markets, Viet Nam has taken initial steps to develop the framework for the management of international trading of carbon credits. The Law on Environmental Protection 2020 (LEP 2020) introduced provisions for organising and developing the carbon market, including the trading and offsetting of international carbon

credits in accordance with national laws and international treaties to which the Socialist Republic of Viet Nam is a party. Under LEP 2020, further details on the international trading of carbon credits were provided by Decree No. 06/2022/ND-CP, issued on 07 January 2022 by the Government on mitigation of GHG emissions and protection of the ozone layer (Decree No. 06/2022/ND-CP). Currently, Decree No. 06/2022/ND-CP is undergoing revisions to provide clearer regulations for Viet Nam's carbon market.

Most recently, on 24 January 2025, the Prime Minister issued Decision 232/QD-Ttg, which approved the scheme for establishing and developing the carbon market in Viet Nam (Decision 232/QD-Ttg). According to this decision, the carbon credits recognised for market transactions include not only those generated from domestic programs and projects under the trading and offset mechanism but also those obtained from international programs and projects. Specifically, these international carbon credits comprise: (i) carbon credits acquired under CDM; (ii) Carbon credits obtained through the Joint Crediting Mechanism (JCM); and (iii) Carbon credits generated under the mechanism provided in Article 6 of the Paris Agreement.

Despite these advancements, challenges remain. The current management framework for international carbon credit transactions in Viet Nam is not sufficiently detailed. There are unresolved questions about the interaction of international credit trading under Article 6 with NDC implementation. Key issues, including authorising specific mitigation outcomes for transfer, defining the volume that can be traded, and assessing the potential social and economic impacts of these transfers, remain unresolved. This lack of clarity could also lead to the risk of overselling carbon credits, potentially undermining the country's ability to meet its NDC commitments.

I.2. Objective and scope of work

The Technical Assistance "Development and Impacts Assessment of Carbon Credit and Allowance Governance Mechanism in Viet Nam" (hereby referred to as "Technical Assistance") is part of the Southeast Asia Energy Transition Partnership (ETP)'s interventions, to support the Department of Climate Change (DCC), Ministry of Natural Resources and Environment (MONRE), now Ministry of Agriculture and Environment (MAE), on carbon market development in Viet Nam.

The objective of this report is to assess the potential supply of carbon credits in Viet Nam, analyse potential demand from international markets, and identify possible scenarios for governance options for trading carbon credits and mitigation outcomes from Viet Nam to the international market. The findings are intended to serve as a key input for the development of the national strategy for the management of international trading of carbon credits and mitigation outcomes from Viet Nam, which is an urgent issue to be decided before Viet Nam enters into any implementation agreements with partner countries on Article 6 transfer. The results of this Deliverable will lay the foundation for the quantitative assessment and modelling of the impacts in the subsequent deliverable.

To achieve the objective, the following activities have been undertaken:

- Assessment of the current landscape of carbon crediting mechanisms in Viet Nam, including existing regulations and the potential supply of carbon credits for the international market;
- Analysis of international demand for carbon credits and examination of global best practices in managing international carbon credit transactions;
- Identification of key principles for the governance of carbon credits and mitigation outcomes, with a focus on international trading under Article 6;
- Proposal of different governance options for international trading of carbon credits and mitigation outcomes tailored to Viet Nam's context, which enable Viet Nam to effectively access carbon market finance while ensuring the achievement of the NDC targets.

I.3. Structure of the report

This report is structured as follows:

Chapter I provides the context and outlines the objective and the scope of the study.

Chapter II reviews the current status and potential for carbon credit and mitigation outcome trading from Viet Nam, including mechanisms such as the CDM, JCM, voluntary carbon standards, Article 6.4, and potential bilateral cooperation under Article 6.2.

Chapter III examines international demand across three key buyer categories: countries pursuing NDC compliance, corporate entities with voluntary climate targets, and airlines participating in CORSIA.

Chapter IV presents case studies from selected host countries to draw lessons on carbon credit governance.

Chapter V defines key governance principles for the management of carbon credits and mitigation outcomes, with a focus on Article 6.

Chapter VI explores potential trading scenarios in relation to Viet Nam's NDC targets and corresponding adjustment requirements.

The report concludes with policy recommendations and key takeaways.

II. REVIEW CURRENT STATUS AND POTENTIAL FOR TRADING OF CARBON CREDITS AND MITIGATION OUTCOMES FROM VIET NAM TO THE INTERNATIONAL MARKET

II.1. Overview of types of carbon credits in Viet Nam

At present, carbon credits in Viet Nam are primarily generated through mechanisms such as the CDM, JCM, and various independent carbon standards, including the Verified Carbon Standard (VCS), Gold Standard (GS), and Global Carbon Council (GCC). These credits are typically transacted either to support GHG emission reduction commitments under the Kyoto Protocol or to meet voluntary climate mitigation purposes and thus are not subject to the corresponding adjustment.

Following the adoption of the Paris Agreement, carbon credits intended for international transfer, i.e. when used toward a country's NDC or other international mitigation purposes, shall comply with the corresponding adjustment requirement. Under this framework, carbon credits can be generated through either Article 6.4, which establishes a centralised mechanism under UNFCCC oversight, or Article 6.2, which governs bilateral or plurilateral cooperative approaches. When transferred internationally and authorised for such purposes, these credits are referred to as ITMOs and shall be reflected in the emissions inventories of participating Parties.

CDM projects registered under the Kyoto Protocol may be eligible for transition into the Article 6.4 mechanism, provided that they meet the criteria established under Conference of the Parties (COP) decisions. Additionally, Viet Nam's existing bilateral collaboration with Japan under the JCM may be considered a foundation for future cooperative approaches under Article 6.2, as could similar arrangements with other interested partner countries.

Understanding Articles 6.2 and 6.4 of the Paris Agreement
Article 6.2 enables countries to exchange Internationally Transferable Mitigation Outcomes (ITMOs) – GHG emission reductions or removals – on a bilateral or plurilateral basis. These ITMOs can be used towards a country's Nationally Determined Contributions (NDCs) or other international mitigation purposes. To prevent double-counting, the mechanism requires corresponding adjustments (CAs) to balance emissions accounting by removing an emission reduction from the selling country's accounts and adding it to the buying country's accounts.
Article 6.4 defines a mechanism that can be viewed as an enhanced version of the CDM. Although the rules and modalities governing the Article 6.4 mechanism are still under development, once operational, an Article 6.4 Supervisory Body will register projects, and countries will be able to approve and authorise activities under this mechanism. Furthermore, certain CDM projects registered under the Kyoto Protocol that meet the criteria outlined for Article 6.4 may transition to this new mechanism.

Source: The Consultant, based on CMA Decisions

In parallel, Viet Nam is in the process of establishing a domestic Emissions Trading System (ETS) and plans to develop national crediting standards that will support the generation and use of domestic carbon credits within the ETS framework. These initiatives will contribute to the broader architecture of carbon crediting mechanisms in Viet Nam.

The various existing and prospective mechanisms for carbon credit generation in Viet Nam are illustrated in Figure below.

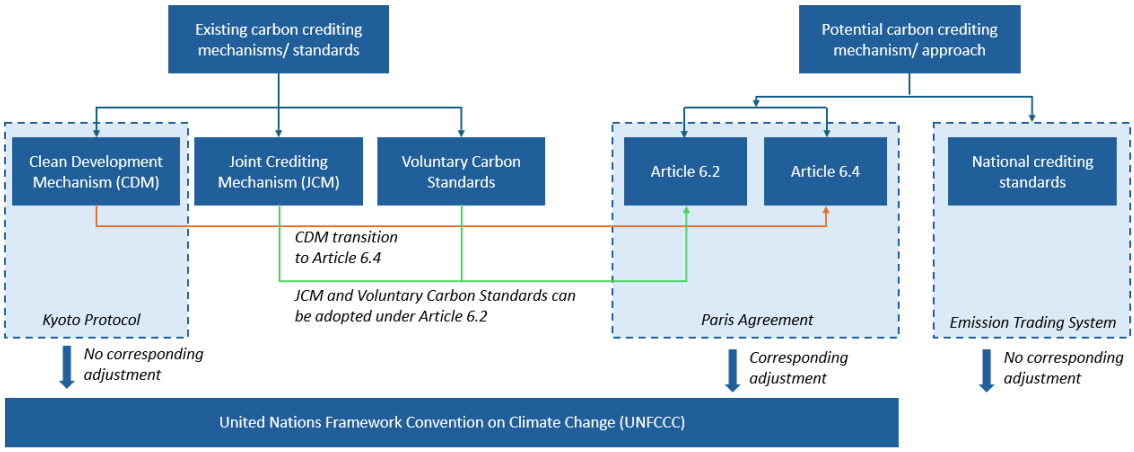

Figure 1: Existing and potential mechanisms for carbon credits generation from Viet Nam

Source: The Consultant, elaborated from existing sources, 2025

II.2. Clean Development Mechanism

The CDM is a flexible market-based mechanism established under the Kyoto Protocol of UNFCCC. It allows industrialised countries (Annex B countries) to meet part of their GHG emission reduction targets by investing in emission-reduction projects in developing countries (non-Annex B). These projects generate CER credits, each equivalent to one tonne of CO_2, and these CERs can then be traded and counted toward the Annex I countries' Kyoto targets.

Viet Nam signed the Kyoto Protocol on 03 December 1990 and ratified it on 25 September 2002. The first Vietnamese CDM projects were successfully registered with the CDM Executive Board in 2006.

II.2.1. Current status of CDM implementation in Viet Nam

Currently, Viet Nam is among the top leading countries in terms of the number of projects hosted and the volume of CERs issued, ranking fourth and eighth in the world, respectively. As of the end of March 2025, there were 258 PAs and 16 PoAs registered under the CDM in Viet Nam. The total number of issued CERs was 32,778,841 tCO_2e out of 86 registered projects (UNFCCC, 2025b).

The following figures show the shares of the top 10 countries worldwide in terms of the number of registered projects and the volume of issued CER.

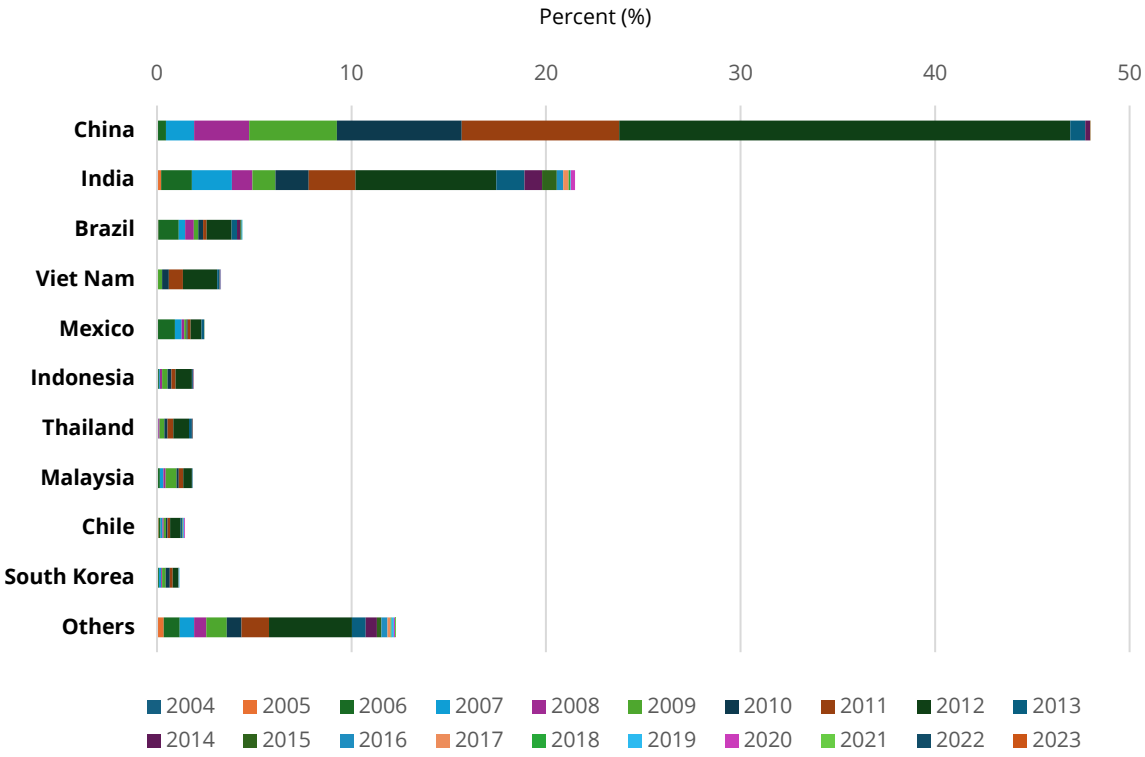

Figure 2: Share of Host Parties in terms of registered CDM projects (%) as of March 2025

Source: UNFCCC, 2025

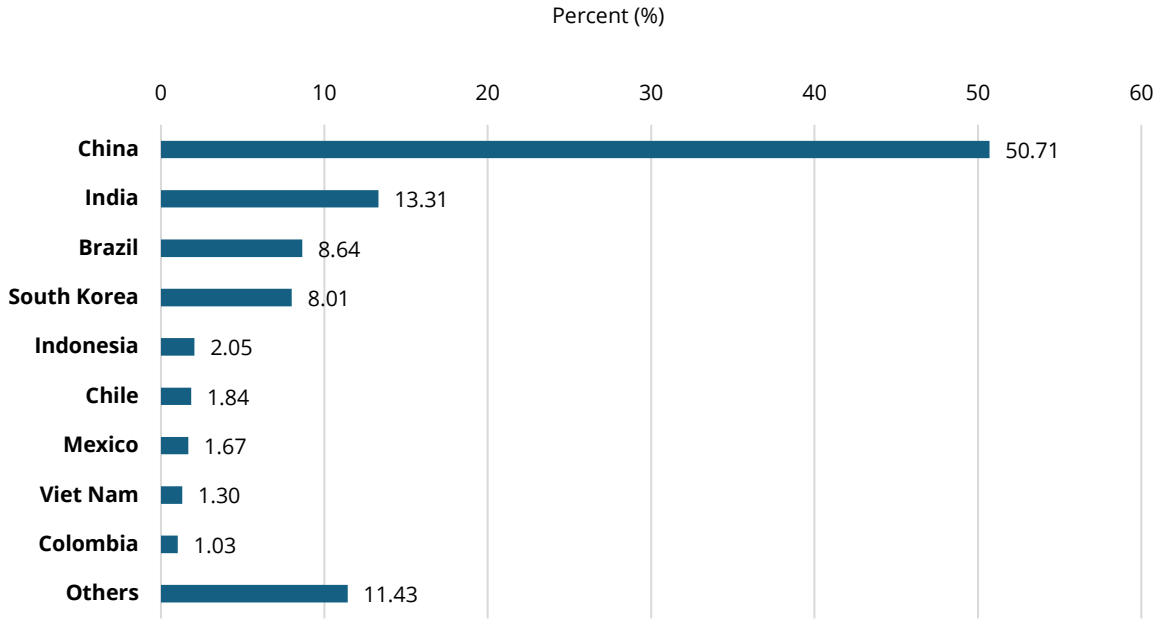

Figure 3: Share of Host Parties in terms of issued CERs (%) as of March 2025

Source: UNFCCC, 2025

Out of the total 258 PAs, hydropower was dominated in terms of registered CDM projects (200 projects, 77.5%), followed by methane avoidance projects (i.e. methane recovery in wastewater treatment) (22 projects, 8.5%), biomass energy projects (16 projects, 6.2%), landfill gas and wind (5 each, 1.9% each), solar (3 projects, 1.2%), energy efficiency (EE) own generation and composting (2 each, 0.8%), and fugitive and reforestation (1 each, 0.4%).

Among the 16 registered PoAs, the following sectors are covered: hydropower (4 PoAs), biomass energy, EE in households, mixed renewables and solar (2 PoAs each), and EE in industry, methane avoidance, EE service and wind (1 PoA each).

Out of the 86 projects that have generated CERs, hydropower projects rank first, accounting 19,873,937 tCO_2e or 60.6% of the total volume, followed by fugitive project (i.e. Rang Dong project, 8,856,673 tCO_2e, 27.0%), methane avoidance (3.6%), composting (3.4%), wind (2.5%), EE household (1.2%), solar (0.7%), biomass energy (0.6%), and landfill gas (0.3%).

Details on the distribution of project types and issued CERs of PAs and PoAs in Viet Nam are presented in Figures below:

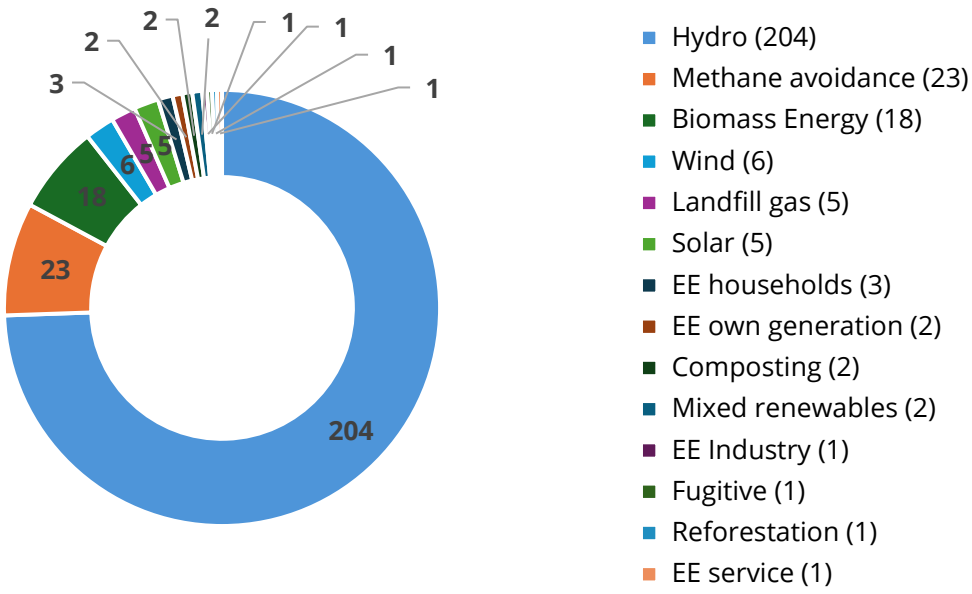

Figure 4: Number of registered CDM PAs and PoAs in Viet Nam by project types as of March 2025

Source: UNFCCC, 2025

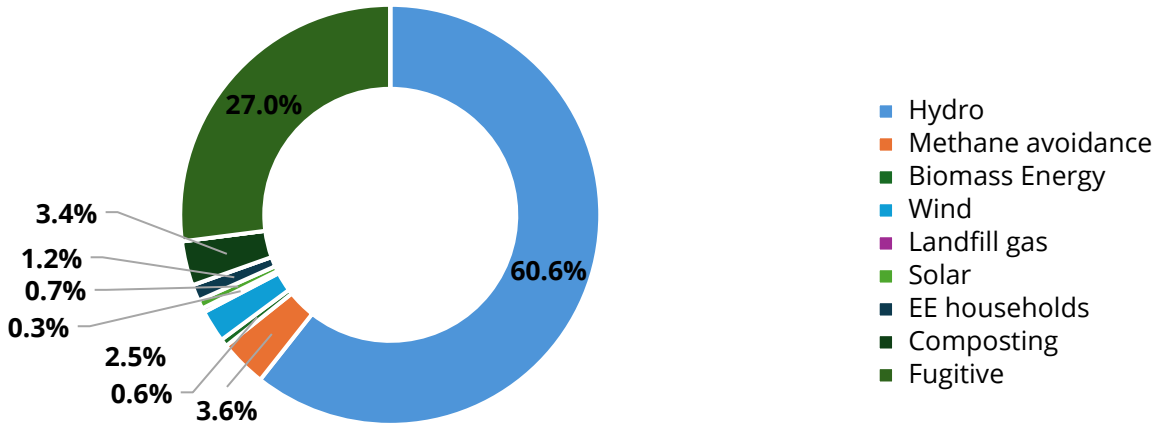

Figure 5: Share of issued CERs in Viet Nam by project types (%) as of March 2025

Source: UNFCCC, 2025

II.2.2. Governance framework for CDM implementation in Viet Nam

The governance framework for CDM implementation in Viet Nam is defined through its legal and institutional arrangements, including project eligibility criteria and potential areas, administrative procedures, oversight mechanisms, and financial policies such as fees and investment incentives.

II.2.2.1. Legal and institutional arrangements for CDM in Viet Nam

The legal and institutional framework for CDM in Viet Nam was established through a series of government directives and decisions. The initial basis was Directive No. 35/2005/CT-TT g, which assigned MONRE (now part of MAE) as the Designated National Authority (DNA) for implementing the Kyoto Protocol. This was followed by Decision No. 47/2007/QD-TTg, which further defined MONRE's (now MAE's) role in guiding, coordinating, and supervising implementation across ministries and localities.

To encourage investment in CDM projects, the Prime Minister issued Decision No. 130/2007/QD-TTg, which introduced a range of financial support mechanisms, including preferential credit terms, tax incentives, and access to concessional funding. Ministry of Finance (MOF) is tasked with specifying the fee rates for CER sales; providing guidance on the management and use of revenues from CER sales; and issuing detailed instructions on eligibility criteria, subsidy levels, and duration of subsidies for products from CDM projects that are included in the list of subsidised products. Concurrently, MONRE (now MAE) is responsible for providing specific guidance on areas such as the development and implementation of CDM projects; issuing Letters of Endorsement and Letters of Approval for CDM projects; and advising, supporting, and monitoring the sale of CERs.

To operationalise the provisions of this Decision, the MOF and MONRE (now MAE) jointly issued Inter-ministerial Circular No. 58/2008/TTLT-BTC-BTN&MT, which detailed the financial management framework for revenues from the transfer of CERs and the use of state budget support for CDM activities. This was further updated by Inter-ministerial Circular No. 204/2010/TTLT-BTC-BTN&MT, which clarified procedures for allocating and

using revenue from CER sales and elaborated on the responsibilities of relevant institutions, thereby enhancing the financial and institutional framework for CDM development in Viet Nam.

In parallel with the financial measures, the institutional responsibilities for climate change were consolidated to strengthen governance and coordination mechanisms. Decree No. 25/2008/ND-CP officially designated the Department of Meteorology, Hydrology and Climate Change as the DNA. To support coordination, MONRE (now MAE) established the Steering Committee for the implementation of the UNFCCC and the Kyoto Protocol through Decision No. 743/QD-BTNMT (2009), later replaced by Decision No. 1725/QD-BTNMT (2013). The Committee, chaired by a MONRE's (now MAE's) Vice Minister and comprising representatives from 17 agencies, supports the Ministry in managing the implementation of the UNFCCC, Kyoto Protocol, and CDM.

Key functions of the DNA include issuing Letters of Endorsement for project ideas and Letters of Approval (LoAs) for CDM Project Design Documents (PDDs), in accordance with Circular No. 15/2014/TT-BTNMT dated 24 March 2014.

II.2.2.2. Eligibility criteria and potential areas for CDM project development

Based on the established legal framework, the following conditions shall be met in order to be qualified as a CDM project in Viet Nam (Prime Minister, Decision 130/2007/QD-TTg, 2007):

- Comply with national investment regulations and align with sectoral and local development strategies and plans.
- Contribute to Viet Nam's sustainable development objectives.
- Be developed and implemented voluntarily by investors, in accordance with Vietnamese law and international treaties.
- Demonstrate technical and financial feasibility, using advanced technologies.
- Do not use Official Development Assistance (ODA) or state budget funds to generate CERs for transfer to foreign investors.
- Deliver real, additional, measurable, and verifiable emission reductions.
- Include an environmental impact assessment report.
- Be registered and approved by the international CDM Executive Board.
- Avoid creating any new obligations for the Government of Viet Nam beyond those outlined in the Kyoto Protocol.
- Follow national CDM procedures and obtain a Letter of Endorsement or a Letter of Approval from MONRE (now MAE).

The potential areas for development and investment in CDM projects in Viet Nam, as defined in Decision 130/2007/QD-TTg are as follows:

Table 1: Potential areas for development and investment in CDM projects in Viet Nam

Potential areas to develop CDM projects
Areas eligible for the development and implementation of CDM projects include all areas of the economy that result in GHG emission reductions, specifically the following:
a) Improving energy efficiency, conservation, and savings;

b) Exploiting and applying renewable energy sources;
c) Switching fossil fuel usage to reduce GHG emissions;
d) Recovering and utilising associated gas from oil extraction sites;
đ) Recovering methane (CH_4) from landfill sites and coal mines for destruction or use in power generation and domestic purposes;
e) Afforestation or reforestation to enhance carbon sequestration and reduce GHG emissions;
f) Reducing methane (CH_4) emissions from agricultural and livestock activities;
g) Other sectors that result in measurable GHG emission reductions.

Source: Prime Minister, 2007

II.2.2.3. CDM implementation procedures

Detailed procedures for endorsement and approval of CDM projects in Viet Nam have also been regulated as follows:

- Endorsement Letter for Project Idea Note: Project developers are required to submit a Project Idea Note (PIN) to DCC to apply for an Endorsement Letter. Upon receipt, the DCC will conduct a preliminary review and may request revisions or additional documentation. The DCC is responsible for coordinating with relevant stakeholders to assess the submission and will forward the Endorsement Letter to MONRE (now MAE) for final consideration and issuance. The entire review and endorsement process should not exceed 12 working days.
- LoAs for PDD: The PDD must follow the template provided in Circular No. 15/2014/TT-BTNMT (and the consolidated 13/VBHN-BTNMT) and be submitted along with supporting documents to the DCC for LoA application. DCC will conduct an initial review and may request clarifications or additional information. Following this, DCC will circulate the PDD to the members of the Steering Committee for review and comments on sector-specific aspects. Project developers are expected to respond to any feedback received. After completing this process, DCC will consolidate the comments, appraise the revised documents, and submit them to MONRE (now MAE) for final decision-making. The entire process – from submission to issuance of the LoA – shall not exceed 38 working days, including the time for review, comments, and responses.

The overall institutional set-up and procedures for CDM implementation in Viet Nam are illustrated in the figure below:

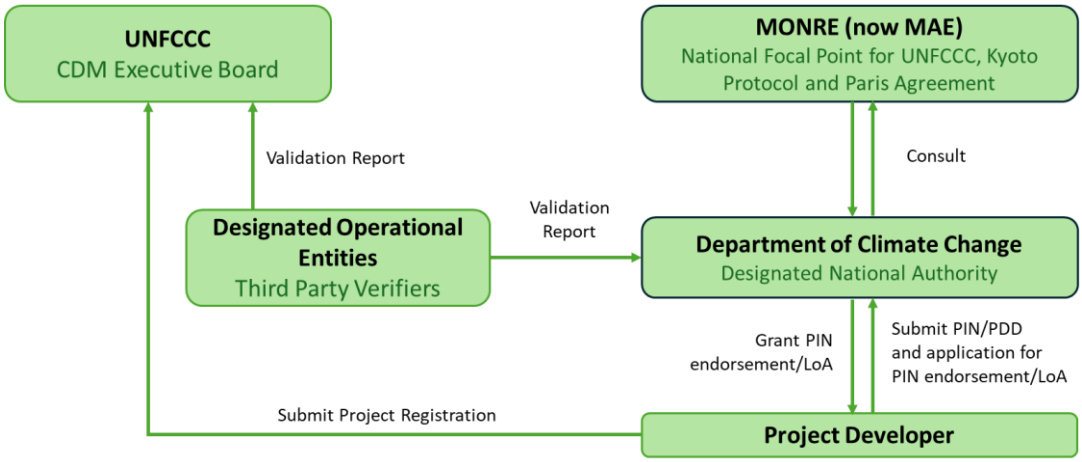

Figure 6: Institutional set-up and procedures for implementation of CDM in Viet Nam

Source: GreenCIC, 2024

II.2.2.4. Management and oversight

The management of CDM projects in Viet Nam is executed through the granting of Letters of Endorsement and LoAs, as well as through the extension, amendments, and revocation of LoAs.

Project participants are required to submit periodic reports on project status to Viet Nam DNA every six months (MONRE, 2024) and may also be subject to specialised inspections conducted by MONRE (now MAE) to ensure compliance.

II.2.2.5. Financial mechanisms and policies

No fees are applied for granting Letters of Endorsement or LoAs for CDM projects in Viet Nam.

CDM projects are also eligible for various incentives, including tax reductions, land use and land lease exemptions, accelerated depreciation of fixed assets, access to government investment credits, and financial support for project development. In particular, subsidies are available for electricity generated from wind, solar, geothermal, tidal energy, and methane recovery from waste disposal sites and coal mining (MOF & MONRE, 2008).

However, CDM projects are subject to a CERs selling fee, ranging from 1.2% to 2% of carbon revenue, depending on the project type. The fee structure is as follows:

- 1.2% for projects involving energy efficiency, renewable energy, afforestation, reforestation, and forest conservation.
- 1.5% for projects related to fossil fuel switching, methane recovery from waste and coal mining, or CH_4 reduction in agriculture and biogas.
- 2% for gas recovery and utilisation from oil drilling and other project types.

Viet Nam Environmental Protection Fund is responsible for collecting and disbursing CER selling fees from CDM projects.

II.2.3. Lessons learned from governance of CDM projects in Viet Nam

Viet Nam has built a solid governance foundation for CDM implementation, which can serve as a springboard for Article 6 operationalisation in terms of the following:

The designation of MONRE (now MAE) as the DNA and its coordination of cross-ministerial Steering Committees have created an institutional structure well-suited for managing Article 6 activities, including the authorisation of ITMOs and coordination of bilateral agreements.

MONRE (now MAE) and its DCC have extensive experience in project appraisal, stakeholder consultation, and regulatory oversight – critical competencies for managing Article 6.4 projects and ensuring transparency and environmental integrity.

The established two-stage process (Letter of Endorsement for PIN, LoA for PDD) ensures transparency, predictability, and consistency. This system can be adapted to streamline Article 6 crediting workflows.

Viet Nam's CDM framework includes specific criteria for project approval, such as alignment with national development strategies, voluntary participation, and use of advanced technologies – principles directly applicable to Article 6.

With projects across hydropower, energy efficiency, waste, and agriculture, Viet Nam has developed sectoral knowledge and methodologies that can support scaling Article 6 activities.

The application of CER selling fees (1.2% – 2%) provides a model for raising domestic climate finance and sustaining institutional functions – an approach that could be replicated in the Article 6 context.

CDM projects are required to demonstrate environmental and socio-economic benefits. This provides a useful precedent for ensuring that Article 6 activities support Viet Nam's broader sustainable development goals.

II.3. Joint Crediting Mechanism

The JCM is a bilateral mechanism under the framework for low-carbon development cooperation between Viet Nam and Japan. It aims to promote investment, transfer, and dissemination of low-carbon technologies, products, systems, services, and infrastructure in various sectors to advance low-carbon development in Viet Nam. Viet Nam signed the initial Memorandum of Cooperation (MOC) on low-carbon development with Japan in 2013, and subsequently, two revised MOCs were signed, with the latest one in October 2021 covering the period 2021–2030.

II.3.1. Current status of JCM implementation in Viet Nam

As of the end of March 2025, Viet Nam has successfully registered 14 JCM projects, including 12 energy efficiency projects, one transportation project, and one solar power project. These projects have a combined estimated emission reduction potential of 17,618 tCO_2e. Among them, thirteen projects have already been issued emission reduction credits, totalling 35.313 JCM credits – representing 4.32% of the global issuance of JCM credits. Out of these, 16,675 credits have been allocated to Viet Nam, accounting for 47.22% of the total credits issued.

Additionally, six projects are currently pending registration approval, with an annual emission reduction potential of 55,225 tCO_2e. Viet Nam ranks second among JCM partner countries in terms of registered projects and generated credits (JCM, 2025). The JCM projects registered in Viet Nam typically focus on energy efficiency and low-carbon technologies across various sectors such as power distribution (e.g., amorphous transformers), commercial buildings (e.g., high-efficiency air-conditioning, lighting, and water pumps), and industrial manufacturing (e.g., wire stranding machines, LED systems). These projects contribute to measurable emissions reductions and promote technology transfer. The outcomes, or more precisely, the issued carbon credits, is generally shared between Viet Nam and Japan, with Japan often receiving a slightly larger portion in most cases, reflecting its investment and technology contribution. However, the credit allocation is relatively balanced in larger infrastructure projects, demonstrating a collaborative approach to benefit both countries.

The list of registered JCM projects and the share of issued credits between Viet Nam and Japan is provided in Annex 1 of this Report.

II.3.2. Governance framework for JCM implementation in Viet Nam

The governance framework for JCM implementation in Viet Nam is defined by a clear legal and institutional structure and comprehensive management procedures covering full project cycle, designed to facilitate low-carbon technology transfer and promote sustainable development in Viet Nam.

II.3.2.1. Legal and institutional arrangements for JCM in Viet Nam

The initiative to pilot the JCM in Viet Nam was underpinned by the guidance of the Prime Minister in Official Dispatch No. 10728/VPCP-QHQT dated 19 December 2013 (Lien et al., 2020). Circular No. 17/2015/TT-BTNMT of 06 April 2015, issued by MONRE (now MAE) establishes the regulatory and legal framework for JCM projects and provides guidelines for their development and implementation between Viet Nam and Japan. Accordingly, the institutional framework for implementing JCM activities is illustrated in the Figure below:

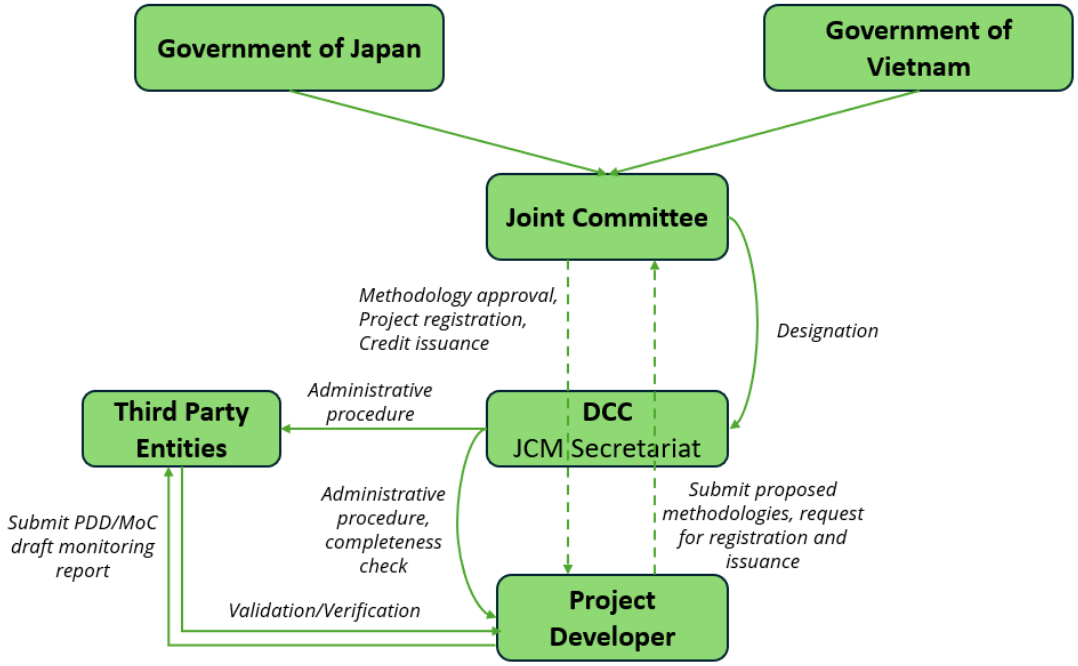

Figure 7: Institutional arrangements for JCM activities

Source: The Consultant, elaborated based on MONRE, 2015

The decision-making process for JCM projects is led by the Joint Committee and is headed by two co-chairs, representing Viet Nam and Japan, respectively. Vietnamese members include the Deputy Minister of MONRE (now MAE) (as the Co-Chair) and representatives from relevant ministries, i.e. Ministry of Industry and Trade, Ministry of Transport, Ministry of Construction, Ministry of Science and Technology, Ministry of Agriculture and Rural Development, Ministry of Planning and Investment, and Ministry of Finance. The Joint Committee convenes at least once a year to discuss and make decisions on JCM-related matters (MONRE, 2015).

A Vietnamese JCM secretariat operates within DCC and is composed of officials from the DCC who handle administrative procedures related to the implementation of JCM projects (MONRE, 2015).

II.3.2.2. Eligibility criteria and potential areas for JCM project development

Based on Circular No. 17/2015/TT-BTNMT, projects shall meet the following three conditions to be eligible under JCM:

- Being projects developed in accordance with current laws, suitable with the strategies, plans of relevant sectors of Ministries, agencies, localities, and contributing to the sustainable development of Viet Nam;
- Being developed and implemented on a voluntary basis and in compliance with international treaties in which Viet Nam is a member;
- Being implemented in Viet Nam with the participation of Japanese counterparts.

The regulation outlines a broad and inclusive list of sectors eligible for JCM project development, demonstrating the mechanism's flexibility and alignment with Viet Nam's climate priorities: i) energy production; ii) energy transmission; iii) energy consumption; iv)

agriculture; v) waste treatment; vi) afforestation and reforestation; vii) chemical industry; viii) manufacturing industry; ix) construction; x) transport; xi) mineral exploitation and processing; xii) metal production; xiii) emission from fuels (solid fuels, oil and gas); xiv) emission from production and consumption of Halocarbons and Sulphur hexafluoride; xv) use of solvents; xvi) other sectors that comply with guidance of the Joint Committee and laws of Viet Nam.

II.3.2.3. JCM implementation procedures

The general procedure for JCM implementation in Viet Nam is described in the following Figure:

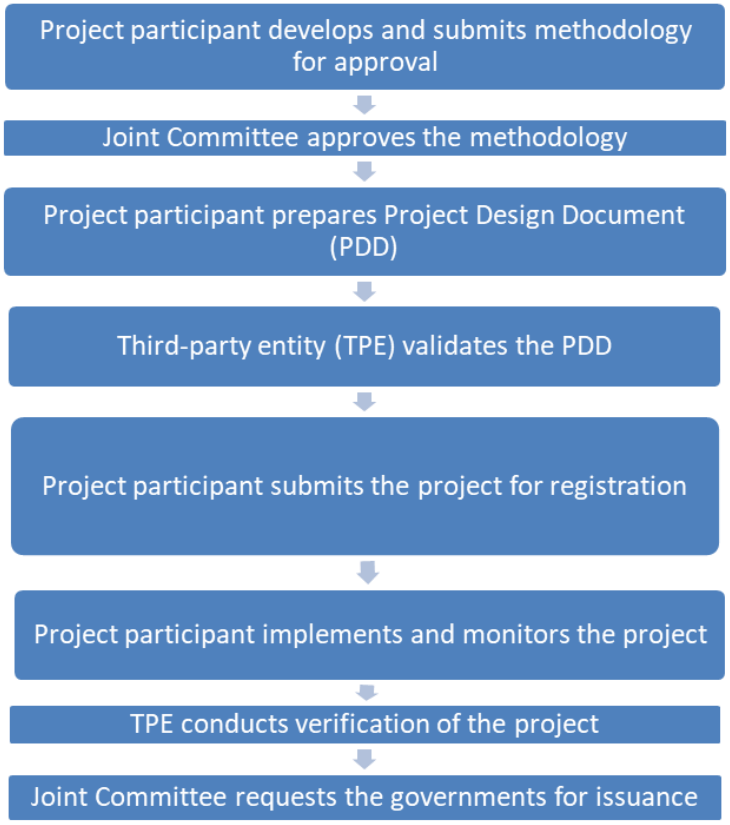

Figure 8: The general procedure for JCM implementation in Viet Nam

Source: MONRE, 2015

Detailed procedures for recognition of the Third Party Entity (TPE), submission and approval of methodology, registration and approval of the project, and implementation of issuance of credits for the project are also provided in Circular No. 17/2015/TT-BTNMT.

II.3.2.4. Management and oversight

The management of JCM projects in Viet Nam is executed through the whole project cycle, from methodology development, TPE designation, project registration, implementation oversight, to credit issuance.

Project participants are subject to compliance checks and inspections conducted by DCC and relevant agencies (MONRE, 2015).

II.3.2.5. Financial mechanisms and policies

As part of JCM, Japanese enterprises play a vital role in transferring energy-saving and emission-reducing technologies to their Vietnamese counterparts. In recognition of their contributions, these Japanese entities receive grants from Japan, with the maximum grant set at 50% of the total project cost. Simultaneously, the amount of CO_2 reductions achieved through these projects is calculated and accounted for on the Japanese side. The actual amount of allocation of JCM credits will be decided by the Joint Committee, taking into consideration contributions of project participants (Ministry of the Environment, Japan, 2021).

II.3.3. Lessons learned from governance of JCM projects in Viet Nam

Viet Nam's governance of JCM reflects significant institutional learning and evolution from its experience with the CDM. Several key lessons emerge:

- **Stronger bilateral coordination and governance model**: Unlike the CDM, which was governed through unilateral national procedures under UNFCCC oversight, JCM operates through a bilateral Joint Committee co-chaired by Viet Nam and Japan. This structure enables more responsive, tailored decision-making and reinforces mutual accountability in project selection and credit issuance.
- **Streamlined legal and procedural framework**: Circular No. 17/2015/TT-BTNMT provides a consolidated, legally binding framework for JCM project implementation, covering the entire project cycle from methodology approval to credit issuance. Compared to the more fragmented and evolving legal basis of CDM governance, the JCM framework is more coherent and streamlined.
- **Enhanced institutional support:** The establishment of a dedicated JCM Secretariat within DCC ensures continuous administrative support, a feature not as strongly emphasised in the CDM structure. This facilitates more efficient coordination and oversight.
- **Broader and flexible sectoral scope:** Both mechanisms cover diverse sectors; however, JCM explicitly lists an expansive range of eligible sectors and allows for future expansion based on Joint Committee guidance, demonstrating flexibility aligned with evolving national priorities and technological advancements.
- **Integrated financial and technological cooperation:** JCM explicitly links project financing with technology transfer, offering up to 50% grant funding from Japan. In contrast, CDM relied on market-based CER sales with less direct support for project development, which sometimes constrained investment in early-stage technologies.

II.4. Voluntary carbon standards

Among the various voluntary carbon standards applied globally, GS and VCS are the most widely adopted in Viet Nam, while GCC represents an emerging standard, having been introduced more recently. These standards provide an effective foundation for the operation of the voluntary carbon market (VCM) in Viet Nam and worldwide.

II.4.1. Existing voluntary carbon standards in Viet Nam

II.4.1.1. Gold Standard (GS)

GS is a carbon credit certification program established in 2003 and managed by the Gold Standard Foundation. This system is designed to ensure that carbon credits are verifiable and that projects contribute to sustainable development. The primary goal of GS is to guarantee the quality of carbon credits by certifying projects that meet strict environmental and social criteria. These credits can be purchased and traded by businesses and other organisations for voluntary GHG emissions reduction purposes.

As of March 2025, a total of 3,464 GS projects have been successfully registered across 111 countries worldwide (Gold Standard, 2025). Viet Nam accounted for 2% of this total, with 58 registered projects, including 55 PAs and 3 PoAs (Gold Standard, 2025). Among the 45 projects that have successfully issued credits in Viet Nam, a total of 13,633,050 GS credits have been generated, including 3,163,689 GS CERs and 10,469,361 Gold Standard - Voluntary Emission Reductions (GS-VERs) (Gold Standard, 2025). These credits represent approximately 4% of the total GS-credits generated globally (Gold Standard, 2025).

Among the projects that have been developed and successfully registered in Viet Nam, there are 29 wind power projects, 15 hydropower projects, 09 waste management projects, 03 solar power projects, and 02 projects in the energy efficiency sector (Gold Standard, 2025). The sectoral distribution of projects registered under GS is presented in Figure below:

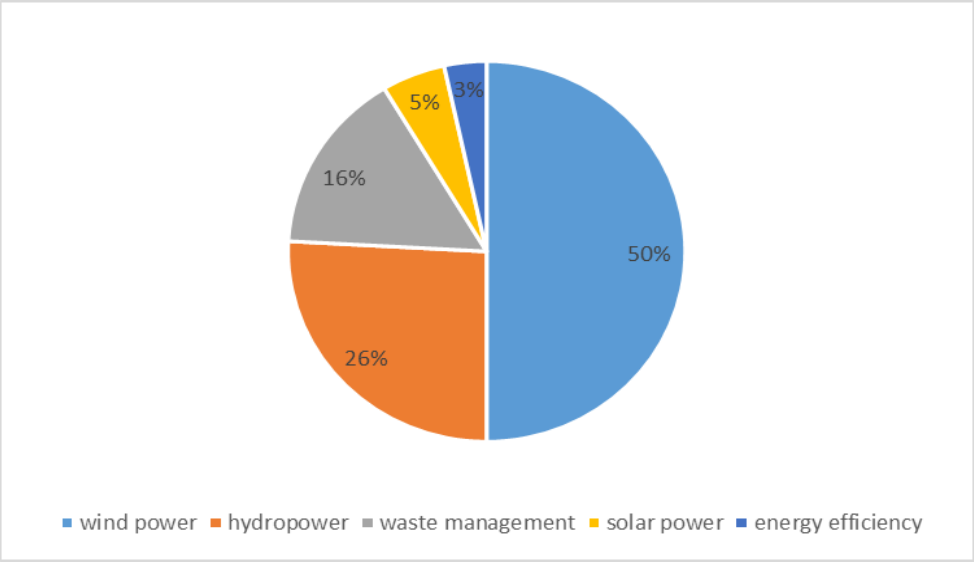

Figure 9: Sectoral distribution of projects registered in Viet Nam under the Gold Standard

Source: The Consultant, elaborated based on Gold Standard, 2025

II.4.1.2. Verified Carbon Standard (VCS)

VCS is a carbon emission reduction certification standard established in 2007 and managed by Verra, a non-profit organisation dedicated to ensuring quality in the certification of voluntary carbon reduction projects. Once projects meet VCS requirements and demonstrate measurable, long-term, independently verified, and conservatively estimated

GHG emissions reductions, they are eligible for the issuance of Verified Carbon Units (VCUs). These VCUs are recorded in accounts managed by the VCS registry, which is linked to the VCS project database. This system ensures that businesses and consumers can trust and verify the details of every VCU, from issuance to retirement, maintaining transparency and credibility in the carbon market.

As of March 2025, a total of 2,447 VCS projects have been successfully registered worldwide. Of these, Viet Nam has registered 45 VCS projects, accounting for 2% of the global total (VCS, 2025). Among the 37 projects that have successfully issued credits, in Viet Nam, a total of 13,713,900 VCUs has been generated, representing approximately 1% of the total VCUs issued globally (VCS, 2025).

Among the projects that have been developed and successfully registered in Viet Nam, there are 22 EE projects, 13 hydropower projects, 6 solar power projects, 2 biomass projects, 1 waste management project, and 1 waste-to-energy project. The sectoral distribution of projects registered under VCS is presented in Figure below:

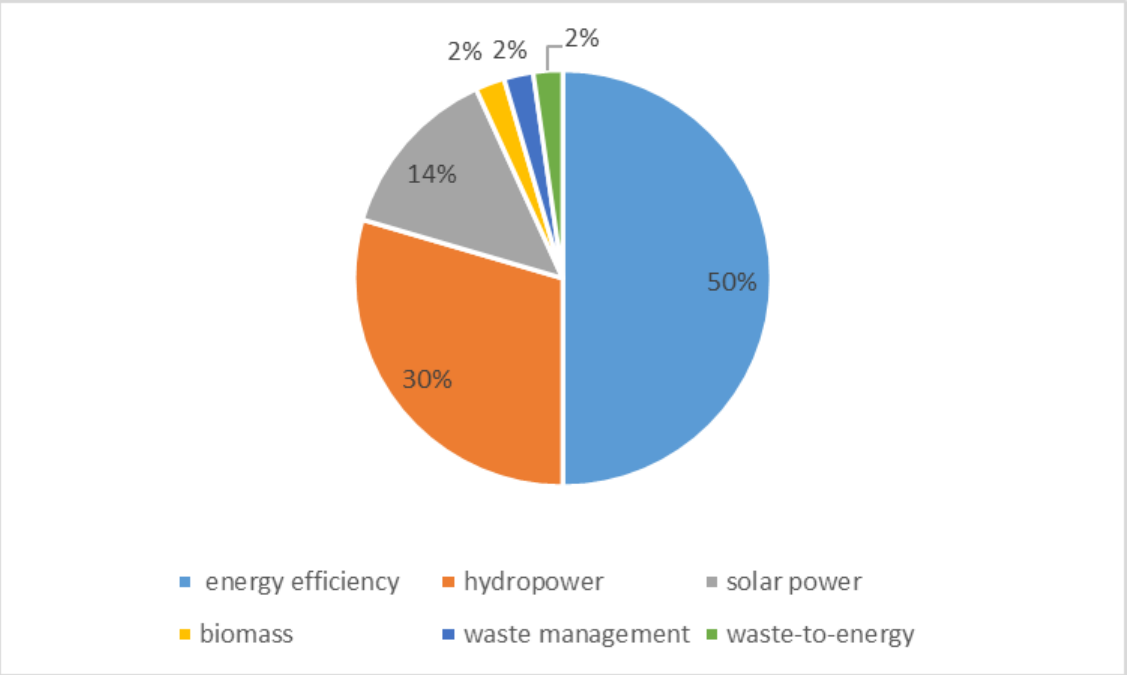

Figure 10: Sectoral distribution of projects registered in Viet Nam under VCS

Source: The Consultant, elaborated based on VCS, 2025

II.4.1.3. Global Carbon Council (GCC)

GCC is an international carbon credit and sustainable development program established in 2016 by the Gulf Organisation for Research and Development (GORD). It focuses on low-carbon development, particularly in developing countries, by certifying projects that demonstrate additionality in GHG emission reduction or removal while ensuring no net harm to the environment and society. Projects meeting GCC standards are issued tradable carbon credits, which can be used by governments and companies to fulfil NDCs or trade ITMOs. GCC supports various sectors, including renewable energy, methane avoidance, energy

efficiency, waste management, transport, and nature-based solutions, contributing to the Paris Agreement's goals and the United Nations Sustainable Development Goals (SDGs).

As of March 2025, a total of 131 GCC projects have been successfully registered worldwide. Among them, Viet Nam has registered 15 projects, accounting for approximately 10% of the global total, with a combined emissions reduction potential of 1,741,619 tCO_2e per year (GCC, 2025). No credits have yet been issued from these projects. In addition to the registered projects, Viet Nam has 35 projects currently awaiting registration (GCC, 2025). These projects have a total emissions reduction potential of up to 9,326,025 tCO_2e per year (GCC, 2025), highlighting Viet Nam's increasing engagement and commitment to expanding its participation in global carbon markets.

Among the projects that have been developed and successfully registered in Viet Nam, there are 10 solar power projects and 5 wind power projects. This translates to a sectoral distribution of 67% solar power and 33% wind power among Viet Nam's registered projects under GCC.

II.4.2. Governance framework for projects under voluntary carbon standards in Viet Nam

Viet Nam has recognised the role of VCM and has reported data on registered projects and issued credits under voluntary carbon standards in their national communications, biennial update reports to the UNFCCC since 2017. However, there have been no specific domestic regulations to manage the development of VCM projects in Viet Nam.

While double-counting at project level is strictly controlled by the various VCM standards, there remains a risk of double-claiming, where carbon credits could be claimed simultaneously by private entities and by the Government toward national NDC targets. To address this regulatory gap, the Government issued Decree No. 06/2022/ND-CP on 07 January 2022, governing GHG emissions reduction and ozone layer protection. Under item 5, Article 20 of the Decree, project participants engaged in VCM activities are required to provide registration information and submit annual reports on project status and results.

The development of the international carbon market under Article 6 of the Paris Agreement, along with the emerging possibility of transferring VCM credits with corresponding adjustments, has created an urgent need for Viet Nam to develop more stringent regulatory frameworks. Therefore, in addition to revision of Decree No. 06/2022/ND-CP, MAE is developing a draft of a new Governmental Decree on the management of international carbon credit trading to provide further details on these aspects. The findings of this study will serve as critical inputs for shaping the approaches for the formulation of this forthcoming Decree.

II.4.3. Lessons learned from governance of projects under voluntary carbon standards in Viet Nam

The governance of projects under voluntary carbon standards in Viet Nam reveals critical gaps that need to be addressed to promote the development of VCM projects. At present, Decree No. 06/2022/ND-CP provides only a basic reporting requirement for VCM projects,

without offering a comprehensive framework for their regulation or integration into national climate strategies.

To support the evolving international landscape, particularly under Article 6.2 of the Paris Agreement, it is necessary to establish a clear and comprehensive policy framework to govern the generation, transfer and use of VCM credits. Such a framework should address credits intended for use toward NDCs, compliance with international schemes like CORSIA, and voluntary offsetting activities requiring corresponding adjustments. Clear regulatory guidance would send a strong signal to investors, reduce investment risks, and encourage private sector engagement in VCM project development.

Moreover, an effective VCM governance system would allow Viet Nam to leverage the operational flexibility and methodological diversity of voluntary carbon standards, thus avoiding the lengthy and resource-intensive processes associated with developing new methodologies and establishing complex registration and issuance procedures. Strengthening the governance of VCM activities will not only facilitate voluntary mitigation actions but also enhance Viet Nam's ability to meet its NDC targets and progressively raise its mitigation ambition over time in line with global climate commitments.

II.5. Article 6 collaborative approaches

Building on existing experiences with carbon crediting mechanisms such as CDM, JCM, and voluntary carbon standards, the Paris Agreement introduces a new generation of market-based approaches under Article 6 to enhance international cooperation in climate mitigation. These mechanisms are designed to promote higher ambition and cost-effective emission reductions by enabling countries and non-state actors to collaborate through the transfer of mitigation outcomes. Article 6 offers two distinct but complementary pathways: Article 6.2, which facilitates bilateral or plurilateral cooperative approaches through the transfer of ITMOs, and Article 6.4, a centralised crediting mechanism overseen by the UNFCCC. Differences between Article 6.2 and Article 6.4 are shown in Table below.

Table 2: Article 6.2 and Article 6.4 mechanisms comparison

Feature	Article 6.2 mechanism	Article 6.4 mechanism
Purpose	To allow the use of internationally transferred mitigation outcomes (ITMOs) towards NDCs, or other international mitigation purposes or other purposes (hereafter referred to as other mitigation purposes)	To generate emission reductions that can be used by other Parties toward their NDCs or other mitigation purposes
Structure	Bilateral or plurilateral cooperation among Parties	Centralised UNFCCC-supervised mechanism

Governance	Governed by participating Parties, under guidance from the Conference of the Parties	Supervised by a body designated by the Conference of the Parties (COP)
Credit type	International transfers of mitigation outcomes (ITMOs)	Article 6.4 Emission Reductions (A6.4ER)
Legacy Project Transition	Not specifically mentioned	CDM projects under the Kyoto Protocol may be transitioned into the Article 6.4 mechanism if they meet eligibility criteria

Source: The Consultant based on the Paris Agreement and CMA decisions, 2025

II.5.1. Article 6.2

Article 6.2 allows countries to engage in bilateral or plurilateral exchanges of mitigation outcomes and use them toward their NDCs, or international mitigation purposes such as Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) or other purposes (together called other international mitigation purposes). The framework provides modalities and guidance to ensure environmental integrity and transparency, particularly through the application of corresponding adjustments. In addition, Article 6.2 may also accommodate voluntary offsetting schemes that require corresponding adjustments, thereby expanding the scope of international cooperation under this mechanism.

Viet Nam has not yet formally formulated any regulations related to Article 6.2 to date. However, the country has been actively engaging in bilateral cooperation aimed at emission reductions and low-carbon development, laying the groundwork for future Article 6.2 collaborative approaches.

The existing cooperation framework under JCM with Japan is broadly aligned with the cooperative approaches envisioned under Article 6.2. Both countries are currently engaged in discussions to operationalise JCM within the Article 6.2 framework, including the application of corresponding adjustments.

In addition to its partnership with Japan, Viet Nam has initiated bilateral dialogues on climate cooperation with other countries, including South Korea and Singapore, both of which have expressed interest in international carbon markets under Article 6.2. These discussions signal a growing openness to collaborative approaches involving the transfer of mitigation outcomes and highlight Viet Nam's strategic positioning to attract investment and technical assistance in support of its climate goals.

- **Singapore**: Viet Nam and Singapore have established a bilateral partnership under Article 6.2 of the Paris Agreement to facilitate the transfer of mitigation outcomes in support of their respective climate targets. In October 2022, the two governments signed a Memorandum of Understanding (MoU) on carbon credit collaboration, signalling their shared commitment to developing joint mitigation activities consistent with Article 6.2 provisions, including corresponding adjustments. This

collaboration underscores Viet Nam's proactive engagement in international carbon markets and highlights both countries' pursuit of high-integrity, market-based climate solutions.

- **Korea**: Viet Nam and South Korea are advancing cooperation under Article 6.2 through bilateral dialogue and formal agreements. A 2023 MoU on climate change cooperation outlines areas of collaboration, including carbon crediting and the development of joint mitigation projects. The agreement sets the stage for implementing Article 6.2-compliant initiatives, reinforcing both countries' efforts to meet their NDCs while strengthening technical and financial ties in the shift toward a low-carbon future.

While regulatory frameworks are still under development, these early cooperative efforts demonstrate Viet Nam's readiness to explore and shape bilateral mechanisms aligned with Article 6.2 and serve as important precursors to the establishment of formal domestic rules to govern international carbon credit transactions.

II.5.2. Article 6.4

Article 6.4 of the Paris Agreement establishes a centralised market-based mechanism under the supervision of the Article 6.4 Supervisory Body, designed to support both GHG mitigation and sustainable development. As a successor to CDM under the Kyoto Protocol, Article 6.4 introduces more rigorous safeguards to ensure environmental integrity, including requirements for additionality, corresponding adjustments, and demonstration of sustainable development. Unlike Article 6.2, which facilitates bilateral or plurilateral cooperation between Parties, the Article 6.4 mechanism enables private and public actors to generate Article 6.4 Emission Reductions (A6.4ERs) that may be authorised for use toward NDCs or other international mitigation purposes.

Viet Nam, with its substantial portfolio of registered CDM projects, is well-positioned to benefit from the transition to Article 6.4. Moreover, the country's NDC outlines a set of conditional mitigation measures, i.e., those dependent on adequate international support, explicitly recognising mechanisms under the Paris Agreement as a potential source of climate finance. This creates a strong foundation for leveraging Article 6.4 mechanism (as well as Article 6.2 collaborative approaches) to scale up climate action, attract investment, and enhance the implementation of the NDC.

II.5.2.1. CDM transition to Article 6.4

Out of the 258 PAs and 16 PoAs registered under the CDM in Viet Nam, 38 PAs and 7 PoAs have submitted transition requests by 31 December 2023 through the UNFCCC web portal. The DNA of Viet Nam would need to decide whether to approve the transition of these activities to the Article 6.4 mechanism by no later than 31 December 2025.

The following table presents the projects eligible for the transition, along with the estimated volume of potential A6.4ERs generated post-2021, based on the adjusted crediting period requirements under Article 6.4.

Table 3: CDM projects submitted transition requests and emission reduction potential

Project type			Number of projects	Potential ERs for 2021 – 2030 (tCO_2e)
Renewable energy	Hydro, installed capacity > 30 MW	PA	8	17,986,523
	Hydro, installed capacity <= 30 MW	PA	21	11,975,389
		PoA	2	1,295,556
	Solar	PA	3	2,322,960
		PoA	1	1,691,179
	Wind	PA	1	2,938,140
	Mix renewables	PoA	1	0
	Biomass energy	PA	1	53,161
		PoA	1	266,733
Energy efficiency in households	Cookstove	PoA	1	4,791,703
	Water purification	PoA	1	0
Methane avoidance and landfill gas recovery	Methane avoidance	PA	4	1,967,874
Total	**All**		**45 (38 PA & 7 PoA)**	**45,289,218**
	Excluding hydro with installed capacity > 30 MW		**33 (30 PA & 7 PoA)**	**27,302,695**

Source: The Consultant, elaborated based on UNEP-CCC, 2025

Share of potential ER for 2021-2030 by project types is shown in Figure below:

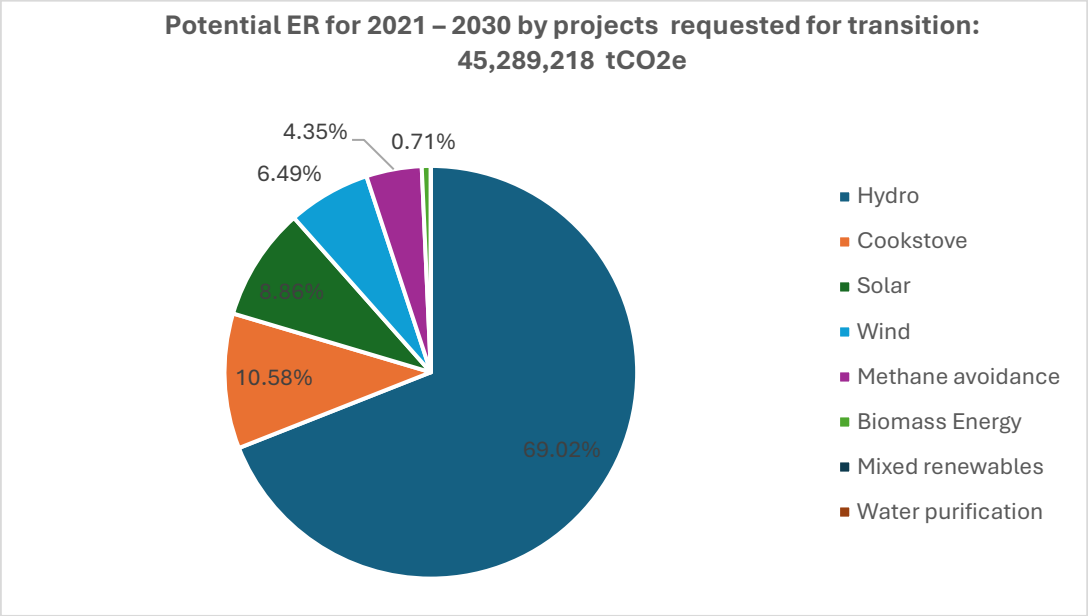

Figure 11: Potential ERs for 2021-2030 by projects requested for transition in Viet Nam (tCO_2e)

Source: The Consultant, elaborated based on UNEP DTU, 2022

The total potential volume of A6.4ERs accruing through 2030 is substantial, reaching an estimated 45 million tCO_2e. The distribution of potential A6.4ERs by project type is noteworthy: Hydropower projects account for the largest share, followed by cookstove, solar, wind, and methane avoidance initiatives.

Among the projects submitted for transition, 31 are currently active, with a total of 16,683,240 tCO_2e issued in the 2009-2020 period. Their potential emission reductions over the 2021-2030 period are estimated at 36,162,848 tCO_2e, representing approximately 79.8% of the projected volume from all transition-submitted projects. The remaining projects are currently inactive, i.e., no issuance activities.

Furthermore, only 4 CDM PAs and 4 PoAs out of those projects were registered after 1 January 2013, making their CERs eligible for use toward NDCs. These eligible activities have issued a total of 625,492 pre-2021 CERs and an estimated volume of 9,356,263 projected for post-2020 period.

II.5.2.2. Potential Article 6 activities

As Article 6 of the Paris Agreement is designed to support countries in achieving their NDCs, sectors and project types considered under Article 6 mechanisms should align with the mitigation priorities outlined in Viet Nam's NDC.

The 2022 NDC of Viet Nam identifies the contribution of individual sectors to the overall national GHG emission reduction targets and estimated financial support as follows:

Table 4: Sectoral contribution and financial need in Viet Nam's NDC

Sector	Emission reduction under Unconditional Contribution			Emission reduction with additional international support			Emission reduction under Conditional Contribution		
	Compare to BAU (%)	Amount ($MtCO_2e$)	Additional financial demand (million USD)	Compare to BAU (%)	Amount ($MtCO_2e$)	Additional financial demand (million USD)	Compare to BAU (%)	Amount ($MtCO_2e$)	Additional financial demand (million USD)
Energy	7.0	64.8	14,464.4	17.5	12.2	46,097.0	24.4	227.0	60,561.4
Agriculture	1,3	12.4	2,122.8	4.1	38.5	13,979.4	5.5	50.9	16.102.2
LULUCF[1]	3.5	32.5	3,927.4	1.5	14.1	1,567.4	5.0	46.6	5,494.9
Waste	1.0	8.7	916.6	2,2	20.7	1,809.5	3.2	29.4	2,726.1
Industrial processes (IP)	3.0	27.9	310.0	2,4	21.9	1,640.2	5.4	49.8	1,950.1
Total	**15.8**	**146.3**	**21,741.2**	**27.7**	**257.4**	**65,093.4**	**43.5**	**403.7**	**86,834.7**

Source: The Government, 2022

While Viet Nam has committed to reducing its GHG emissions by 15.8% by 2030 compared to the Business-As-Usual (BAU) scenario through domestic efforts, the country's ambition can be significantly enhanced with adequate international support. If provided with financial resources, technology transfer, and capacity-building assistance through bilateral and multilateral cooperation frameworks, especially mechanisms under the UNFCCC and the Paris Agreement, such as Article 6, Viet Nam can raise its total GHG emission reduction target to 43.5% by 2030. This represents an increase of 27.7 percentage points or an additional reduction of 257.4 $MtCO_2e$, effectively nearly tripling the country's unconditional contribution.

To achieve the above targets, the 2022 NDC Technical Report identifies corresponding mitigation measures in individual sectors, which are classified into three categories:

- Mitigation measures contributing to the unconditional NDC target only (22 measures)
- Mitigation measures contributing to the conditional NDC target only (19 measures)
- Mitigation measures contributing to both unconditional and conditional NDC targets (37 measures)

Details of the mitigation measures under the Technical NDC 2022 are presented in Annex 1 of this Report, while details of the specific project types under each category and their share of unconditional and conditional contributions are provided in Annex 2 of this Report.

II.5.3. Governance framework for Article 6 in Viet Nam

Viet Nam has demonstrated strong political will and early engagement in cooperative climate actions under Article 6 of the Paris Agreement. This includes active participation in bilateral partnerships under Article 6.2 with countries like Japan, Singapore, and South Korea, as well as exploring the transition of legacy CDM projects into the centralised mechanism of Article

[1] Increasing GHG removal

6.4. However, while these collaborative efforts signal readiness and strategic positioning, the country still lacks a comprehensive governance framework to manage the international transfer of mitigation outcomes and carbon credits effectively.

The current legal framework for climate mitigation in Viet Nam, as set out in Decree 06/2022/ND-CP, lacks specific provisions governing the international transfer of carbon credits and mitigation outcomes under Article 6 of the Paris Agreement. While the Decree articulates general principles, such as the need for emission reductions to align with national socio-economic conditions, existing legal frameworks, and international treaties, it does not provide operational guidance or institutional arrangements for engaging in international carbon markets.

With the attempt to partly address this gap, Decree 119/2025/ND-CP amending, supplementing some articles of Decree 06/2022/ND-CP introduces several important additions aimed at facilitating Viet Nam's participation in Article 6 mechanisms. The key revisions include:

- Introducing definitions for Article 6.2 and Article 6.4 in the section on interpretation of terms;
- Establishing provisions for a national registry system for GHG emission allowances and carbon credits;
- Creating a framework for a national Monitoring, Reporting and Verification (MRV) system and an associated online database to track GHG emission reductions;
- Setting out administrative procedures for the registration and approval of projects and programs under Article 6.4, including approval for transitioning eligible CDM projects into Article 6.4;
- Setting out administrative procedures for the authorisation of carbon credits and mitigation outcomes for international transfer;
- Including an Annex listing eligible mitigation measures and activities encouraged under international crediting and offsetting mechanisms.

While these proposed revisions represent a necessary step forward, they remain limited in scope and primarily focus on definitions and procedural aspects. Several critical governance gaps persist:

- Absence of eligibility criteria: Decree 119/2025/ND-CP does not specify clear eligibility criteria for project selection under Article 6, which is essential to ensure alignment with national priorities and the integrity of transferred mitigation outcomes.
- Lack of strategic guidance: There is no overarching strategy to guide Viet Nam's engagement in Article 6 activities, especially a framework to avoid overselling of credits that could undermine domestic climate targets.
- Environmental integrity and safeguards: Decree 119/2025/ND-CP does not yet address key principles such as additionality, avoidance of double counting, benefit-sharing, or sustainable development contributions, issues that are essential for high-integrity participation in Article 6 mechanisms.

- Institutional roles and responsibilities: The amendment lacks clarity on the roles and mandates of key institutions in authorising, tracking, and overseeing the international transfer of mitigation outcomes.

A table comparing Decree 06/2022/ND-CP and Decree 119/2025/ND-CP and the remaining gaps to be addressed in terms of the governance framework for Article 6 is provided in Annex 2 of this Report.

To ensure that Viet Nam can fully benefit from the opportunities presented by Article 6, including access to results-based climate finance and support for enhanced ambition, it is essential to establish a comprehensive governance framework that goes beyond administrative procedures. This should include clear institutional mandates, strategic planning for credit issuance and transfer, robust MRV and registry systems, and safeguards to ensure transparency, accountability, and alignment with the country's NDC objectives.

The following sections build upon the above assessment by analysing international demand drivers, reviewing governance practices in selected comparable countries, identifying key principles for the effective management of carbon credits, and developing different governance options and strategy for international trading under Article 6 which are consistent with Viet Nam's NDC targets and requirements for corresponding adjustments.

III. IDENTIFY POTENTIAL DEMAND FROM THE INTERNATIONAL CARBON MARKET FOR THE CARBON CREDITS AND MITIGATION OUTCOMES FROM VIET NAM

This Chapter examines international demand across three key buyer categories: countries pursuing NDC compliance, corporate entities with voluntary climate targets, and airlines participating in CORSIA.

As such, the subsections will be organised according to each buyer category:

- Buyer countries purchasing ITMOs for NDC compliance
- Corporate buyers purchasing carbon credits to meet voluntary corporate targets (i.e. VCM)
- Airlines purchasing ITMOs for CORSIA compliance

For each buyer category, the analysis comprises the (i) global overview of the carbon credit demand (under that buyer category), and the (ii) buyer-specific considerations, demand and requirements. The buyer-specific considerations, demand, and requirements are further analysed differently across buyer categories, as presented in the table below.

Table 5: Approach for analysing buyer-specific considerations, demand and requirements

Buyer category	Consultant's approach to analysing buyer-specific considerations, demand and requirements
Buyer countries purchasing ITMOs for NDC compliance (Section III.1)	By individual prominent buyer countries: • Japan (Section III.1.2.1) • South Korea (Section III.1.2.2) • Singapore (Section III.1.2.3) • Switzerland (Section III.1.2.4) • Sweden (Section III.1.2.5) • Norway (Section III.1.2.6) • New Zealand (Section III.1.2.7) Under each country, the analysis is further broken down into: a. NDC profile b. Article 6 participation policies, including cumulative demand (by 2030) c. ITMO procurement methods d. ITMO price ranges or proxies e. Preferences and requirements pertaining to project types, carbon standards and methodologies, project development cycle (e.g. timelines, key steps)
Corporate buyers purchasing carbon credits to meet voluntary corporate targets (Section III.2)	By an internationally recognised VCM initiative for corporates: • Corporates' use of carbon credits and associated climate claims: Integrity Council on Voluntary Carbon Markets (ICVCM) (Section III.2.2.2) • Corporate emission reduction targets: Science Based Targets initiative (SBTi) (Section III.2.2.3)

Airlines purchasing ITMOs for CORSIA compliance (Section III.3)	By CORSIA requirements: • ITMO price ranges or proxies (Section III.3.2.1) • Preferences and requirements pertaining to carbon standards, methodologies and project types (Section III.3.2.2)

Source: The Consultant, 2025

Pertaining to the second buyer category in the discussion and analysis of the demand for carbon credits in the VCM, it is important to clarify the purpose of corresponding adjustments and their relevance for carbon credits transacted in the VCM and used (i.e. retired) for the purpose of making voluntary claims. Corresponding adjustment is a requirement under the Paris Agreement for two very specific uses of the carbon credit – towards (1) another country's NDC and (2) other international mitigation purposes (OIMP) like CORSIA. And because the Paris Agreement governs how countries achieve their targets and NDCs, the trading of carbon credits for those uses requires a corresponding adjustment to avoid double-counting.

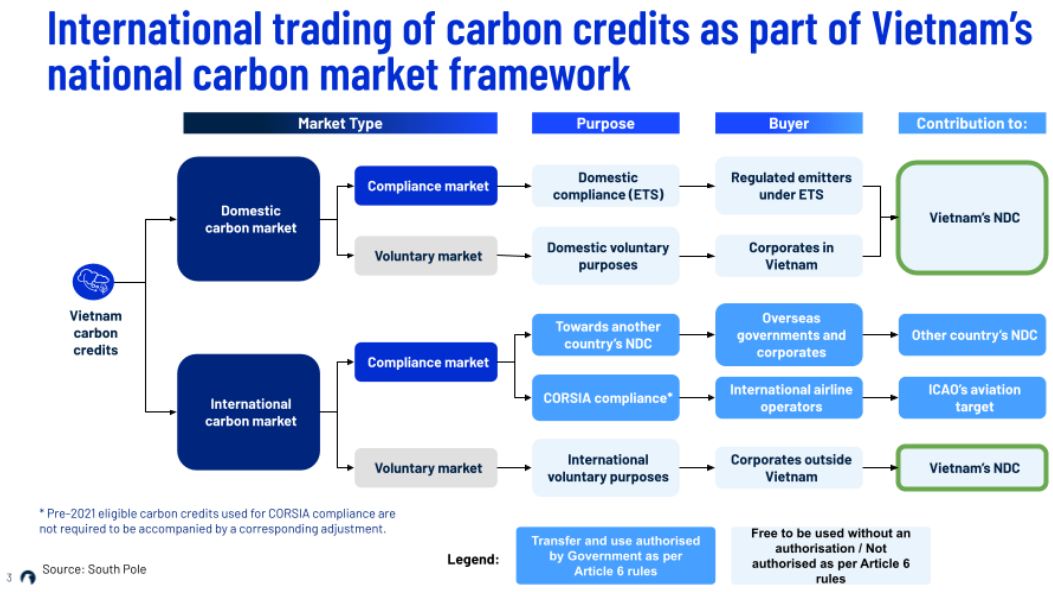

Figure 12: International carbon trading

Source: South Pole, 2023

Carbon credit trading under the VCM and environmental claims that companies make when using the carbon credits are not governed by the Paris Agreement, and hence corresponding adjustment is not needed. The impact of an emission reduction (linked to the issuance of the carbon credit through the carbon project activity) in a country will be reflected in the country's emissions inventory, i.e. reduction of the level of GHG emissions in the national inventory, in line with the IPCC Guidelines for National GHG Inventories. Meanwhile, the use of a carbon credit to make an environmental claim on a voluntary basis by a company does not change the GHG inventory of the country where it operates, and there is therefore no need for making adjustments. Therefore, this means that the VCM and the financing that

comes with the purchase of carbon credits on a voluntary basis by companies contributes to the implementation of the NDCs of the host countries.

To conclude, different uses of carbon credits call for different requirements, the corresponding adjustments being one for uses covered by the Paris Agreement. To that end, the quality of a project is not guided by whether the carbon credits are correspondingly adjusted, but by the carbon standard and methodology, and other various parameters e.g. sustainable development contribution, which are assessed by rating agencies.

III.1. Buyer or Acquiring Countries towards NDC compliance

III.1.1. Global overview of ITMO demand for NDC compliance

The international carbon market provides opportunities for countries to use carbon credits to meet their climate targets set out in their NDC. It is enabled by Article 6 of the Paris Agreement, which allows countries to cooperate by transferring carbon credits from host countries to buyer countries. Under such a mechanism, carbon credits are transacted as ITMOs – credits that are authorised by the host (seller) country government, where corresponding adjustments apply. ITMOs can be acquired by buyer countries through two market-based approaches (Granziera et al., 2024):

- Article 6.2 (Cooperative approach): Countries can trade Article 6 units bilaterally or multilaterally. The buyer country purchases ITMOs from the host country through bilateral agreements and reports the transaction to the UNFCCC. Moreover, the unilateral authorisation of ITMOs by a host country for other international mitigation purposes (OIMP) (which includes CORSIA compliance for airlines) also falls under Article 6.2, cooperative approaches.
- Article 6.4 (Paris Agreement Crediting Mechanism – PACM): Countries can also trade ITMOs in a centralised mechanism supervised by the UN body. It is known as the successor to the Kyoto Protocol's CDM, with the Supervisory Body approving methodologies, registering projects, managing the registry, etc.

There are two types of ITMO demand coming from an acquiring country based on the entity that is purchasing the ITMOs, namely, (1) corporate compliance demand and (2) government, i.e. sovereign demand. The corporate compliance demand comes from organisations in the acquiring country that are obligated to comply with domestic carbon pricing schemes and are allowed to use ITMOs as an alternative compliance method. Meanwhile, sovereign demand directly comes from national governments seeking to meet the NDC shortfall or overachieve the country's NDC targets (Malvar et al., 2024). These two demands are important to differentiate because of the different ITMO purchase, i.e. procurement approaches and the counterparty in an ITMO purchase agreement, i.e. private corporations or public sector-related organisations.

Currently, seven countries have shown interest in procuring or have purchased ITMOs, mainly via Article 6.2 cooperative approaches, for their NDC compliance. The total potential cumulative demand from these seven countries, Japan, South Korea, Singapore, Switzerland, Sweden, and New Zealand, is estimated to be 243.6-293.6 $MtCO_2e$ in 2030 (see figure below).

Norway's ITMO demand has not been announced and could not be ascertained at this point, hence, Norway is not covered in the figure below.

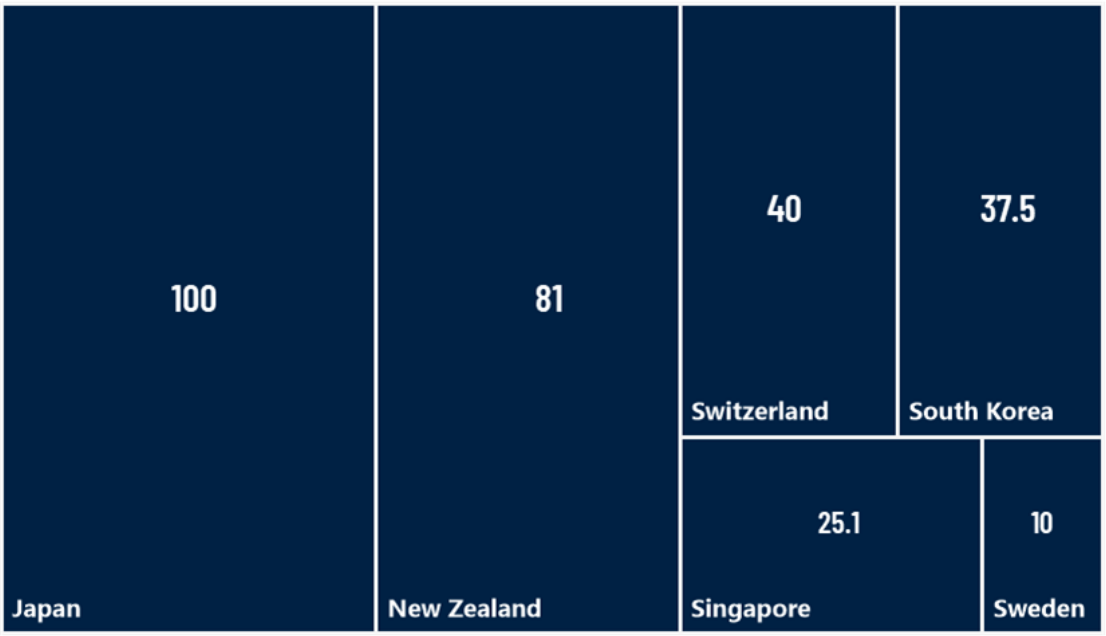

Figure 13: ITMO demand of acquiring countries for NDC compliance ($MtCO_2e$)

Source: South Pole, 2024, based on Government of Japan, 2022, Carbon Pulse, 2023, KIEP, 2023, Government of Singapore, 2024, Perspectives, 2021

This total potential cumulative demand is calculated through a 'bottom-up' approach, meaning that we analysed and forecasted each country individually based on the government data and reports, while factors that influence the demand were discussed in detail in the following sections. This demand estimate is likely to be an underestimate as countries such as Kuwait, Monaco, Liechtenstein and the United Arab Emirates, who have commenced discussions on Article 6 bilateral cooperation with countries such as Paraguay, Tunisia, Rwanda, Ghana (A6IP, 2024) , have not announced their ITMO demand quantities.

Each acquiring country's demand in terms of quantity for ITMOs is mainly influenced by the size of the shortfall, i.e., the gap to achieve the NDC target, and the government's intention to overachieve its NDC target. For instance, New Zealand is forecast to have a shortfall of 40-81 $MtCO_2e$ in order to achieve its target of reducing GHG emissions to 50% below gross 2005 levels by 2030 (Carbon Pulse, 2023a). Similarly, Japan aims to generate up to 100 $MtCO_2e$ credits to cut emissions by 46% below 2013 levels in 2030 through its JCM (Government of Japan, 2022a). In contrast, Norway plans to use ITMOs to fulfil the part that goes beyond what is achieved through climate cooperation with the European Union (Government of Norway, 2024c).

Meanwhile, acquiring countries do have an internal view on the ITMO price ceiling as well, above which means that it is not likely to be economically sensible (i.e. cost-effective) to procure ITMOs. This ITMO price ceiling is mainly defined by the price levels of the domestic carbon pricing scheme. For countries such as Singapore with a carbon tax scheme, this ITMO price ceiling is more well-defined and apparent, as this is based on the prevailing carbon tax

rate. On the other hand, for countries such as South Korea with an ETS, the prices of the allowances and domestic offsets would be less apparent and subject to market fluctuations. For example, in the South Korea ETS, the ITMO price ceiling would be guided by the prevailing as well as expected price levels of the (1) allowances, Korean Allowance Unit (KAU), (2) domestic offsets, Korea Offset Unit (KOC) and (3) overseas offsets, Korean Credit Unit (KCU).

The following section will discuss each acquiring country's demand size, approach, and preferences in more detail.

Furthermore, the outcomes from COP29 on the Article 6.4 mechanism could also ramp up the demand for ITMOs, as supply can be available through a centralised market mechanism. This will involve credits generated by activities using CDM after the transition, based on the submissions received by the Article 6.4 Supervisory Body. According to the UNFCCC database (UNFCCC, n.d), as of March 2025, 12 host countries have submitted their participation form for the Article 6.4 Mechanism. Among those, Bangladesh, Bhutan, Dominican Republic, Ghana, and Myanmar have approved transition requests from several eligible CDM projects, amounting to the potential reduction of 71 $MtCO_2e$ (UNEPCCC, n.d).

III.1.2. Buyer-specific considerations, demand and requirements (by country)

In this section, the overall Article 6 participation policies, preferences and requirements of seven ITMO buying countries, namely Japan, South Korea, Singapore, Switzerland, Sweden, Norway and New Zealand and how they shape the potential demand for ITMOs from Vietnam are analysed. As compared to other countries such as Kuwait, Monaco, Liechtenstein and the United Arab Emirates, which have demonstrated interest in Article 6.2 cooperative approaches as an acquiring country, these seven countries have more established Article 6.2 strategies and approaches.

Nonetheless, it is important to state at this point that given the varying level of details of the information available in public sources for these seven countries, the information provided for some countries may not be as granular as compared of the other countries. Therefore, not all seven countries will be covered consistently to the same level of detail, but to the best of the Consultant's ability based on available information.

III.1.2.1. Japan

a. NDC profile

JAPAN	
Target	Reduce emissions by 46% from 2013 baseline by 2030
Sectors	Energy, industry, waste, agriculture, FOLU
GHGs covered	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3

Source: Government of Japan, 2022

b. Article 6 participation policies, including cumulative demand (by 2030)

Japan is considered a pioneer in market-based cooperative approaches. Japan has been engaging with the international market since the Kyoto Protocol era and before the

conclusion of the Paris Agreement, leading up to the establishment of JCM between 2011 and 2013.

The JCM is a system to facilitate and implement the bilateral cooperation between Japan and developing countries, and its aim is to facilitate the diffusion of leading decarbonisation technologies and infrastructure through investment by Japanese entities, which contribute to the reduction or removal of GHG emissions (MOFA Japan, 2024). The JCM has traditionally involved financial support from the Japanese government, and in order to promote the development of JCM projects invested and implemented by private corporations (without government financial support) for the purpose of obtaining JCM credits, the Japanese government has launched the private-sector JCM. This ensures that Japanese corporations that have invested and implemented the overseas JCM project would obtain a greater share of the authorised carbon credits under the JCM, and these JCM credits could be used to meet the compliance obligations under the national (voluntary) emission trading system GX-ETS.

As Japan has signed JCM cooperation agreements with many partner countries prior to the conclusion of the Article 6 rules at COP26 in November 2021, JCM implementation is currently evolving to align with the rules of Article 6.2 of the Paris Agreement, and to validate JCM credits as ITMOs under Article 6.2, allowing both Japan and the host country to use the credits towards their NDC targets.

For JCM projects that are approved and implemented prior to the conclusion of the Article 6 rules at COP26 in November 2021, several discussions are ongoing to revisit the agreements to align them with Article 6 rules, such as with Thailand, Chile, and Indonesia (IISD, 2023). In particular, Japan and Indonesia have recently agreed on the Mutual Recognition Arrangement (MRA), which now mandates all JCM projects to be registered in the Indonesian National Registry System and use the Indonesian Emission Reduction Certification (SPEI) system (MOE Indonesia, 2024). With regard to JCM in Viet Nam, discussions are currently underway between both countries to align the JCM policy with Decree No. 119/2025/ND-CP amending and supplementing Decree No. 06/2022/ND-CP, and the forthcoming draft Decree relating to the international transfer of carbon credits and mitigation outcomes, i.e. Article 6 cooperative approaches (MAE, 2024).

The JCM cooperation must follow the following requirements (Carbon Markets Express, n.d):

- Promoting sustainable development: The bilateral agreement must describe how the partnership contributes to the achievement of sustainable development;
- Ensuring environmental integrity: Ensuring environmental integrity by promoting additional GHG emission reductions through the project implementation, applying a conservative calculation method, and setting the eligibility criterion in addressing the environmental impact;
- Ensuring transparency: All information must be publicly available on the JCM website;
- Robust accounting (avoidance of double counting): Avoiding double counting in accordance with Article 6 guidelines.

Furthermore, with the more detailed Article 6 rules finalised at COP29, the Government of Japan is exploring revising requirements for overseas project developers so that JCM is more aligned with the decisions relating to Article 6 arising from COP29, and these requirements

pertain to functions such as verification and registration. At the Fourth Joint Crediting Mechanism Global Partnership Meeting held in February 2025, the government proposed new JCM approval procedures and submission to align with the Paris Agreement in order to use JCM credits as ITMOs for NDCs (MoE Japan, 2025).

Cumulative demand: In its 2021 NDC (Government of Japan, 2022a), Japan commits to contributing to international emission reductions and removals of 100 $MtCO_2e$ by 2030 through public-private collaborations under its JCM scheme and will count the acquired credits to achieve its NDC.

As of December 2024, there are 264 projects (A6IP, 2024) under the JCM, and out of those, 47 projects have 770,309 tCO_2e to be issued (Government of Japan, 2024a). According to the latest report by Paris Agreement Article 6 Implementation Partnership (A6IP), Viet Nam is one country with the highest number of JCM projects, tied with Indonesia at 54 JCM projects (A6IP, 2024). In contrast, there are currently 115 projects listed on the JCM website, in various stages from validation to registered status (A6IP, 2024). Therefore, the count of 54 projects by the A6IP report includes projects that are currently in the pre-validation stages and under the various financing programmes funded by the Japan Government (Government of Japan, 2024b).

Based on the list of projects under the JCM Financing Programme by Ministry of the Environment of Japan (MOEJ) as of 6 December 2024, the 255 projects combined are estimated to generate an estimated 3,155,554 tCO_2e/year (Government of Japan, 2024c). Assuming that these 255 projects all have a crediting period that covers the full NDC period of 1 January 2021 to 31 December 2030, these projects could cumulatively generate 31.56 $MtCO_2e$ over the NDC period, leaving Japan with a shortfall of 68.44 $MtCO_2e$. Nonetheless, this estimate is expected to be a lower-bound estimate, considering that many countries, including Viet Nam will be implementing policies such as reserving a share of the emission reductions (or removals) for domestic NDC compliance, and not all of these projects have been registered under the JCM. For example, Indonesia specifies 10% as the minimum threshold for the share of JCM credits that would contribute towards Indonesia NDC, in their agreement with Japan (JCM, n.d a).

c. ITMO procurement methods

As explained above, Japan, as a country acquires ITMOs through the JCM. As such, the procurement process and procedures follow the JCM procedures whereby Japan, together with the partner country establishes a joint committee upon the signing of a bilateral agreement with the host country. The Joint Committee is composed of government officials from both countries, and the Joint Committee is responsible for developing or modifying the Rules of Implementation and other rules and guidelines necessary for the implementation of JCM (JCM Vietnam - Japan, n.d). This includes the evaluation of the mitigation project and the decision on the proportion of credits to be issued to each country. Unique to the JCM is the submission of the project methodology to the Joint Committee for approval by the project proponent. This means that the methodology can be customised to the project's context and circumstances. On the other hand, this presents as an additional step to the JCM project cycle (for any new project where there is no existing approved methodology under

the JCM) and could potentially lengthen the project approval process should the Joint Committee convene infrequently.

The JCM credits can be used by the government towards NDC commitments and/or Japanese compliance entities for use in the Japan GX-ETS (MOFA Japan, 2024). Also, as explained above, there are two variations of the JCM, the JCM and the private-sector JCM. The main difference, apart from whether there is financing support from the Government of Japan, lies in the JCM project cycle. For the private-sector JCM, there is an additional procedure where the project developer is required to submit a PIN to the Joint Committee to obtain confirmation from the Joint Committee that there is no objection prior to the implementation of the JCM project (Government of Japan, 2024b). The PIN includes the project details as well as the proposed JCM credit allocation plan (JCM, n.d b).

Figure 14: Project cycle for the JCM (left) and Private-sector JCM (right)

Source: GEC, 2024 and GEC, n.d.

d. ITMO price ranges or proxies

Based on the GX-ETS where JCM credits could be used for compliance, the willingness to pay for the JCM credits would be influenced by the prices of the domestic offset credits, i.e. J-Credits from the J-Credit Scheme (Japan METI, n.d). As of 27 December 2024, the prices of the J-Credits (differentiated by different project types) were traded at a price range between 2,600 and 6,100 JPY/tCO_2e (16.55-38.83 USD/tCO_2e (xe, n.d.)) (Japan Exchange Group, 2024). For example, energy saving credits are traded at 1,473-1,547 JPY/tCO_2e (9.3-9.8 USD/tCO_2e (xe, n.d.)), renewable energy credits at 1,851 JPY/tCO_2e (11.7 USD/tCO_2e (xe, n.d.)), and solar credits at 3,077 JPY/tCO_2e (19.4 USD/tCO_2e (xe, n.d.)) (NRI, 2024).

Under the Financing Programme for JCM Model Projects, MOEJ defines cost-effectiveness as the amount of financial support to reduce 1 tCO_2e. According to the latest JCM guidebook for FY2024, the financing support is capped at 4,000 JPY/tCO_2e (26 USD/tCO_2e (xe, n.d.)) for the project if the number of similar technological projects in a partner country is less than 5, and reduced to 3,000 JPY/tCO_2e (20 USD/tCO_2e (xe, n.d.)) if there are between 5 and 9 projects

in the partner country that are using the same technology, and reduced to 2,500 JPY/tCO_2e (16 USD/tCO_2e (xe, n.d.)) for solar projects, and 500 JPY/tCO_2e (16 USD/tCO_2e) for hydropower projects (Government of Japan, 2024b).

e. Preferences and requirements pertaining to project types, carbon standards and methodologies, project development cycle (e.g. timelines, key steps)

- Eligible standards and methodologies: JCM uses its own methodologies, and a project participant is allowed to propose a new methodology to the Joint Committee if there is no previously approved methodology. For example, JCM – Viet Nam's Joint Committee set out the JCM sectoral scopes under which the methodology applies, such as renewable energy, energy demand, afforestation and reforestation, agriculture and waste, among others
- Project eligibility criteria (Government of Japan, 2024b): In 2024, the JCM model project prioritises partner countries that have already established JCM, and additional points may be given to projects with leading decarbonising technologies that are among JCM focus areas as follows:
    - Renewable energies (solar power, wind power, hydropower, geothermal energy, biomass energy, green hydrogen, and so forth)
    - Green logistics including cold chain (non-fluorocarbon cooling system, modal shift, airports, ports and harbours, and so forth)
    - Waste management infrastructure (waste to energy, and so forth)

  In particular, several projects of solar power plants, solar power plants with batteries, and the installation of batteries have additional criteria:

    - Solar power plants: the conversion rate from optical to electric energy of photovoltaic modules must be higher than 21.2%
    - Solar power plants with batteries: the conversion rate from optical to electric energy of photovoltaic modules must be higher than 21.2% with the battery charges only the power generated by photovoltaic modules
    - Installation of batteries: The storage battery charges only the electricity generated by the renewable energy generation facilities. In addition, there must be a surplus of electricity supply from renewable energy sources due to power generation restrictions, etc., at the site.

III.1.2.2. South Korea

a. NDC profile

South Korea	
Target	Reduce emissions by 40% from 2018 baseline by 2030
Sectors	Energy, industry, waste, agriculture, FOLU
GHGs covered	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6

Source: Government of Korea, 2021

b. Article 6 participation policies, including cumulative demand (by 2030)

The legal basis for implementing international GHG mitigation projects to achieve South Korea's NDC, is the Framework Act on Carbon Neutral and Green Growth. The government indicated its plan to use 37.5 $MtCO_2e$ of ITMOs to support its NDC target for 2030 (Korea Institute for International Economic Policy, 2023), leading to an active pursuit of bilateral agreements for Article 6.2 cooperative approaches. According to South Korea's Treaty Information System, framework agreements on climate change cooperation, which incorporate Article 6.2 cooperative approaches have been signed with Vietnam, Mongolia, Gabon, Uzbekistan, Morocco and Peru, and these agreements are all now in effect (South Korea MOFA, 2024). Moreover, South Korea has MoUs signed with Cambodia and Bangladesh to form a similar partnership the country has with Viet Nam on the implementation of Article 6 (Carbon Pulse, 2024e). South Korea has also concluded negotiations with Ghana, and the bilateral agreement is pending parliamentary and cabinet approvals (Quantum Intelligence, 2024a).

However, despite having signed the bilateral agreements, there is limited information pertaining to South Korea's Article 6 framework, including key Article 6 procedures such as corresponding adjustments, NDC buffer pools, and other details (Korea Institute for International Economic Policy, 2023). Based on the Consultant's conversation with the Korea Research Institute on Climate Change (KRIC), South Korea is currently studying other countries' ITMO procurement strategies. This could mean that South Korea could be flexible in its approaches for the operationalisation of its bilateral agreements and open to host country specificities, yet on the other hand, this could also mean that the South Korean government may still require some time to finalise and articulate its Article 6 outreach strategy and procurement procedures.

For the bilateral agreement with Viet Nam ("Framework Agreement for Cooperation on Climate Change between the Government of the Republic of Korea and the Government of the Socialist Republic of Viet Nam"), the South Korean Government agreed to support emission reduction projects in Viet Nam utilising Article 6.2 with the resulting ITMOs will be supplied or sold to the Korean government, and some will be converted into KCUs in the Korea ETS (Government of South Korea, 2023). The Korean government will provide financial support to the following projects, with the following quantities that would go towards the Government of South Korea (Government of South Korea, 2023):

- Waste refrigerant recovery and regeneration project to reduce 30,000 tCO_2e, operated by Ecoeye, OUNR2TECH, and V-Water Solutions: 2,198 tCO_2e/year
- Coal kiln process improvement project to reduce 975,609 tCO_2e, operated by Grit C and Noble Grit: 12,222 tCO_2e/year
- 7MW roof solar power generation project to reduce 8,302 tCO_2e, operated by SK E&S: 7,420 tCO_2e/year

Additionally, the Korean government will support two carbon projects in Viet Nam in conducting their feasibility and pre-feasibility studies (Quantum Intelligence, 2024d). The total funding of up to KRW 400 million (USD 272 thousand (xe, n.d.)) each will be given to the projects over six to 12 months (Quantum Intelligence, 2024d):

- Projects selected for feasibility study support: A landfill gas (LFG) recovery and power generation development in Hai Phong in northeast Viet Nam, proposed by Seungyun E&E Co and partners
- The projects for pre-feasibility support: A rice paddy methane reduction scheme in Viet Nam proposed by Thanks Carbon.

More recently in May 2025, the Korean government announced that it would provide (1) installation support, capped at KRW 4.2 billion (USD 2.9 million) per project and cover up to 80% of the costs, and (2) feasibility study support, for up to 90% of costs with up to KRW 500 million, to these selected Vietnamese projects from its March 2025 tender:

- Construction and operation of power plants using biomass solid fuel in Viet Nam by Dyetec (installation support)
- Buon Ma Thuot Landfill, Dak Lak Province, Vietnam by Seungyoon E&I Co., Ltd (feasibility study support)
- Plastic waste sorting facility in northern Vietnam by Korea Circulation Resources Distribution (feasibility study support)

Based on the latest March 2025 tender for international GHG reduction projects, these various forms of financial support are targeted at and open only to domestic (i.e. Korean-based) companies, national organisations, local governments, public institutions, corporations, non-profit corporations, and subsidiaries (foreign corporations) in which domestic (i.e. Korean-based) companies hold shares, and international organisations invested by the Korean government (Korea Environment Corporation, 2025).

c. ITMO procurement methods

The South Korean government plans to carry out the implementation of international partnerships for mitigation projects through institutional foundation(s), including the development of sector-specific projects with selected countries (Korea Institute for International Economic Policy, 2023). Additionally, the Korean government is providing two forms of financial support, namely Feasibility Study Support and the Investment Support for international mitigation projects (more details in the later sections below) (MOLIT Korea, 2024).

One example is the work of the Korea Forest Service (KFS). KFS is mandated under the Enforcement Decree of the Act on Support for Reducing Greenhouse Gas Emissions and Enhancing Carbon Accumulation through Forest in Developing Countries, to develop overseas REDD+ projects and to generate ITMOs under Article 6 of the Paris Agreement (Government of South Korea, n.d). The KFS is seeking to cooperate with various countries, including Viet Nam (Vietnam Agriculture, 2023), Laos, Timor-Leste to develop REDD+ projects (Quantum Intelligence, 2024c). The KFS aims to reduce GHG emissions by 30 $MtCO_2e$ by 2027 through forestry initiatives, including 5 $MtCO_2e$ of overseas REDD+ reductions (Quantum Intelligence, 2024c).

South Korean companies and project developers, through their participation in overseas mitigation projects, can generate ITMOs for South Korea's carbon market. The ITMOs need to be converted to KOCs to be used by compliance entities in the Korea ETS, in line with the

Enforcement Decree of the Act on the Allocation and Trading of Greenhouse Gas Emission Permits.

d. ITMO price ranges or proxies

In return for providing direct financial support to international mitigation projects, the South Korean government is expecting to receive a share of the generated ITMOs. Although this is not a direct derivation of the South Korean government's "willingness to pay" per ITMO, it still provides an indication of the total budget prepared by the government for the Article 6.2 transactions. In its Article 6.2 agreements with Viet Nam and Uzbekistan, the South Korean government plans to invest USD 20 million in four projects, which are expected to generate around 0.26 $MtCO_2e$ for the South Korean government (Carbon Pulse, 2023d). Using that, the ITMO price range is calculated to be around 77 USD/tCO_2e.

Additionally, since ITMO demands come from companies using ITMOs as an alternative compliance method for their obligation under South Korea ETS, the allowance and offset prices traded under the Korean ETS can be used as a proxy as compliance entities might not be willing to pay more than the allowance prices.

For the third phase of Korea ETS from 2021 to 2025, the average prices of the (1) allowances, KAU, (2) domestic offsets, KOC and (3) overseas offsets, KCU are as follow (as of January 2024) (KRX, 2025):

- KAU: KRW 9,395 (USD 6.38)
- KOC: KRW 12,225 (USD 8.31)
- KCU: KRW 11,800 (USD 8.02)

e. Preferences and requirements pertaining to project types, carbon standards and methodologies, project development cycle (e.g. timelines, key steps)

Due to the ongoing process of Article 6 strategy development by the South Korean government, several details, such as eligible carbon standards and methodologies, are not clearly defined. The relevant requirements are prescribed under the Enforcement Decree of the Act on Allocation and Trading of Greenhouse Gas Emissions (Government of South Korea, n.d b) and the Guidelines for External Business Feasibility Assessment and Reduction Certification (Government of South Korea, n.d c). The requirements in these regulations cover:

- Application for registration of methodology
- Type of project proponent, size of project
- Implementation and monitoring of project
- Verification and certification of GHG reduction amount
- Management of project certification performance
- Establishment and management of offset registry
- Renewal of certification validity period

The South Korean government provides two levels of support for Feasibility Study and Investment, which have different eligibility criteria (Korea Research Institute for Climate Change, 2024):

- Project eligibility to receive Feasibility Study support: An international mitigation project, carried out by domestic companies overseas (to achieve NDC targets) that is expected to be linked with the Investment Support Program for further implementation. The Feasibility Study support is further divided into pre-feasibility study (up to USD 140,000/project) and the main feasibility study (up to USD 290,000 per project)
- Project eligibility to receive Investment support: A project conducted overseas by a domestic company that generates international mitigation outcomes, which can be utilised to achieve NDC targets. The scale of support is up to USD 4.3 million per project, out of a total announced budget of USD 23.6 million.

These support schemes are typically open to domestic organisations such as national organisations, corporations, non-profit organisations and public institutions. Examples of project types supported are (Korea Research Institute for Climate Change, 2024):

- Landfill gas incineration
- Landfill gas power generation
- Palm oil waste and wastewater treatment
- Composting
- Manure treatment
- Waste treatment
- Fuel conversion through landfill/biogas supply chain
- Landfill air injection
- Industrial waste
- Wastewater treatment (anaerobic)
- Wastewater treatment (aerobic)
- Agricultural by-products converted to fuel
- Forestry by-products converted to fuel
- Biomass converted to fuel
- Biodiesel
- Small hydroelectric power generation
- Hydroelectric power generation
- Tidal power generation
- Hybrid renewable energy (floating solar power generation using multipurpose dams, etc.)

For international credits to enter the Korean compliance market through converting KCU for K-ETS), they can only be generated by projects that are owned or supported by Korean companies. Details are as follows (based on the requirement for CDM credits) (ICAP, 2024b):

- For directly owned projects, at least 20% of the ownership rights, operating rights or voting rights shall be owned by a Korean entity.
- For indirectly owned projects, a Korean entity delivers goods or services worth more than 20% of the total project cost, and the project is located in a CDM developing country.

III.1.2.3. Singapore

a. NDC profile

Singapore	
Target	Reduce absolute emissions to 60 $MtCO_2e$ in 2030
Sectors	Energy, industry, waste, agriculture, FOLU
GHGs covered	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3

Source: Government of Singapore, 2022

b. Article 6 participation policies, including cumulative demand (by 2030)

In January 2024, Singapore introduced an amendment to its Carbon Pricing Act, allowing the use of ITMOs towards corporate compliance obligations under the Singapore Carbon Tax scheme. Tax-liable companies can use eligible ITMOs in lieu of paying the carbon tax, for up to 5% of their taxable emissions. As of November 2024, Singapore estimates that 25.1 $MtCO_2e$ of ITMOs over a ten-year period would be needed for it to achieve its NDC in 2030 (Government of Singapore, 2024b). To the Consultant's knowledge, the Singapore Government is also a direct buyer of the ITMOs through the issuance of Request for Proposals, with the first call for NBS projects launched in late 2024.

Although this is not necessary for Article 6.2 cooperative approaches, the Government of Singapore has adopted the Decisions 6-7/CMA.4 decisions (UNFCCC, 2023) at COP27 relating to the Article 6.4 mechanism, for its Article 6.2 strategy. For all Article 6.2 cooperative approaches, Singapore requires 2% of the authorised ITMOs to be cancelled at issuance and not used for NDC compliance or any other purposes to contribute to the overall mitigation of global emissions (OMGE) (Singapore's Carbon Markets Cooperation, n.da). Furthermore, project developers are required to make monetary contributions equivalent to 5% of ITMOs share of proceeds towards the host country for adaptation purposes and/or UNFCCC Adaptation Fund (Singapore's Carbon Markets Cooperation, n.db).

Singapore has developed its International Carbon Credits (ICC) framework for the Carbon Tax scheme. The ICC framework sets out the eligibility criteria, comprising seven internationally recognised principles (Table 5) to demonstrate high environmental integrity and represent emissions reductions or removals that occur within the timeframe specified under Article 6 of the Paris Agreement (Singapore's Carbon Markets Cooperation, n.db). This ICC framework utilises the existing methodologies of international offset programmes i.e. international carbon standards, and takes reference from CORSIA Eligible Emissions Unit Programmes (National Environment Agency, 2023) and the Integrity Council for the Voluntary Carbon Market's Core Carbon Principles (Government of Singapore, 2024c).

Table 6: Singapore Article 6 eligibility criteria

Principle	Definition
Not double-counted	The certified emissions reductions or removals must not be counted more than once in contravention of the Paris Agreement.
Additional	The certified emissions reductions or removals must exceed any emissions reduction or removals required by any law or

	regulatory requirement of the host country, and that would otherwise have occurred in a conservative, BAU scenario.
Real	The certified emissions reductions or removals must have been quantified based on a realistic, defensible, and conservative estimate of the amount of emissions that would have occurred in a business-as-usual scenario, assuming the project or programme that generated the certified emission reductions or removals had not been carried out.
Quantified and verified	The certified emissions reductions or removals must have been calculated in a manner that is conservative and transparent and must have been measured and verified by an accredited and independent third-party verification entity before the ICC was issued.
Permanent	The certified emissions reductions or removals must not be reversible, or if there is a risk that the certified emissions reductions or removals may be reversible, there must be measures in place to monitor, mitigate and compensate any material reversal of the certified emissions reductions or removals.
No net harm	The project or programme that generated the certified emissions reductions or removals must not violate any applicable laws, regulatory requirements, or international obligations of the host country.
No leakage	The project or programme that generated the certified emissions reductions or removals must not result in a material increase in emissions elsewhere, or if there is a risk of a material increase in emissions elsewhere, there must be measures in place to monitor, mitigate and compensate for any such material increase in emissions.

Source: Government of Singapore (2024)

To develop and implement ITMO transaction procedures based on carbon credit projects developed and registered under international carbon standards, the Singapore government has partnered with internationally recognised carbon crediting programmes (The Other Programmes Are the Climate Action Reserve (CAR) and the American Carbon Registry (ACR)., n.d.), such as GS, VCS, and GCC (Singapore's MSE, 2024). MoUs have been signed between the Singapore Government and these international crediting programmes to manage the transfer of information on the retirement and use of credits between the Gold Standard Registry and the National Registry of Singapore, to ensure transparency, integrity, and alignment with Article 6 rules (Gold Standard, 2024a).

In addition, the National Climate Change Secretariat (NCCS), which oversees Singapore's participation at the UNFCCC and Article 6 negotiations, have partnered with GS and Verra to develop an Article 6.2 Crediting Protocol, which is aimed at supporting countries in their use of Article 6 to achieve their NDCs and sustainable development goals (National Climate

Change Secretariat, 2024a). The Protocol seeks to create standardised and streamlined procedures for governments to use independent carbon crediting programmes in their implementation of Article 6.2, including for Article 6.2 reporting (to the UNFCCC). To date, the initial recommendations have been published, which set out key concepts and processes that will form the basis of the Protocol, which will be further developed and published in full following the conclusion of COP29 (National Climate Change Secretariat, 2024b).

Singapore has formed Article 6 partnership with 19 countries across the globe. Singapore has signed bilateral implementation agreements (IAs) with Bhutan, Ghana and Papua New Guinea. Of the other 16 countries with which Singapore has signed an MoU, Singapore has substantively concluded negotiations with Viet Nam, Peru and Paraguay (Singapore's Carbon Markets Cooperation, n.d.-b). The remaining 13 countries are Chile, Colombia, Costa Rica, Dominican Republic, Cambodia, Fiji, Lao PDR, Mongolia, Sri Lanka, Kenya, Morocco, Rwanda, and Senegal (Singapore Carbon Market Alliance (SCMA), 2025). The eligibility criteria, as outlined in Table 6, guide the development of the eligibility list. This eligibility list is country-specific and covers the eligible standards, methodologies and project types, and these details will be covered in Section e below.

c. Procurement i.e. acquiring methods

Under the Singapore carbon tax scheme, carbon tax-liable companies would need to directly purchase and retire the ITMOs, or through a third-party service provider, to offset a portion of their carbon tax liability under the carbon tax scheme (Singapore NEA, 2024). A guidance document has been published by the National Environment Agency, the regulator of the Singapore carbon tax scheme, on the process of surrendering eligible international carbon credits (ICC) for the payment of carbon tax under the Carbon Pricing Act (National Environment Agency, 2024).

The carbon credit project development steps and the authorisation process will be detailed on Singapore's carbon markets portal, following the conclusion of the bilateral agreement with a host country. In September 2024, Singapore and Ghana set out the process for authorising carbon credit projects under their Implementation Agreement on carbon credits cooperation, in accordance with Article 6 of the Paris Agreement (National Climate Change Secretariat, 2024c). The process encompasses four stages of: a) Project application; b) Project design; c) Project authorisation; and d) Corresponding Adjustment application. The applications will be reviewed by the Joint Committee on an ongoing basis. The Joint Committee is a coordinating body that oversees the administration of the implementation and encompasses both the governments of Singapore and Ghana. Overall, the authorisation process is similar to the JCM project cycle.

There are four main stages in the Singapore-Ghana Article 6 authorisation process. In Stage A, applicants are to submit to the Joint Committee a Mitigation Activity Note of Intent to receive a Letter of Intent (from Ghana) and a Letter of Support (from Singapore). Secondly, as the project concept is further developed, applicants are to submit a PDD on the intended project. If accepted, the Letter of Recommendation (from Ghana) and the second Letter of Support (from Singapore) will be issued. Next, in Stage C, applicants are to submit a validation report from a third-party auditor to receive the Letters of Authorisation from

Singapore and Ghana. Lastly, the carbon crediting programme will issue carbon credits to the project and the project developer will then submit the completed ITMO Issuance Application form to the Joint Committee. If accepted, the Letter of Positive Examination from Ghana will be issued.

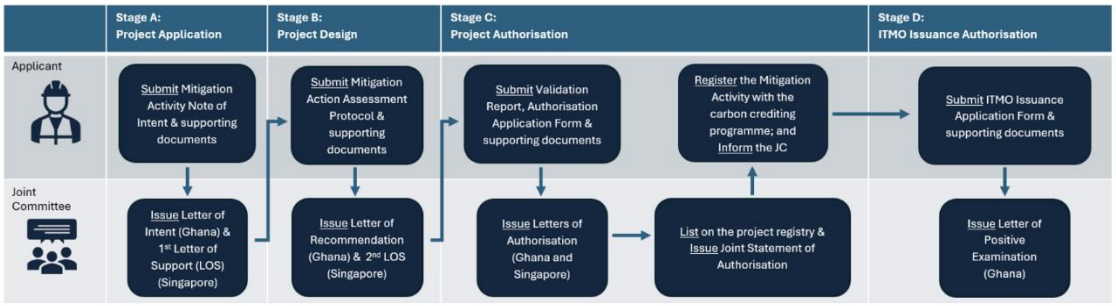

Figure 15: Singapore-Ghana Article 6 authorisation process

Source: Government of Singapore, 2024

d. ITMO price ranges or proxies

Singapore's overall willingness to pay is pegged to the domestic carbon tax rate, meaning that the desired price of the ITMO should not be greater than the prevailing carbon tax rate. Below are carbon tax rates (Singapore's MSE, 2023) (SGD/tCO_2e) which can be used as ceiling price indicators:

- 2024-2025: SGD 25 (USD 18);
- 2026-2027: SGD 45 (USD 33);
- 2028-2030: SGD 50-80 (USD 37-59).

e. Preferences and requirements pertaining to project types, carbon standards and methodologies, project development cycle (e.g. timelines, key steps)

- Eligible standards and methodologies:
    - The eligible standards for the countries that have concluded the bilateral agreement with Singapore can be found on Singapore's Carbon Markets Cooperation portal (Singapore's Carbon Markets Cooperation, n.d.-a), while the eligibility list contains the full details of the eligible carbon standards and methodologies. Nonetheless, the list is currently worded in a manner which specifies certain excluded categories of methodologies or methodologies, plus further exemptions, making the eligibility list confusing to project developers. Moreover at an industry event in January 2025, the National Environment Agency (NEA) revealed that "CDM methodologies, including those recognised by eligible carbon crediting programmes, are currently ineligible (e.g., ACM, AMS methodologies under VCS)", although this was not specifically mentioned on the Singapore's Carbon Markets Cooperation's portal.
        - Papua New Guinea: GS, VCS, ACR, GCC
        - Ghana: GS, VCS
    - The eligibility list takes into account the eligible standards and methodologies from the host country as well, meaning that the eligibility list

is a consolidation of the eligible standards and methodologies from both Singapore and the host country. Nonetheless, the development of the eligible list of standards and methodologies can take up considerable time. Based on the Consultant's experience and understanding, the list of standards and methodologies requires time to formulate following the conclusion and signing of the bilateral agreement, possibly between 4 and 6 months or potentially longer.

    - Moreover, the current eligibility list only considers all active methodologies that were published before 31 March 2023. The Singapore Government is currently reviewing the eligibility of newer methodologies. Notable newer methodologies include VCS VM0047 Afforestation, Reforestation, and Revegetation, v1.0, which is active since 28 September 2023, and VM0050 Energy Efficiency and Fuel-Switch Measures in Cookstoves, v1.0, which is active since 9 October 2024. These project types and methodologies may be more applicable in the host countries than the current eligibility list.
    - The current eligibility list for the case of Ghana and Papua Guinea can be restrictive from the perspective of carbon credit project developers. For example, certain NBS such as methodologies VM0012 Improved Forest Management in Temperate and Boreal Forests (LtPF), v1.2, are not applicable to these countries and are mostly applicable to northern ecosystems such as the USA, Russia and Canada. The eligibility of VM0010 Methodology for Improved Forest Management: Conversion from Logged to Protected Forest, v1.4, which is active since 24 October 2024 and applicable to other regions in the world (other than northern ecosystems), and potentially Vietnam, is pending the Singapore Government's assessment.
    - Moreover, ACR, which is acceptable in Papua New Guinea, is not adopted and practised outside North America.
    - The NEA will update the eligibility list annually to maintain relevance and ensure high environmental integrity standards, based on the latest science and evidence. This will include the addition of new carbon crediting methodologies and/or programmes and the delisting of carbon crediting methodologies and/or programmes. Carbon credit methodologies and programmes that no longer meet Singapore's eligibility criteria will be delisted, and NEA will publish a Notice of Delisting before removing them from the eligibility list on the immediate 1 July (National Environment Agency, 2024b). While this ensures that the Singapore Government would be able to react to developments in science and ensure environmental integrity of Article 6 projects, on the other hand, this also creates investment and financial uncertainty for project developers. While this ensures that the Singapore Government would be able to react to developments in science and ensure environmental integrity of Article 6 projects, on the other hand, this also creates investment and financial uncertainty for project developers.
- Project eligibility criteria
    - The eligibility list for ICCs to be used towards carbon tax compliance will be country-specific, which details requirements pertaining to project types, standards and methodologies.

- Specific requirements for Renewable Energy:
  - Projects with Offshore wind, waste-to-energy technology, or
  - Projects with energy storage systems, or
  - Projects that come from LDCs, microgrids that are not linked to national grids, or lower-middle-income countries with less than 5% of the said renewable technology deployed in their national grid at the point of registration or renewal.
- Specific requirements for NBS: Reducing Emissions from Deforestation and Forest Degradation (REDD/REDD+) projects from High Forest cover, Low Deforestation (HFLD) countries are not eligible.

III.1.2.4. Switzerland

a. NDC profile

Switzerland	
Target	Emission reduction of at least minus 50 per cent by 2030 compared with 1990 levels
Sectors	Energy, industry, waste, agriculture, FOLU
GHGs covered	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3

Source: Government of Switzerland, 2024

b. Article 6 participation policies, including cumulative demand (by 2030)

The government of Switzerland has committed to halving its emissions from 1990 levels by 2030 and plans to achieve the goals partly through bilateral or plurilateral cooperation envisaged under Article 6.2 of the Paris Agreement (FOEN of Switzerland, n.d.-a). As of 2024, Switzerland has 14 agreements under Article 6.2 with Peru, Ghana, Senegal, Georgia, Vanuatu, Dominica, Thailand, Ukraine, Morocco, Malawi, Uruguay, Chile, Kenya, and Tunisia. Specifically, the Swiss government has successfully completed the first-ever transfer of Article 6.2 carbon credits with Ghana (S&P Global, 2024a) and Thailand (S&P Global, 2024b).

In Switzerland's Initial Report submitted to the UNFCCC in May 2023, the authorised projects are:

- Promotion of climate-smart agriculture practices for sustainable rice cultivation in Ghana
- Operation of e-buses on privately owned, scheduled public bus routes in the Bangkok Metropolitan area by Energy Absolute
- Electrification of Vanuatu's Inhabited Islands through Solar Power ITMO Programme (Government of Switzerland, 2023)

(The respective host countries, Ghana, Thailand and Vanuatu have submitted their respective Initial Reports for these authorised projects, which can be located on the UNFCCC website (UNFCCC, n.d.-b)*).*

Compliance entities that have obligations under the Swiss CO_2 Act to offset fuel tax can use ITMOs (as well as domestic credits) to meet their obligations (The Nature Conservancy, 2024).

This process is facilitated by the KliK Foundation, and the KliK Foundation will buy ITMOs around 40 $MtCO_2e$ until 2030 to offset part of the carbon emissions (KliK Foundation, 2021).

Switzerland has also published its long-term climate strategy in 2021, which sets out the path to meeting the climate goal of net-zero GHG emissions in 2050 (FOEN of Switzerland, n.d.-b). Switzerland recognises that while emissions must be minimised in all sectors, there will be emissions that will be difficult to avoid with conventional approaches, such as industrial processes, which will need to be avoided by CCS. Other difficult-to-avoid emissions that cannot be directly captured, such as agriculture, will need to be offset by permanent removal of CO_2 from the atmosphere, i.e. by negative CO_2 emissions.

To this end, Switzerland has signed bilateral CCS and negative emission technologies (NET) agreements (MoU, declaration of intent, joint declaration) with Norway, Sweden, Iceland and the Netherlands (FOEN of Switzerland, n.d.-a).

c. ITMO procurement methods

Overseas carbon project origination and development activities and the international transfer process have been facilitated either by the KliK Foundation or the United Nations Development Program (UNDP), for the government of Switzerland, or the motor fuel importers mandated under the CO_2 Act to acquire ITMOs towards Switzerland's NDC.

The KliK Foundation is mandated under the Swiss CO_2 Act to fulfil the legal obligation on behalf of Swiss motor fuel importers to offset part of carbon emissions of the Swiss transport sector, through domestic and international emission reduction projects that generate carbon credits and ITMOs. The motor fuel importers fund domestic and international projects for the reduction of GHG emissions, up to a maximum surcharge of CHF 0.05/L of motor fuel. (Government of Switzerland, 2022). In accordance with an agreement between the Swiss Confederation and the KliK Foundation, 2% of these ITMOs had to be suspended as a contribution to the global reduction of emissions (or the "overall mitigation of global emissions" as per the terminology of the Paris Agreement) (KliK Foundation, 2023a).

The KliK Foundation has developed a systematic approach to mitigation activity development and implementation, which is detailed in its Participation Wheel process (KliK Foundation, 2024). The process is aligned with the regulatory requirements under the CO_2 Act and the guidelines published by the Swiss Federal Office for the Environment (FOEN) (Federal Office for the Environment, 2024). The role of the KliK Foundation is to facilitate the mitigation activity development and implementation process, and apart from its role as the purchasing entity of the ITMOs, there is a possibility for the KliK Foundation to provide funding support for the conceptual development of the mitigation activity programme (KliK Foundation, 2024).

On the other hand, through UNDP's Carbon Payments for Development (CP4D) Facility, the UNDP is pioneering climate-smart agriculture in Ghana (UNDP, 2023). The CP4D Facility plays a critical role in promoting and facilitating Article 6 of the Paris Agreement and assists developing countries such as Ghana in building their capacity to fully participate in cooperative approaches (UNDP, 2022a). As the CP4D facility is partially funded by the Swiss Government, the Facility has a role in helping the government of Switzerland engage with host countries in the transfer of ITMOs (UNDP, 2022b).

d. ITMO price ranges or proxies

The average prices for Switzerland's past Article 6 engagements range between 20-22 USD/tCO_2e, which can be considered a general benchmark. Additionally, Switzerland's domestic carbon tax rate at 135 USD/tCO_2e (as of 2022) can also be used as a price indicator (FOEN of Switzerland, n.d.-c).

The ITMO prices from projects being implemented are as follows, based on various news articles. It is important to note that the ITMO purchase prices are based on mitigation activity purchase agreements concluded between the KliK Foundation and the project activity developer, and details of the transactions are typically not publicly available.

- Senegal - community type projects: 22-25 USD/tCO_2e (DGB Group, 2023)
- Ghana - renewable energy: 10 USD/tCO_2e (S&P Global, 2024)
- Ghana - rice methane: 22 USD/tCO_2e
- Thailand - Bangkok E-bus Programme: approximately 30 USD/tCO_2e (Reuters, 2024)

According to the KliK Foundation, as of 2023, the average cost for every ITMO between 2022 and 2024 is CHF 35 (USD 38) and for every ITMO between 2025 and 2030 is CHF 27 (USD 29), in contrast to domestic projects in Switzerland, which cost CHF 133 on average (KliK Foundation, 2023a). The KliK Foundation has also noted that of the required reduction of an estimated 8.4 $MtCO_2e$ for the period 2022 to 2024, a maximum of 2.1 million tonnes could be sourced from abroad (KliK Foundation, 2023c). However, considering the complex and time-consuming development of corporations under Article 6 of the Paris Agreement, under which the climate protection activities must take place, means that, in all probability, the KliK noted that only 0.4 $MtCO_2e$ of ITMOs would be able to be certified by 2024.

e. Preferences and requirements pertaining to project types, carbon standards and methodologies, project development cycle (e.g. timelines, key steps)

Under the CO_2 Ordinance, the Federal Office for the Environment (FOEN) is charged with the responsibility for enforcing the provisions concerning attestations for emission reductions and carbon storage in Switzerland and abroad.

FOEN has published a detailed guideline (Federal Office for the Environment, 2024) to explain its practices in implementing the relevant provisions of the CO_2 Act and the CO_2 Ordinance, and to provide applicants with clear and consistent guidance for submitting their applications and implementing emission reduction projects and programmes.

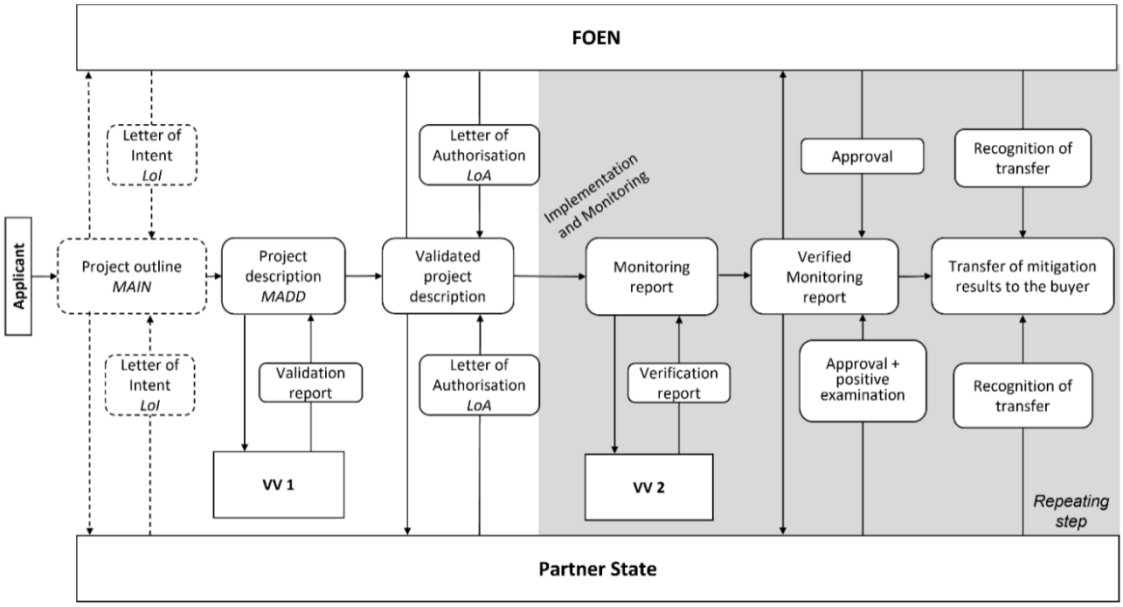

Figure 16: Procedure for authorisation application and issuance of attestations abroad. (VV stands for "validator" and "verifier")

Source: Federal Office for the Environment, 2025

The guidelines cover various detailed requirements and information on the various steps and procedures:

- Core requirements for projects
- Overall procedure for applying for project or programme authorisations and steps leading to the issuance of attestations
- Validation and verification process and requirements
- Details on the determination of reference scenarios and expected emission reductions when preparing the project or programme description
- Details on the determination of additionality when preparing the project or programme description
- Details on monitoring requirements and the monitoring plan, and the monitoring report
- Procedure when a project or programme receives non-refundable payments

The annexes to the guidelines include various templates and forms, including the various fees charged by the FOEN for the services rendered and decisions/rulings issued by the FOEN in accordance with the FOEN Fees Ordinance.

With regard to key milestones and timelines, the requirements specify that:

- Submission of authorisation application and decision on project or programme qualification: The applicant submits the validated project or programme description, together with the validation report, to the FOEN no later than three months after the start of implementation. This requirement can be restrictive and challenging for project developers, as the development of the project or programme design documents and the validation process in practice typically take up more time, and this three-month timeline can be challenging for complex and large projects, which may require more time. Complying with this timeline means that project developers

would need to coordinate the development and validation process very closely with other stakeholders - the validation body, FOEN, the relevant host country authorities and other potential project partners.

- Operation and monitoring: In general, monitoring starts at the time of commissioning or when the project commences normal operation or starts to have an effect.
- Submission of monitoring report and decision on issuance of attestations:
    - The applicant submits the first verified project or programme monitoring report, together with the verification report, covering a maximum period of three years, no later than one year after the end of this period.
    - The applicant subsequently submits to the FOEN a verified monitoring report, together with the verification report, at least every four years from the end of the previous monitoring period. The monitoring period may not exceed three years.

Based on the CO_2 Ordinance, the specific guidelines on the ineligible types of projects are as follows (KliK Foundation, n.d.):

- Fossil fuel
- Nuclear energy
- Hydropower over 20 MW
- Projects in large industrial plants that do not meet the global state of the art
- The waste sector without material or energy recovery or reduction of waste
- Biological sequestration projects
- The reduction of deforestation or forest degradation
- The abandonment of fossil fuel extraction
- Activities that conflict with environmental and human rights conventions ratified by Switzerland, and/or have significant negative social or ecological effects, and/or contravene Swiss foreign and development policy

Moreover, eligible projects must:

- Align with the domestic strategy to implement the NDC
- Not yet be implemented
- Become viable through the ITMO payments
- Reach a certain scale (cumulative ITMO volume around 500,000 until 2030)
- Not leading to a continuous lock-in of fossil fuels
- Be in line with the KliK ICS Guidelines (KliK Foundation, 2020) (for Improved Cookstove (ICS) proposals only)
- Respect the requirements of environmental integrity (for CDM activities only). CDM activities registered, or CPA added to a PoA before 4 November 2016, are excluded
- Focus on one country only

III.1.2.5. Sweden

a. NDC profile

Sweden	
Target	Emission reduction of 55% by 2030 compared to 1990 levels

Sectors	Energy, industry, waste, agriculture, FOLU
GHGs covered	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3

Source: Government of Sweden, 2024

b. Article 6 participation policies, including cumulative demand (by 2030)

Sweden is utilising ITMOs to exceed the EU's current NDC target and as part of its strategy to achieve carbon neutrality by 2045 (UNFCCC, 2024). Outside of the EU target, Sweden has its own target of reducing non-LULUCF emissions that are not covered by EU ETS (60% of total emissions (World Bank, 2008b)) by 63% in 2030 and 75% in 2040 compared to 1990 emission levels (Perspectives, 2021a). As of 2020, according to the Swedish Energy Agency (SEA), it has a mandate to purchase ITMOs achieved outside Sweden for up to 8% of the 2030 target and 2% of the 2040 target. Based on our calculation, the 2030 target translates to a demand of around 2.14 $MtCO_2e$. Additionally, beyond its emission reduction target, Sweden aims to use ITMO purchases to support global mitigation efforts with a total purchase volume of 1-10 $MtCO_2e$ per Mitigation Outcome Purchase Agreement (MOPA), generated between 2021 and 2030. For simplicity, the ITMO demand for 2030 is estimated to be 10 $MtCO_2e$, as indicated in Figure 16.

The SEA, the main government entity overseeing Article 6 implementation, has signed bilateral agreements with Ghana, Zambia and Nepal; and MoUs with Rwanda and the Dominican Republic (Swedish Energy Agency, 2024b). Furthermore, Sweden has signed an MOU with Switzerland to collaborate on industrial carbon removals (Swedish Energy Agency, 2023a), an example of north-north Article 6 cooperation (The Nature Conservancy, 2024).

Sweden has also partnered with various international organisations such as the World Bank, UNDP, Asian Development Bank (ADB) and Global Green Growth Institute (GGGI) to support its implementation of Article 6 agreements (Swedish Energy Agency, 2024b). In these partnerships, Sweden provides capital towards various funds for the implementation of various activities and programmes such as host country Article 6 readiness and capacity building activities, sourcing of mitigation activities and purchase of ITMOs. Sweden also partners with the global independent crediting standard, Gold Standard, to support Sweden in its acquisition of ITMOs.

The first Article 6 project financed by Sweden is in Ghana, which is about the installation of roof-mounted solar panels with battery storage for commercial and industrial facilities across Ghana (Swedish Energy Agency, 2023b). The project is expected to reduce emissions by about 165,000 tCO_2e over the period 2024-2030.

c. Procurement i.e. acquiring methods

To date, ITMOs towards Sweden's NDC are being procured through the SEA; the SEA in December 2023 issued a public procurement tender for project proposals in Ghana (Swedish Energy Agency, 2023c). The tender foresaw up to three awards of MOPA with a contract value of up to USD 10 million per MOPA and should generate at least 200,000 tCO_2e. The agency has initiated the procurement for mitigation activity proposals with the expectation to increase them as more MoUs are signed and the development of activities under their

current bilateral agreements. As of March 2025, the SEA has decided to finance two projects, a 60 MW solar project (by TFI Power Company) and an e-mobility project (by Solar Taxi and supported by South Pole), which cumulatively are expected to reduce 450,000 tCO_2e in Ghana by 2030 (Ghana CMO, 2025).

In addition, ITMOs could be procured through SEA's partnerships with international organisations such as GGGI, under the Article 6 Climate Cooperation Fund (ACCTIF) within the Carbon Transaction Facility (CTF) (Swedish Energy Agency, 2024a).

d. ITMO price ranges or proxies

According to the SEA's tender on ITMO procurement for Ghana (Swedish Energy Agency, 2023c), the stated upper limit for ITMO price is 40 USD/tCO_2e (Ghana Carbon Market Office (CMO), 2024).

For the Sweden-Ghana solar with battery storage project, it is reported that the project owner, Swedish battery firm Stella Futura, would be paid USD 60/tCO_2e upon delivery of the ITMOs, or a total of SEK 100 million (USD 9.08 million), and this represents around 20% of the total investment cost (Carbon Pulse, 2025b).

These ITMO prices are below Sweden's carbon tax, which is set at SEK 1,368.30 (USD 124). The Sweden carbon tax applies to direct (scope 1) CO_2 emissions from the combustion of all fossil fuels except peat and operators covered by the EU ETS (World Bank, 2008b).

e. Preferences and requirements pertaining to project types, carbon standards and methodologies, project development cycle (e.g. timelines, key steps)

SEA partnered with GS to apply their rules and use GS's framework and infrastructure for its Article 6 activities under the partnership (Gold Standard, 2024b). In the latest tender, there are no formal restrictions, but an indicative list of eligible activities includes: Renewable energy, EE, energy transmission and distribution, energy storage, waste to energy, and fossil-free transport (Swedish Energy Agency, 2024b). A 2021 report by Perspectives Climate Group also noted that Sweden's ITMO procurement strategy excludes REDD+, LULUCF and activities that involve nuclear or fossil fuel-related power generation (Perspectives, 2021a).

III.1.2.6. Norway

a. NDC profile

Norway	
Target	At least a 55 per cent reduction in greenhouse gas emissions compared to 1990 levels
Sectors	Energy, industry, waste, agriculture, FOLU
GHGs covered	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3

Source: Government of Norway, 2022

b. Article 6 participation policies, including cumulative demand (by 2030)

Norway seeks to use voluntary cooperation under Article 6 of the Paris Agreement to go beyond what is achieved through climate cooperation with the European Union

(Government of Norway, 2024d). The emission reductions can be used to cover any shortfall in meeting Norway's 2030 target under the Paris Agreement, in a situation where EU cooperation does not fully achieve a 55% reduction in emissions (Government of Norway, 2024a). Moreover, Norway has a target to become climate neutral by 2030, meaning that its remaining greenhouse gas emissions must be compensated by equivalent emission reductions in other countries (Government of Norway, 2024b). Unlike other buyer countries, Norway has focused on transacting emission reductions from the implementation of policies in the host countries (i.e. policy crediting) as opposed to mitigation outcomes from individual activities at the project level (The Nature Conservancy, 2024) elaborated in Section e below.

Recently, the Norwegian Government launched the Norwegian Global Emission Reduction (NOGER) Initiative to support emission reductions and green transition in developing countries. As of November 2024, Norway has signed bilateral cooperation agreements with Morocco, Senegal, Indonesia, Benin, Jordan, Senegal, and Zambia (Government of Norway, 2024d). Through the NOGER Initiative, Norway's procurement strategy and transaction modality are more direct between governments (i.e. government-to-government) as compared to Singapore and Switzerland, engaging directly in the transactions without private sector intermediaries. Norway also considers engaging in project activities spurring transition in host countries, possibly through partner organisations (The Nature Conservancy, 2024).

c. Procurement i.e. acquiring methods

The NOGER Initiative collaborates bilaterally with other countries under Article 6.2 of the Paris Agreement and not directly with the private sector (Government of Norway, 2024d). New cooperation usually begins with governments of potential host countries reaching out with a desire for cooperation, proposals for sectors, crediting levels, and possibly specific programmes they wish to collaborate on. The implementation work following the new cooperation is developed and managed through third-party actors such as multilateral development banks or international organisations, and the requirements under Article 6 of the Paris Agreement are followed up by the NOGER Initiative and the authorities in the host country. The NOGER Initiative does not have open tenders for private companies with projects that generate emission credits in developing countries, but collaborates at the governmental level.

d. ITMO price ranges or proxies

There is no clear indication of the range of ITMO prices that Norway is willing to buy. However, the total budget available for the initiative and its domestic carbon tax can be used as a proxy. The Norwegian Parliament authorised the use of about NOK 8.2 billion (USD 733 million), for the work under the NOGER Initiative in the 2024 state budget. In addition, Norway established the "Norwegian Article 6 Climate Action" fund or NACA which pledges up to USD 100 million for the Global Green Growth Institute's (GGGI) CTF to focus on the purchase of ITMOs under Article 6 (GGGI, 2024). Additionally, Norway has announced it will contribute to ADB's Climate Action Catalyst Fund (CACF) with an investment of up to USD 50 million in 2025 (ADB, 2024).

On the other hand, Norway also imposed a carbon tax to complement and strengthen the EU ETS. It covers activities outside of the ETS and adds extra costs for some activities, with the latest (2023) rate set at 1,174 NOK/tCO_2e (104 USD/tCO_2e) (World Bank, n.d.).

e. Preferences and requirements pertaining to project types, carbon standards and methodologies, project development cycle (e.g. timelines, key steps)

Other than the NOGER Initiative, the Norwegian government has implemented Norway's International Climate and Forest Initiative (NICFI), an initiative to support emission cuts from reduced deforestation and forest degradation through results-based finance (Government of Norway, 2024d). These emission reductions are retained in the host country's climate accounts, giving them the right to use the emissions to meet their own NDC targets, as well as the choice for the emissions reductions to be cancelled for the benefit of the climate.

Therefore, to differentiate between the purposes of NICFI and the NOGER Initiative and to ensure that there is no overlap in the work and goals of these two initiatives, the NOGER Initiative will not invest in carbon credits from the forestry sector and does not use such forestry carbon credits towards its own climate targets (Government of Norway, 2024d). Moreover, the NOGER Initiative also does not support the following programmes:

- Reduction of the HFC gas trifluoromethane (HFC-23) as a by-product of difluoromonochloromethane (HCFC-22);
- Reduction of nitrous oxide (N_2O) from adipic acid production; and
- Coal-based energy production without CCS.

The NOGER Initiative is supporting mitigation activities through two levels of cooperation (Government of Norway, 2024d):

- Project and programme level: The support is given at a specific project or programme, such as the installation of new technology in a factory or investment in a specific solar park
- Sector, jurisdiction, and policy level: The support is given to a larger programme at the national, intergovernmental, or state level. For example, a full or half support to the partner's energy sector (renewable energy), the industrial sector (cement sector), or the agricultural sector. There are not yet specific eligible standards and methodologies under the NOGER initiative. However, by looking at the past agreements, the NOGER initiative is supporting renewable energy initiatives, including solar and off-grid power projects in Benin (Government of Benin, 2024) and Morocco (Afrik21, 2024).

III.1.2.7. New Zealand

a. NDC profile

New Zealand	
Target	Emissions will be reduced by 50% below gross 2005 levels by 2030
Sectors	Energy, industry, waste, agriculture, FOLU
GHGs covered	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3

Source: Government of New Zealand, 2021

b. Article 6 participation policies, including cumulative demand (by 2030)

New Zealand is committed to reducing its net GHG emissions to 50% below gross 2005 levels by 2030. However, based on current efforts, it is estimated that there will be a shortfall of between 40 and 81 $MtCO_2e$ to achieve the NDC (Carbon Pulse, 2024b).

In view of the potential shortfall and in addition to domestic mitigation actions, the government is exploring plans for accessing offshore mitigation. One potential approach involves linking the New Zealand Emissions Trading Scheme (NZ ETS) to international markets, allowing the purchase of offshore units by participants in the NZ ETS. Should the government decide to open NZ ETS to international markets, only international units from sources approved by the government could be eligible, meeting certain standards demonstrating their environmental integrity (Ministry of Environment, 2023b). Secondly, New Zealand is prioritising partnering with countries in the Asia-Pacific region to source offshore mitigation in ways that promote sustainable development outcomes and resilience (Ministry of Environment, 2023a).

In adopting such approaches, as per its NDC, New Zealand is committed to ensuring environmental integrity through robust accounting, including transparency in accounting and governance, and safeguards against double-counting (Government of New Zealand, 2021). Moreover, New Zealand's international cooperation is guided by the Framework for International Carbon Market Cooperation below:

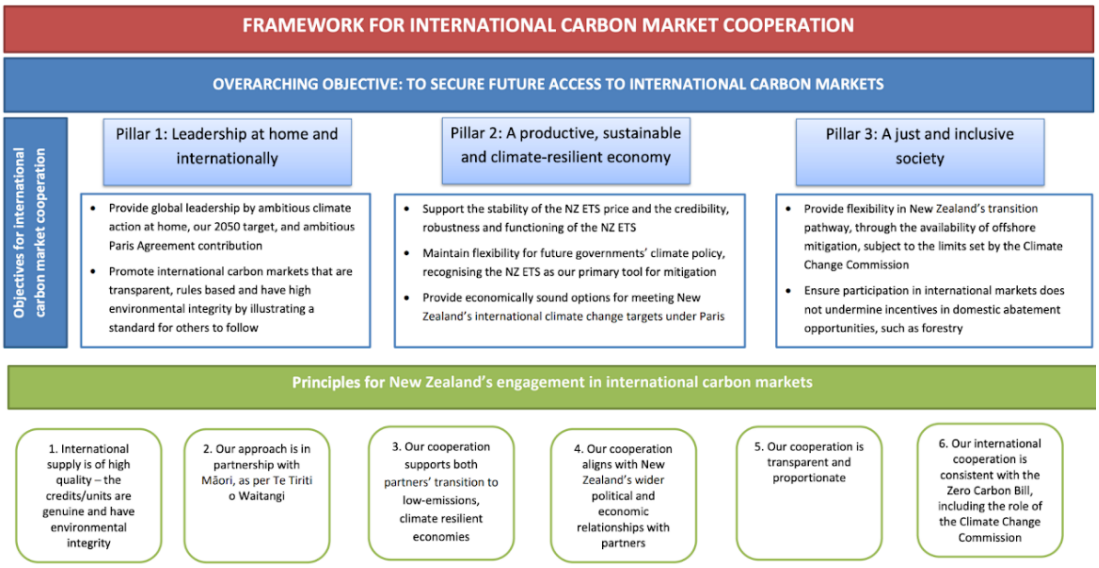

Figure 17: New Zealand Framework for International Carbon Market Cooperation

Source: Government of New Zealand, 2024

However, New Zealand's plan and strategy to utilise Article 6 remains unclear, and the information on the details of Article 6 strategy is limited. Nevertheless, engagement with other countries to explore potential Article 6 cooperation has begun - New Zealand is in discussions with the Philippines and Thailand (Quantum Intelligence, 2024c).

c. Procurement i.e. acquiring methods

Other than the New Zealand Framework for International Carbon Market Cooperation, which outlines its broader approach to cooperating with potential host countries, there is limited information on ITMO procurement approaches. Generally, New Zealand has approached Article 6 cooperative approaches as an extension of the broader economic and trade bilateral relationships with its key trading partners, including Thailand and the Philippines (Ministry of Foreign Affairs and Trade, 2024).

New Zealand could potentially procure ITMOs through the GGGI CTF, of which New Zealand is a funding partner to the CTF Article 6 Readiness Facility (GGGI, 2024).

In addition, if a decision is made to integrate international markets into the NZ ETS, only units from government-approved international sources would be eligible and additional legislative changes would be required (Ministry of Environment, 2023b).

d. ITMO price ranges or proxies

The New Zealand Treasury has forecasted that ITMOs could cost the government between NZD 3-23 billion or USD 1.9-14.4 billion, and therefore seeks to mobilise private sector participation and has an estimated ceiling price of around USD 35 (Carbon Pulse, 2024b). On the other hand, with the potential of allowing international credits to enter NZ ETS, the latest (2023) ETS price of NZD 59 (USD 33) can also serve as a willingness to pay indicator (World Bank, 2008a).

e. Preferences and requirements pertaining to project types, carbon standards and methodologies, project development cycle (e.g. timelines, key steps)

Detailed information around preferences and requirements is not yet available, apart from the requirement that international units must adhere to strict standards ensuring their environmental integrity and would be subject to volume limits as specified by legislation (Ministry of Environment, 2023b).

III.1.2.8. Implications for Viet Nam

Each ITMO buying country exercises its preferences as it pursues and implements Article 6.2 cooperative approaches. Based on the countries analysed, these preferences manifest in three ways: in terms of (1) eligibility requirements (e.g. project type and technology), (2) the requirement for the participation of a domestic company in the project and/or (3) procedural requirements (e.g. approval of methodologies and carbon standards).

These preferences can differ greatly from ITMO buyer country to another ITMO buyer country, which means that Viet Nam, as the host country, would need to evaluate which ITMO buyer country would appeal most to its strategic priorities. Therefore, to maximise the strategic utility of engaging in an ITMO buyer country for the case of Vietnam, it is important to further understand and review these preferences elaborated in the above sections, and evaluate the Government's vision for its carbon credits management mechanism framework (also elaborated in Section V below).

Here are some relevant considerations for Viet Nam when engaging a prospective ITMO buyer country under Article 6.2 cooperative approaches.

1. Is the other party a key strategic partner for Viet Nam in terms of broader strategic policy and socioeconomic cooperation?
2. Do both parties share a common vision and goals for the Article 6 cooperation?
3. Are there clear benefits for Viet Nam's end, such as enhancing the competitiveness of Viet Nam's companies and economy in the global economy?

(Section V.1.1.2. later discusses considerations on a project-level basis, on how the attractiveness or suitability of a project could be gauged under an Article 6 cooperative approach.)

In terms of the broader implications for Viet Nam, should Viet Nam be open to engage in Article 6.2 cooperative approaches with multiple countries, this would mean that the Government would need to develop a fundamental set of Article 6 authorisation procedures and mitigation activity project cycle which could be streamlined with the various ITMO buyer countries' specificities (i.e. procedural requirements).

III.2. Corporate buyers towards voluntary corporate targets

III.2.1. Global overview of VCM demand for voluntary corporate targets

In the past decade, the volume of traded voluntary carbon credits has grown despite a lower volume of transactions in 2023 (111 $MtCO_2e$) as compared to 2021 (516 $MtCO_2e$) (Ecosystem Marketplace, 2024b). Although the volume of demand in the VCM is not straightforward to predict, overall, the market is still expected to grow significantly in the coming decades.

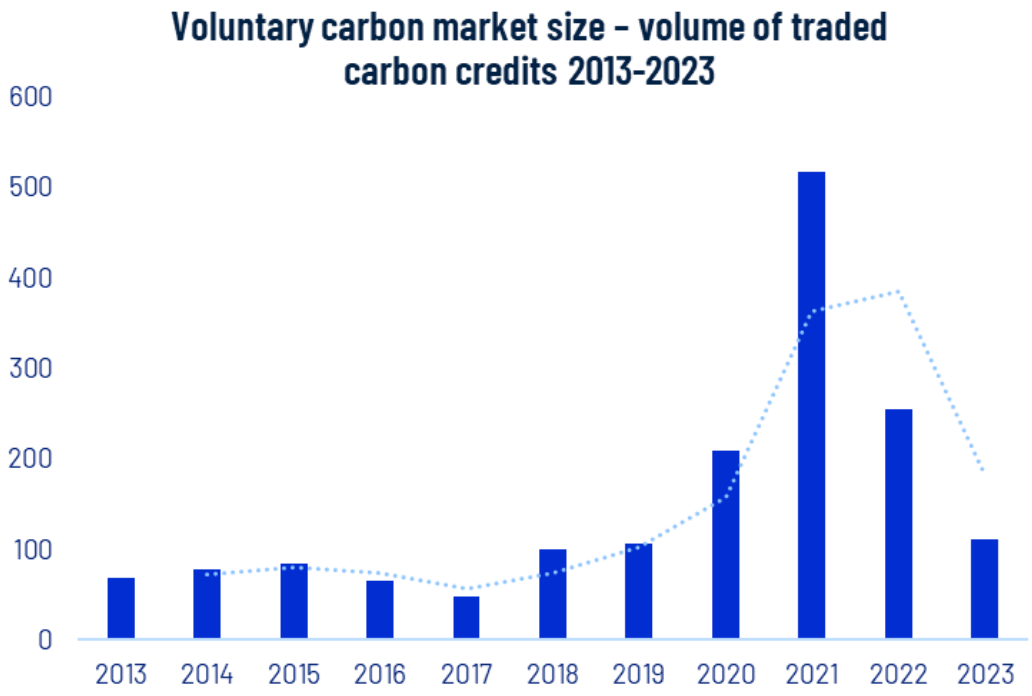

Figure 18: Voluntary carbon market size - volume of traded carbon credits 2013-2023

Source: Ecosystem Marketplace, 2024

In a report conducted by Taskforce on Scaling the Voluntary Carbon Markets (TSVCM), based on the projected demand envisioned by subject matter experts within the TSVCM, voluntary demand for carbon credits in 2030 could reach 1 $GtCO_2e$ while the market would increase by 30-40 times in 2050, reaching 3-4 $GtCO_2e$. Moreover, in the recent modelling conducted by MSCI in 2024, the result suggests that the market could reach USD 7-35 billion in 2030 and USD 45-250 billion in 2050 (MSCI, 2024c). Lastly, a study by the Ecosystem Marketplace stipulated that companies that use carbon credits are, on average, decarbonising at twice the rate of companies that do not (Ecosystem Marketplace, 2023).

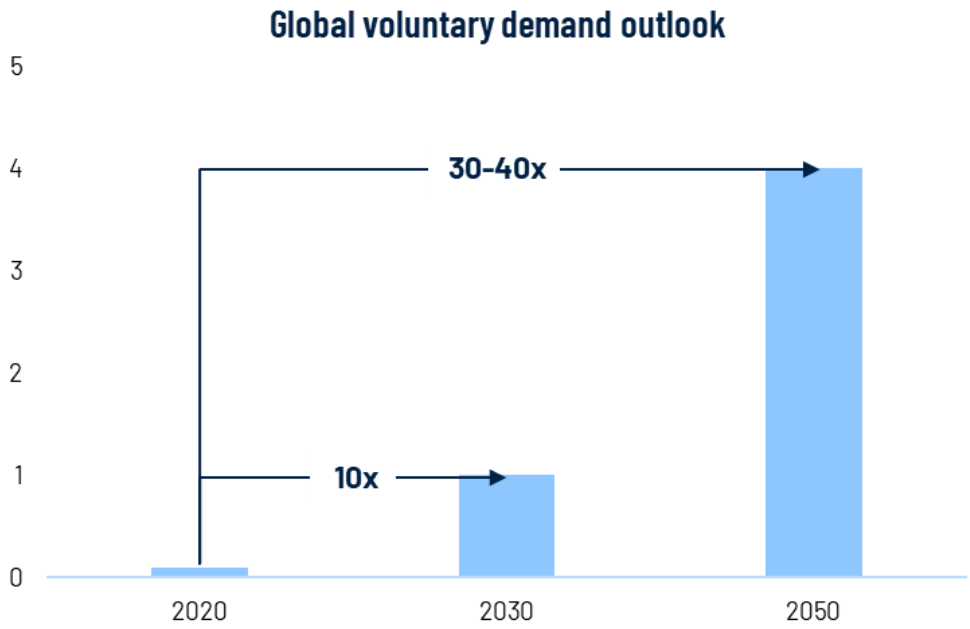

Figure 19: Global voluntary demand outlook

Source: Taskforce on Scaling Voluntary Carbon Markets (2021)

However, viewing market demand in terms of volume or monetary value of transitions alone is not sufficient, and the volume of retirements should be considered as well. Based on the retirement volumes as well as the issuance volumes, it can be said that the market is currently heavily oversupplied, with issuances outpacing retirements.

Every year since 2014 (see figure below), there has been a surplus of carbon credits, as more credits have been issued than retired for offsetting purposes, to nearly 50% oversupply in 2023 (Bloomberg, 2024). The situation persists in 2024 as the issuances consistently outpace retirements, making market efficiency remain below 1% (Allied Offsets, 2024).

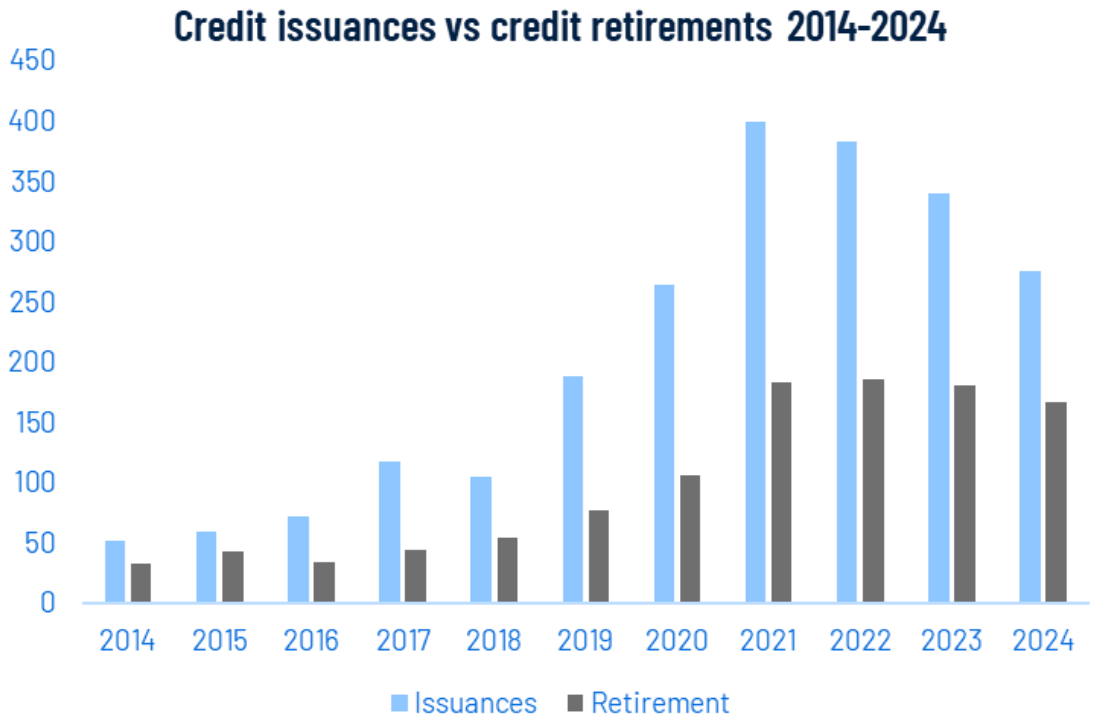

Figure 20: Credit issuances vs credit retirements 2014-2024

Source: MSCI, n.d.

In addition, there has been general concern about the quality of the credits, as to whether the carbon project would deliver the purported climate mitigation impact. Nevertheless, this concern is generally centred around methodological issues of certain project types (e.g. improved cookstoves, REDD+), or it pertains to the governance framework of the carbon standards and the misconduct of certain market players.

Secondly, there is also the concern of negative attention or criticism associated with the use of credits (i.e. greenwashing) by companies, where the use of carbon credits is prioritised over their in-house emission reductions, and the claims associated with the use of these carbon credits towards the company's carbon reduction targets (Bloomberg, 2024).

These views are one major obstacle to scaling up carbon markets, hindering markets from channelling finance into climate action. According to Nasdaq (Nasdaq, 2024), in order to scale the voluntary market, the following challenges need to be addressed:

- Carbon credit quality and integrity
- Lack of price transparency
- Lack of standardisation
- Market fragmentation and inefficiencies
- Liquidity concentration tied to a small number of projects

III.2.2. Buyer-specific considerations, demand and requirements by industry initiative (relating to corporate targets)

In general, corporations, as well as individuals, voluntarily purchase and retire carbon credits for the purpose of:

- Achieving their net-zero commitments and strategy; and/or
- Supporting social responsibility efforts as a response to demands from shareholders, consumers, and employees to compensate for their carbon footprint; and/or
- Preparing for an upcoming mandatory carbon price by building internal capacity by procuring credits, and accounting for the cost of emissions.

To address the challenges of the supply of high-quality carbon credits and the judicious use of carbon credits towards credible corporate claims, few industry-led international governance initiatives have emerged in recent years, notably ICVCM Core Carbon Principles, VCMI Claims of Code Practice, and SBTi Corporate Net-Zero Standard. These initiatives (and their guidelines or standards) seek to ensure that the VCM operates fairly and safely, in order to build trust and integrity in the carbon markets.

Going forward, global VCM developments and the evolution of the VCM are strongly influenced by these initiatives. This also means that carbon credit buyers as well as sellers take the recommendations or reviews of these initiatives into account, such as when developing a carbon credit procurement plan as part of a broader corporate decarbonisation strategy.

III.2.2.1. Integrity Council on Voluntary Carbon Markets (ICVCM)

The ICVCM is a non-profit, independent governance body that aims to set a new standard for high-quality carbon credits by (ICVCM, n.d.-c):

- Assessing carbon-crediting programmes and methodology types against the Core Carbon Principles (CCP). CCP-labelled carbon credits will bring integrity to the market;
- Engaging all stakeholders in the market including, VCM practitioners, governments and regulators, Indigenous Peoples & local communities; and
- Ensuring carbon programmes and projects increase ambition over time.

The ICVCM was set up in 2021 in response to the final recommendations of TSVCM, an initiative backed by more than 250 organisations. The ICVCM is funded by various organisations, including The Rockefeller Foundation, Grantham Foundation for the Protection of the Environment, Bezos Earth Fund, Google, etc. The key governance principles, mandate, charter and principles that guide its work to achieve a high-integrity voluntary carbon market can be found on its website (ICVCM, n.d.-b).

The ICVCM is assessing programmes and categories, which will then receive the CCP label by following ten key principles (ICVCM, n.d.-d):

- Emissions impact
    1. Additionality

2. Permanence
3. Robust quantification of ERs & removals
4. No double counting

- Governance
    5. Effective governance
    6. Tracking
    7. Transparency
    8. Robust independent third-party validation and verification
- Sustainable development
    9. Sustainable development benefits and safeguards
    10. Contribution to net zero transition

As of December 2024, ICVCM approved five crediting programmes and eight methodologies to be CCP-Eligible (ICVCM, n.d.-a):

- Eligible crediting programmes: ACR, ART, CAR, Gold Standard, VCS.
- Eligible methodologies:
    - VM0047 Afforestation, Reforestation, and Revegetation – version 1.0
    - ACR Destruction of ODS from International Sources version 1.0
    - CAR Article 5 Ozone Depleting Substances Project Protocol versions 1-2
    - CAR U.S. Ozone Depleting Substances Project Protocol versions 1-2
    - ACM0001 – Flaring or use of Landfill Gas versions 15-19, used by Verra and Gold Standard
    - AMS III.G – Landfill Methane Recovery version 10, used by Verra and Gold Standard
    - ACR Landfill Gas Destruction and Beneficial Use Projects version 1-2
    - CAR US Landfill Protocol version 6
    - AM0023 Leak detection and repair in gas production, processing, transmission, storage and distribution systems and in refinery facilities – version 4.0.0
    - (ART) The REDD+ Environmental Excellence Standard (TREES) version 2.0
    - (VCS) Jurisdictional and Nested REDD+ (JNR) Framework version 4.1
    - VM0048 Reducing Emissions from Deforestation and Forest Degradation version 1.0

III.2.2.2. Voluntary Carbon Markets Integrity Initiative (VCMI) Claims of Code Practice

The VCMI is an independent non-profit organisation housed in Rockefeller Philanthropy Advisors. It aims to provide a rulebook on the credible use of high-quality carbon credits and associated climate claims in order to accelerate high-integrity climate action. In its rulebook, companies are separated into three tiers based on their actions above and beyond their internal decarbonisation efforts by claiming and retiring high-quality carbon credits as follows (VCMI, 2023):

- Silver: 10 – 50% of the company's remaining emissions
- Gold: 50 – 100% of the company's remaining emissions
- Platinum: 100% or greater of the company's remaining emissions

VCMI was announced by COP26 President-Designate Alok Sharma on 31 March 2021, and has received funding from the Children's Investment Fund Foundation, Ballmer Group, the

Bezos Earth Fund, Google LLC, the Packard Foundation and the UK Department for Business, Energy and Industrial Strategy (BEIS) (VCMI, n.d.).

The VCMI governance structure ensures that VCMI incorporates a diverse range of stakeholders from the Global North and the Global South, including participation from civil society, academia, government, business and other relevant initiatives focused on high-integrity VCMs. To this end, the VCMI governance framework includes a secretariat, a steering committee, an expert advisory group, a country contact group, and the VCMI Stakeholder Forum (VCMI, n.d.).

In carbon offsetting, VCMI supports the credible use of high-quality carbon credits in voluntary carbon markets, ensuring that offsets are part of a transparent strategy after genuine emissions reductions. Compared to SBTi, VCMI is relatively new and the information of its adoption is still limited. Additionally, VCMI offers an early adopter programme for companies to be one of the first to make VCMI claims. In doing that, they target several markets as follows (VCMI, n.d.):

- Companies seeking to make credible, voluntary use of carbon credits and receive validation in the form of a VCMI Claim;
- Individuals, businesses, and other buyers of goods and services seeking to make net-zero-aligned purchases;
- Investors and other stakeholders who want to evaluate the credibility of a company's climate ambition and its actions; and
- Governments and their regulatory agencies are considering how to incentivise non-state actors to use carbon credits credibly and to structure their claims to be truthful, clear and informative.

III.2.2.3. Science Based Targets initiative (SBTi)

The SBTi is an organisation that develops standards, tools and guidance which allow companies to set emissions reduction targets in line with what is needed to keep global heating below catastrophic levels and reach net zero by 2050 at the latest. They provide guidelines for companies including (SBTi, 2024b):

- Suggestions for the design and implementation of beyond-value-chain-mitigation (BVCM) strategies to accelerate progress towards global net zero;
- Suggestions for steps in making a BVCM pledge.
- Illustrative examples show how companies in a range of sectors might implement BVCM in line with the suggestions provided.

Under their guideline (SBTi, 2024b), carbon credits must be reported separately from the GHG inventory and do not count as reductions toward meeting near-term or long-term SBTi Corporate Net Zero Standard targets. Carbon credits may only be considered an option for neutralising residual emissions, financing additional climate mitigation, or BVCM activities. This is due to their principle of not recognising offsetting as a way to meet science-based targets. Companies are expected to reduce emissions within their operations and value chains. Nevertheless, SBTi has been widely adopted by large multinational corporations and financial institutions and as of August 2024 more than 6,000 companies have adopted science-based targets (SBTi, 2024a).

III.3. CORSIA Buyers i.e. Airlines towards CORSIA compliance

III.3.1. Global overview of ITMO demand for CORSIA compliance

In recognition of the Paris Agreement global temperature targets, the ICAO assembly agreed in 2016 to the formation of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). CORSIA aims to address the increasing growth in emissions from the aviation industry by requiring airline operators to offset their share of CO_2 emissions that cannot be reduced through non-market-based measures.

As the first market-based instrument for a global industry sector, CORSIA provides a mechanism for the equitable distribution of GHG emission contribution and reduction targets across its Member States and airline operators based on their participation in international journeys. Beginning in 2024, the scheme's baseline will equal 85% of the sector's 2019 CO_2 emissions. Furthermore, it establishes the procedures for airlines and Member States to monitor, report and verify annual emissions and sets a baseline for carbon-neutral growth.

CORSIA is divided into three stages: 1) Pilot phase from 2021-2023; 2) First phase from 2024-2026; and 3) Second phase from 2027-2035. After the pilot phase (2021–2023), the first phase (2024–2026) will keep the pilot phase's voluntary nature, in terms of which national governments opt into CORSIA's offsetting obligations component, but the second phase will become mandatory for most states, covering all flights (with some exemptions) between countries (2027–2035). In 2027, participation in CORSIA's offsetting obligations component will become mandatory for all countries that have an individual share of international aviation activities in revenue tonne-kilometres (RTKs) in the year 2018 above 0.5% of total RTKs, or whose cumulative share in the list of states from the highest to the lowest amount of RTKs reaches 90% of total RTKs. LDCs, Small Island Developing States and Landlocked Developing Countries are exempt from CORSIA's offsetting obligations component unless they volunteer to participate in the scheme (IATA, 2024a). By the end of 2032, a review of CORSIA will be conducted to determine whether the scheme should be terminated, extended or improved after 2035.

There are several mitigation measures which airlines can implement to reduce their proportional share of operational emissions, such as technological advancements in efficiency and/or the use of sustainable fuels, namely Sustainable Aviation Fuel (SAF) and CORSIA Eligible Fuels (CEF). Once all implementable measures have been adopted for a given period, CORSIA Eligible Emissions Units (EEUs), which represent 1 tonne of carbon dioxide equivalent (tCO2e), authorised for international use by the host country, can then be purchased to offset the unabated emissions.

Table 7: CORSIA implementation plan

	Pilot phase	First phase	Second phase
Period	2021-2023	2024-2026	2027-2035 Split into three-year compliance cycles

Compliance	Voluntary	Voluntary	Mandatory
Participants	Mandatory for most flights between ICAO member states that volunteer to participate.		Mandatory for most flights between almost all ICAO member states.

Source: IATA, 2024a

CORSIA is interlinked with Article 6 of the Paris Agreement. CORSIA compliance entities can acquire EEUs by following Article 6.2 specific standards and reporting requirements on ITMO transfers. However, it does not require Article 6 bilateral agreements, and host countries can issue authorisations and transfer of ITMOs for use towards OIMPs. Furthermore, Article 6.4 credits could be eligible for CORSIA, subject to ICAO's future decision.

As of January 2025, 129 States volunteered to participate in CORSIA in its first phase (2024-26) (ICAO, 2024a). In the International Air Transport Association (IATA)'s latest forecast, the estimated demand for CORSIA Eligible Emissions Units (EEUs) ranges from 64 to 162 $MtCO_2e$ over 2024-2026 (Phase I), and between 1,146 and 1,930 $MtCO_2e$ over 2024-2035 (Phases I and II), depending on traffic forecast scenarios (IATA, 2024a).

According to ICAO's latest report published in March 2025, it estimates that the cumulative demand for CORSIA EEUs could range from 980 to 1,500$MtCO_2e$ from 2024 to 2035, and demand for Phase I is expected to be 100-150$MtCO_2e$ (ICAO, 2025).

In a similar projection, MSCI projected that the cumulative demand for CORSIA EEUs will be 600-1,800 $MtCO_2e$ up to 2035 (MSCI, 2024b).

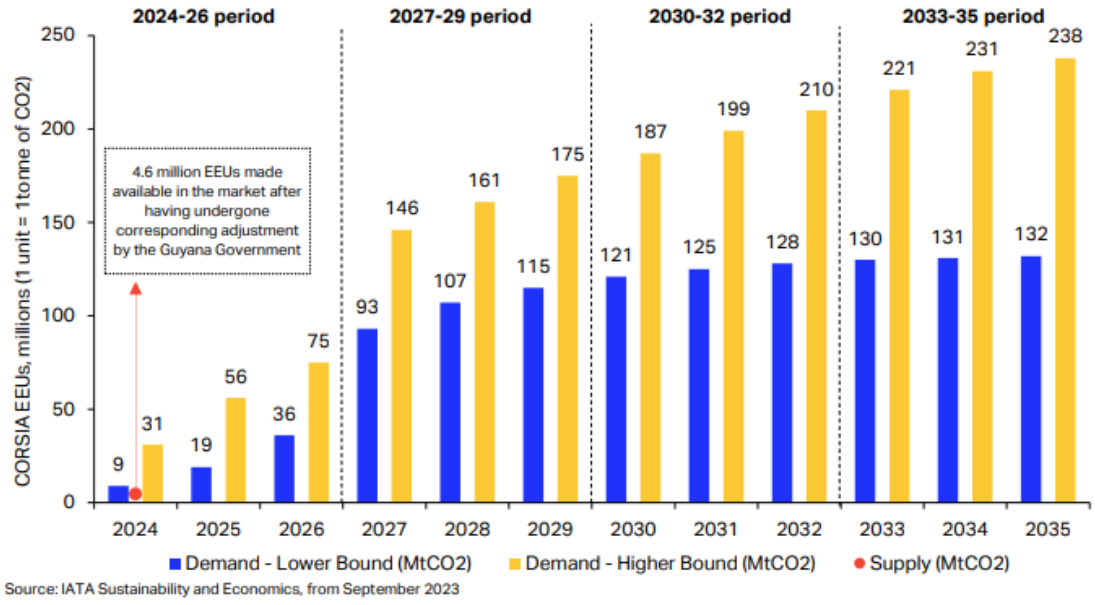

Figure 21: IATA's CORSIA demand outlook

Source: IATA, 2024

There are several key factors that influence the actual demand for CORSIA EEUs, mainly the participation of ICAO member states and airlines' in-sector decarbonisation efforts. Participation from all ICAO member states is key to driving the demand, as currently, several

major countries are yet to join, such as China and Russia. MSCI projects that if all member states participate while the in-sector efforts are low, the cumulative demand could reach 137 $MtCO_2e$ in Phase I and 1,299 $MtCO_2e$ in Phase II. In contrast, if the participation is low and the in-sector efforts are highly adopted, the demand could drop to around 106 $MtCO_2e$ in Phase I and 502 $MtCO_2e$ in Phase II.

Additionally, as airlines have options to reduce emissions without using EEUs, their ability to unlock a key technology, more efficient operations, and the adoption of Sustainable Aviation Fuel (SAF), as well as its cost-effectiveness on a cost per tonne CO_2e mitigated (USD/tCO_2e) basis also heavily influences EEUs demand. ICAO estimates that the demand for carbon credits under CORSIA will surpass the demand for SAF and CEF due to the limited supply of these low-carbon footprint fuels and cheaper prices of credits (ICAO, 2025). ICAO estimated that the mitigation cost from using SAF is around USD 600-800/tCO_2 as compared to the average prices of EEUs of around USD 5.70-17.20/tCO_2 (ICAO, 2025).

At the same time, the supply of EEUs is currently extremely limited, with only 4.6 million units certified and issued this year under the Architecture for REDD+ Transaction (ART) TREES standard from the Jurisdictional REDD+ Program in Guyana (IATA, 2024a), (Carbon Pulse, 2025a). In terms of eligible carbon crediting programmes that can supply EEUs, five other programmes to date have been approved for CORSIA - GS, VCS, CAR and GCC. Details of the eligibility conditions for the current CORSIA Phase I are published in the ICAO document, CORSIA Eligible Emissions Units (ICAO, 2024b).

Nonetheless, the situation of low supply is expected to persist as not many host country governments have the necessary legal frameworks and infrastructure in place (MSCI, 2024b). Subsequently, if these demand and price projections are realised, the CORSIA credit market could be worth USD 2-8 billion during Phase I, rising to USD 5-66 billion by the fourth compliance period (Carbon Credits, 2024).

III.3.2. Buyer-specific considerations of CORSIA

III.3.2.1. ITMO price ranges or proxies

The supply of CORSIA Eligible Emissions Units (EEUs) is limited, with only 7.5 million credits available compared to the 162 million demand for Phase I (Carbon Credits, 2024). This supply-demand imbalance may drive up prices and place increased pressure on airlines to secure compliant units early. In the first auction for Phase 1 CORSIA-eligible credits organised by the International Air Transport Association (IATA) in November 2024, eleven of the 32 participating airlines bought the Guyana ART TREES credits (volumes undisclosed) at USD 21.70/tCO_2e.

As CORSIA progresses, it is expected that the voluntary market will increasingly compete for these limited units, driving demand and potentially elevating prices. This competition underscores the need for airlines to proactively strategise their procurement to secure CORSIA-compliant units at competitive rates. As a result, the overall CORSIA-eligible credit price is projected by MSCI Carbon Markets to range from (MSCI, 2024b):

- 18-51 USD/tCO_2e in Phase I, and
- 27-91 USD/tCO_2e in compliance period 4 (at 2024 prices)

III.3.2.2. Preferences and requirements pertaining to carbon standards, methodologies and project types

ICAO has set out specific requirements for the carbon credits that can be used toward offsetting obligations under CORSIA.

ICAO defines the "scope of eligibility" for credits from each crediting program (i.e. carbon standard) approved under CORSIA, based on the defined CORSIA Emissions Unit Eligibility Criteria and periodic interpretations of these criteria (ICAO, 2024b). EEUs must meet the following criteria for Phase I:

- Be registered to an approved registry that has passed an assessment by ICAO's Technical Advisory Board;
- Be from a project with a crediting-period start date after Jan. 1, 2016;
- Be issued with a vintage year between 2021 and 2026; and
- Have a corresponding adjustment applied to avoid double-counting the emissions reduction against a country's NDC.

The ICAO CORSIA EEU guidance specifies factors such as credit type, activity type, vintage years of the mitigation, sustainable development reporting, and the assurance of no double claiming (ICAO, 2024b). Eligible standards and methodologies, along with certain exclusions and/or exemptions, are specified for the different phases, including Phase I.

The scope of eligibility for each program is typically published twice a year in the CORSIA Eligible Emissions Units (EEUs) document, where the October 2024 version is the latest version, released in December 2024 (ICAO, 2024b).

The American Carbon Registry (ACR), Architecture for REDD+ Transactions (ART TREES), GS, VERRA, CAR and GCC have been approved as eligible standards for Phase I. Other than that, five programmes of Isometric, BioCarbon Fund Initiative for Sust. Forest Landscapes, Cercarbono, Forest Carbon Partnership Facility, and Thailand Voluntary Emission Reduction (T-VER) Programme are listed as conditionally eligible (ICAO, 2024d).

Based on the latest CORSIA EEU guidance, certain project types and methodologies would not be eligible for Phase I. A notable exclusion under Phase I is credits from any renewable energy (RE) generated from facilities with maximum output capacity greater than 15MW.

It is also worth noting that for VCS, clean cookstove projects following methodologies AMS-II.G and/or VMR0006 would not be eligible, although existing using VMR006 and AMS-II.G would need to transition to Verra's new cookstoves methodology, VM0050. Nevertheless, cookstove projects using AMS-II.G will be CORSIA-eligible under GS.

For VCS, all nature-based projects in 'REDD+ countries' generating more than 7,000 credits would be excluded, unless carbon projects follow scenarios 2a and 3 of VCS Jurisdictional and Nested REDD+ (JNR) framework, which is eligible. (Scenario 2a covers REDD+ projects nesting under a jurisdictional, or regional framework, while scenario 3 covers standalone JNR programmes covering entire regions.) This means VCS VM0048 projects will only be eligible for now if part of the approved JNR scenarios or for projects with less than 7,000 carbon credits per year.

Overall, based on the latest CORSIA EEU guidance, the exclusion of RE projects with maximum output capacity greater than 15MW and the exclusion of VMR0006 and AMS-II.G are expected to greatly constrain the supply of EEUs in the short term. Large-scale NBS and cookstove projects from the remaining eligible methodologies, such as TREES (e.g. Guyana ART TREES), AMS-I.E. Switch from Non-Renewable Biomass for Thermal Applications by the User (e.g. GS 10885).

Specifically for Phase I and also for the subsequent phases, the Eligible Unit Dates, in relation to the period where the emissions reductions that occurred, i.e. vintage, are for those that occur from 1 January 2021. As the use of carbon credits for CORSIA compliance is considered as an international mitigation purpose other than NDCs under the Article 6 rules, the use of carbon credits toward CORSIA compliance for Phase I (for vintages from 2021 onwards) therefore requires Article 6 authorisation by host countries.

Eligible EEUs issued on the eligible carbon standards' registries may obtain a CORSIA label - the account holder, i.e. project owner, must upload certain documentation to the carbon standard's registry as assurance that there will be no double claiming by the aircraft operator and host country of the mitigation outcomes.

Table 8: Double-claiming requirements of selected eligible carbon standards for CORSIA

Emissions Unit Programmes	Double-claiming requirements
Gold Standard	**Option 1: Corresponding Adjustment:** Provide evidence that the relevant host country has applied a corresponding adjustment for the GS-VERs, through its Biennial Transparency Report to the UNFCCC. This evidence could be: a. A copy of the Biennial Transparency Report, where the country's application of a corresponding adjustment can be traced to the GS-VERs. b. A link to information in the Article 6 Database implemented by the UNFCCC (when available) where the country's application of a corresponding adjustment can be traced to the GS-VERs. **Option 2: Guarantee:** Provide a guarantee that, in the event GS VERs are retired for use under the First Phase of CORSIA but the relevant host country does not apply a corresponding adjustment ('double-claimed units'), any GS- VERs labelled as eligible for use under the First Phase of CORSIA shall be replaced with an equivalent volume of CORSIA-eligible units. Project developers must take these two steps: a. Deed of Undertaking. The project developer must sign a Deed of Undertaking, undertaking that the project developer will replace any double-claimed units in the event that this is demanded by Gold Standard (or a beneficiary) in accordance with the terms and procedures under its GHG Emissions Reduction & Sequestration Product Requirements. This Deed of Undertaking must be signed for

	each issuance of GS-VERs for which the project developer is seeking eligibility for the First Phase of CORSIA, and; b. Hold an Approved Insurance Policy. The project developer or its affiliate must hold and provide evidence of the holding of an insurance policy approved by Gold Standard to support its undertaking to replace any double-claimed units as described above. At this time, Gold Standard recognises the guarantee providing Breach of Contract coverage by the Multilateral Investment Guarantee Agency (MIGA).
Verified Carbon Standard	**Option 1: Evidence of a completed corresponding adjustment for the mitigation outcomes represented by the VCUs**, in the form of inclusion in a Biennial Transparency Report (BTR) submitted by the host country to the UNFCCC, or **Option 2: A CORSIA Accounting Representation**, signed by the project proponent, buyer, or another entity, committing to compensate for affected VCUs in the event that a Letter of Authorization (LOA) or an attestation to the avoidance of double claiming is revoked or withdrawn by the host country or the host country does not apply a corresponding adjustment, and a certificate of insurance for a Verra-approved risk insurance product with which the entity providing the CORSIA Accounting Representation will be able to compensate for any affected VCUs.

Source: Gold Standard, 2024a and Verra, 2025

Further details with regard to corresponding adjustments have been provided in the Gold Standard's Guideline on Eligibility of Gold Standard VER for use under CORSIA's First Phase (2024-2026) (Gold Standard, 2024a), and Verra's CORSIA Label Guidance (Verra, 2025).

The insurance policy requirements are fairly new to market players, and with MIGA being the only approved insurance policy provider for Gold Standard. To date, MIGA has issued a guarantee for a cookstove project in Kenya to cover political risks for up to 15 years (e.g. expropriation, war and civil disturbance) and including in the event of a breach of contract i.e. where the host country that has provided a Letter of Authorisation does not apply a corresponding adjustment for relevant authorised ERs, in breach of its commitment to do so. There is not much information publicly available in terms of the costs of the insurance policy to meet CORSIA's double-claiming requirements (World Bank, 2025).

Nevertheless, project developers need to weigh the costs (in terms of time and opportunity costs too) of purchasing the insurance and furnishing 'replacement' EEUs to replace any double-claimed units, versus submitting the evidence of corresponding adjustment done by the host country government, in the form of inclusion in the BTR, after the BTR has been published and submitted to the UNFCCC Centralised Accounting and Reporting Platform (CARP) (UNFCCC, n.d.-a). (The Paris Agreement timelines for Article 6 reporting in line with the NDC accounting requirements are that the first BTR is to be submitted in 2024, with the subsequent BTRs every two years later).

IV. ANALYSE INTERNATIONAL EXPERIENCE ON THE GOVERNANCE OF CARBON CREDITS AND MITIGATION OUTCOMES

IV.1. Approach for selecting host countries to review

In this section, the governance policies of countries that position themselves as the supplier of ITMOs under the Paris Agreement (host countries) are reviewed, and their strategy, specifically with regard to the management of carbon credits and participation in the international carbon market, is analysed.

The following criteria were used to select the host countries for the case study:

- Host country has an Article 6 framework in place and preferably has issued an Authorisation Statement for Article 6.2 pilot projects
- Host country preferably has a domestic ETS
- Host country actively participates in the international carbon market

Considering the above, the several host countries are considered, and why the final five countries were selected for the case study out of the initial seven shortlisted countries are explained below in the table:

Table 9: Considerations for host country selection

Region	Host country	Rationale for selection		
		Advanced Article 6 readiness	**Has domestic ETS (preferably)**	**Active participation in the international carbon market**
Africa	**Ghana**	Has Article 6 Framework and authorised projects in place	Ghana does not yet formally have a domestic carbon pricing mechanism. Instead, 50.6% of Ghana's GHG emissions are subject to a positive Net Effective Carbon Rate (ECR) in 2023 - an implicit carbon pricing through fuel excise taxes	Ghana is an active participant in the voluntary market and has cooperation with Japan through the JCM
	Rwanda	Has Article 6 Framework and an authorised project in place	Similar to Ghana, Rwanda does not impose an explicit carbon price and has 14.1% of GHG emissions in the country as the subject to an implicit carbon pricing of positive Net ECR	Rwanda is an active participant in the voluntary market and has cooperation with Japan through the JCM

Asia	**Thailand**	Has Article 6 Framework and an authorised project in place	The government has announced its intention to implement a carbon tax by 2025, whereas ETS is still under consideration. In the voluntary effort, Thailand sets up the Voluntary Emissions Trading Scheme (Thailand V-ETS) pilot programme	Thailand is an active participant in the voluntary market and has cooperation with Japan through the JCM
	Indonesia	The government has Article 6 bilateral agreements in place. However, a specific Article 6 framework is not there yet	"Indonesia has an ETS in place, currently applied to the coal-fired power plant sector, with the plan to expand already in place	Indonesia is an active participant in the voluntary market and has cooperation with Japan through the JCM. However, due to the moratorium, several credits have been halted from entering the international voluntary market.
	Cambodia	Has Article 6 Framework	Cambodia does not yet have a domestic carbon pricing mechanism. The country is working to familiarise itself with carbon pricing instruments (CPI), with plans to establish legal measures that will support sustainability efforts.	Cambodia is an active participant in carbon credit activities, accounting for over a quarter of the credits issued across ASEAN Member States (AMS) since 2004.
	India	The government has only published their domestic compliance market mechanism rules which do not explore the Article 6 aspects. On Article 6, there is only the positive list of activities published and there has been no details published on the details of the Article 6 framework.	Recently published their domestic compliance market mechanism rules through the Carbon Credit Trading Scheme (CCTS)	India is an active participant in the voluntary market and has an MoU with Japan to cooperate through the JCM

LATAM	**Chile**	Has Article 6 Framework	Chile does not have an ETS but introduced a carbon tax in 2017, targeting emissions from large stationary sources (e.g., power plants)	Chile is an active participant in the voluntary market and has cooperation with Japan through the JCM

Source: The Consultant, 2025

Based on the above consideration, two countries (India and Indonesia) are excluded due to the absence of advanced Article 6 readiness and the unavailability of information of the national Article 6 frameworks. The selected countries' Article 6 participation strategy was analysed, although the level of detail of the analysis for each country is different due to data availability.

IV.2. Case studies on host countries

IV.2.1. Ghana

IV.2.1.1. NDC profile

Ghana	
Target	An 8.5 $MtCO_2e$ GHG reduction by 2025 and a further 24.6 $MtCO_2e$ by 2030 compared to the baseline scenario
Sectors	Energy, industry, waste, agriculture, FOLU
GHGs covered	CO_2, N_2O, CH_4, HFCs

Source: Government of Ghana, 2022a

IV.2.1.2. Carbon credit governance

a. Guiding principles for the country's carbon markets and Article 6 regulatory framework

Ghana seeks to ensure that its participation in the carbon market, including its participation in the Article 6 mechanism, aligns with the principles of environmental integrity, transparency, and promotion of sustainable development. In ensuring environmental integrity and transparency, each mitigation activity used for Article 6.2 purposes must be within Ghana's conditional mitigation NDC activities or outside the NDC scope, as long as the associated emissions are covered under the national inventory, require corresponding adjustments, and get formal recognition by the government (Government of Ghana, 2022b).

Related to sustainable development, mitigation activities must be consistent and contribute to the sustainable development objectives of Ghana and the acquiring party (Government of Ghana, 2022b). Ghana also requires the use of an appropriate Sustainable Development Tool to identify and monitor the impacts of the mitigation activity. Furthermore, each project activity is required to obtain an environmental permit and, where applicable, undertake stakeholder consultations with local and other affected stakeholders and establish an independent grievance mechanism.

Additionally, to support the accurate accounting of Ghana's NDC, all projects, including VCM projects, must register and receive "formal recognition" and may seek a corresponding adjustment (The Nature Conservancy, 2024).

b. Domestic carbon crediting mechanism (voluntary or compliance)

Ghana does not have a domestic carbon crediting mechanism. Instead, Ghana's Carbon Market Office (CMO) recognises several existing international carbon crediting programs or standards such as the CDM, Article 6.4, VCS, and GS (Government of Ghana, 2022b).

c. Article 6 governance

(i) Regulations and frameworks

Ghana has developed an Article 6 framework through Ghana's framework on the international carbon market and non-market approaches document (Government of Ghana, 2022b), encompassing: 1) Operational guidelines for Article 6.2 cooperative approach in Ghana, which include a module on the voluntary carbon market projects; and 2) Guidelines for the implementation of Rules, Modalities, and Procedures (RMP) under the Article 6.4 mechanism. Ghana plans to mitigate 39 $MtCO_2e$ in order to achieve its conditional NDC target, requiring an estimated USD 4.9 billion investment (Government of Ghana, 2024). Hence, Ghana is aiming to close the above investment gap through Article 6 cooperative approaches.

(ii) Institutional arrangements

The overall implementation of Ghana's Article 6 cooperative approaches is overseen by the Ministry of Environment, Science, Technology, and Innovation (MESTI) (Government of Ghana, 2022b). Its role includes authorising mitigation outcomes, coordinating and providing policy direction, and working with the Environmental Protection Agency (EPA), which hosts the Ghana Carbon Market Office (CMO). MESTI sets up the following national structures to support the transactions (Government of Ghana, 2022b):

- Carbon Market Inter-Ministerial Committee (CM-IMC) - oversight and coordination
- Carbon Market Committee (CMC) - approvals and rulemaking
- Carbon Market Technical Advisory Committee (CM-TAC) - technical advice

Other than METSI, the EPA has a role in operationalising Article 6.2 technical requirements, including MRV and accounting, registry operations, creation and transfer of ITMOs, reporting, corresponding adjustments, etc (Government of Ghana, 2022b). Under the EPA, the CMO serves as the secretariat for implementation support of Article 6 of the Paris Agreement and provides administrative and technical services for Article 6 structures, key stakeholders, and entities involved in the mitigation activity design, implementation, and MRV services and financing (Government of Ghana, 2022b).

(iii) National carbon registry

Ghana has its own national carbon registry managed by the CMO, which collects and tracks transactions from mitigation activities at the sector, city and corporate levels. All projects, including Article 6 projects, must have their information entered into the national registry, the Ghana Carbon Registry (GCR) (Ghana Carbon Registry, n.d.). The national registry then

has the role of maintaining and tracking all of the information related to issuance, authorisation, transfer, NDC use, and cancellation of credits (The Nature Conservancy, 2024).

Mitigation activities developed in Ghana can only be registered to one national or international carbon crediting scheme to avoid double issuance (Government of Ghana, 2022b). For projects that are registered outside of the GCR (e.g., Verra, Gold Standard, etc), they must have their information transmitted to the GCR (The Nature Conservancy, 2024). However, for it to be transferred as ITMOs, the transfer can only occur on the GCR, despite it being registered outside of the GCR (Government of Ghana, 2022b).

d. Article 6 Strategy

(i) Authorised uses of ITMOs

All mitigation outcomes used towards the achievement of another country's NDC and international mitigation purposes, such as CORSIA, will require corresponding adjustments. In the framework (Government of Ghana, 2022b), the following criteria are used to safeguard against the over-crediting risk related to NDC:

- Only mitigation outcomes generated from one of the 25 activities within the conditional NDC target may be considered for authorisation
- Ghana will reserve 1% of the total mitigation generated in the national buffer account
- Ghana will only consider authorising mitigation outcomes outside the NDC scope if they have been included in the latest GHG inventory

Ghana has signed government-to-government bilateral cooperation agreements with Switzerland, Sweden, Singapore, South Korea and Liechtenstein (Government of Ghana, 2024). As of December 2024, authorisations have been granted for three Article 6 projects where the ITMOs will be used towards Switzerland's NDC. The three projects are in sustainable agriculture, waste to compost, and cookstoves, with an estimated investment of more than USD 100 million and an emission reduction of 6 $MtCO_2e$ (Ghana CMO, n.d.).

(ii) Eligibility criteria and positive list of eligible activities

Ghana will only authorise and perform corresponding adjustments for credits from (1) sectors, either (a) covered by its conditional target or (b) outside of its NDC scope, and (2) within its National GHG Inventory (Government of Ghana, 2022b). Mitigation activities under the whitelist, defined as being automatically additional and not needing to demonstrate technical and financial additionality, are activities that meet all the following five criteria (Government of Ghana, 2022b):

- The activity is part of 25 conditional mitigation activities in Ghana's NDC
- The activity must align with Ghana's sectoral regulatory or standard requirements
- The activity must contribute to sustainable development and demonstrate environmental integrity
- The activity must be consistent with the priority areas established in a bilateral agreement
- The activity must align with the applicable technologies in the latest version of CDM's positive list

Based on the criteria above, the following activities are part of the first whitelist for 2022-2025 (Government of Ghana, 2022b):

- Waste sector - waste handling
  - Landfill gas management - New or existing landfills that would have vented or flared methane gas without utilisation for energy generation.
  - Waste-to-energy (W2E) technologies involve gasification, anaerobic bio-digesters and anaerobic treatment of solid and liquid waste for gainful energy use.
  - Composting of organic waste through the avoidance of emissions of methane to the atmosphere from biomass or other organic matter that would have otherwise been left to decay anaerobically in a Solid Waste Disposal Site (SWDS) or an Animal Waste Management System (AWMS), or in a Wastewater Treatment System (WWTS).
- Renewable energy technologies
  - Distributed solar photovoltaic technologies, including solar rooftop solar PV installation of less than or equal to 1MW per site
  - Offshore wind technologies
  - Micro/pico-hydro (with power plant size up to 100 kW)
  - Biomass gasification/biogas (up to 100 kW).
  - Solar photovoltaic mini-grids
- Sustainable cooking - Efficient cooking includes introducing high-efficiency, improved biomass, LPG, and electric cooking to replace inefficient, traditional cooking stoves

In contrast, the following activities are part of the red list as they are defined as part of the unconditional mitigation programmes of actions in Ghana's NDC:

- Cocoa Forest REDD+ Programme
- Shea Landscape Emission Reduction Programme
- Tree on-farm programme
- Urban transit programme (better vehicle maintenance, fleet renewal)
- Promotion of non-motorised transport
- Restriction of importation of over-aged vehicles
- Promotion of energy-efficient light bulbs in homes
- Switch from fuel oil to gas in thermal power plants
- Conversion of a single cycle to a combined cycle in thermal power plants

(iii) Share of (non-authorised) mitigation outcomes for domestic mitigation (e.g. buffers and limits)

Ghana requires 1% of all issued mitigation outcomes from the project to be held and transferred to the National Buffer Account (NBA), meaning that for example, in every 1000 mitigation outcomes, Ghana only authorises 990 mitigation outcome units, and stores the remaining 10 mitigation outcome units in an NBA - these 10 mitigation outcome units are not issued as carbon credits i.e. un-monetised. The purpose of the reserved 1% is to shore up the risk of overselling against the NDC target or contribute to the overall mitigation of global emissions. Additionally, this reserved 1% can also be cancelled to be used as a contribution to OMGE, if required by buyer countries (The Nature Conservancy, 2024), such as Singapore.

(iv) Benefit-sharing or share of proceeds

All proceeds shall be directed into the mitigation ambition fund to finance the implementation of additional mitigation activities in Ghana, and for the cost of authorisation, transfer, and reporting of ITMOs (Government of Ghana, 2022b).

(v) Corresponding Adjustment levies and designated uses of levies

Ghana imposes an ex-post fee on all eligible mitigation outcomes of 3 USD/tCO_2e for grant-based small-scale activities and 5 USD/tCO_2e for all other project types, including forestry projects. Ghana also enforces a fee for corresponding adjustment, which will be used to fund the implementation of additional mitigation activities in Ghana and for the cost of authorisation, transfer and reporting of ITMOs (Government of Ghana, 2022b).

e. Article 6 Procedures and Requirements

(i) Administrative fees and levies

Ghana specifies several administrative fees as follows. Details such as timing of the payment and fee description, e.g. one-time or recurring and responsible, and fee justification are outlined in the framework (Government of Ghana, 2022b). The majority of the fees shall be paid at the point of submission of a request, except for the corresponding adjustment fees, which are paid after the first transfer and retirement. It is important to note that the fees are not only for Article 6 cooperative approaches but also cover carbon projects for the VCM. Certain fees vary based on the activity category or the scale of the project:

- Mitigation Activity Participant or Entity Application fee: USD 300, 500 or 1000
- Mitigation Activity Identification (MID) fee: USD 200, 300 or 500
- Unique Identification Number (UIN): USD 400
- Listing fee: USD 0.01 or 0.2/tCO_2e
- Administrative fee for Letter of Entity Authorisation (LEA): USD 500
- Administrative fee for Article 6.4 LOA: USD 1,000

Table 10: List of fees, costs for creating authorised ITMOs, carbon offset credits and Article 6.4 mechanism

Activity category	Mitigation activity participant or entity application fees (USD)	Mitigation activity identification (MID) fee (USD)	Corresponding adjustment fee (USD/tCO2e)
Grant-based small-scale MA	300	200	3
Small-scale MA	500	300	5
Large-scale non-forestry project	1000	500	5
Forestry projects	500	300	5

Source: Government of Ghana (2022)

(ii) Carbon standard and methodology eligibility

Ghana has a list of pre-approved standards and methodologies, including the Clean Development Mechanism, Verified Carbon Standard, Gold Standard, and the REDD+ Environmental Excellence Standard (Government of Ghana, 2022b). Activity developers may have the option to use an existing methodology that complies with ISO 14064 for developing the eligible activity upon recommendation of the CMO (Government of Ghana, 2022b).

(iii) Process: Article 6 mitigation activity development cycle (covering validation, registration, monitoring, verification)

The general process for authorisation and corresponding adjustment of carbon credit in Ghana is as follows (Government of Ghana, 2022b):

- **Pre-activity development**: The project proponent must first apply to the CMO to create a Mitigation Activity Participant account number. If the project proponent intends to participate as an Article 6.4 participant, the project proponent must request the Letter of Entity Authorisation (LEA) as well.
- **Mitigation activity preparation**: The project proponent may apply for pre-authorisation by submitting a Mitigation Activity Idea Note (MAIN) and the Request for Letter of Intent to obtain the Letter of Intent. For projects that are automatically additional, the project proponent may request a Letter of Assurance. Following this, the project proponent must submit the Mitigation Activity Design Document (MADD) to the CMO, where the CMO performs initial quality checks and determines applicability of baseline and monitoring methodology of the mitigation activity, before issuing a Letter of Recommendation to the project proponent. Next, the validation process of the MADD by the Validation and Verification Body (VVB) is carried out. If successful, the project applicant submits the authorisation request form to the CMO, and the CMO issues a Letter of Authorisation to the project proponent and submits Article 6.2 Initial Report (AIR) to the UNFCCC. Afterwards, the project proponent can then request registration on GCR or an international registry (such as GS or VCS).
- **Implementation, verification, positive examination and issuance**: At this stage, the project proponent commences the implementation and monitoring of the project. The project will undergo verification by the VVB after the end of the monitoring period, and the VVB will issue a verification report. The CMO and the acquiring Party will conduct a positive examination of the verification report. Once the project receives a Positive Examination, the project proponent submits the issuance request form to the CMO for the request for the issuance of ITMOs on the GCR or an international registry.
- **First transfer and retirement**: With the credits issued, they become eligible for transfer, triggering the corresponding adjustment process. The CMO records the transfer of ITMOs with proper labels to the receiving registry and issues receipts of payment for the listing fee and corresponding adjustment fee. The payment for ITMOs, corresponding adjustment fees, listing fees, and other administrative charges is settled, and the CMO applies the corresponding adjustment by cancelling the ITMOs on the GCR and recording the ITMOs and relevant information.
- **Reports**: The CMO and EPA compile the information and submit it as an Annual Report, and the Regular Information for the Biennial Transparency Report (BTR).

(iv) Reporting procedures to UNFCCC

Ghana aims to comply with the UNFCCC reporting requirements by providing the following (Government of Ghana, 2022b):

- **Article 6.2 Initial Report (AIR):** Ghana's CMO shall submit an AIR to the UNFCCC no later than authorising any eligible mitigation activity
- **Annual Information (AI):** Ghana will annually, no later than 15 April, submit a quantitative report to the UN Climate Change Secretariat
- **Regular Information (RI):** Ghana shall include Regular Information (RI) on Article 6.2 transactions as an annexe to its Biennial Transparency Report submitted to the UNFCCC Secretariat no later than 31 December of the relevant year.

IV.2.2. Rwanda

IV.2.2.1. NDC profile

Rwanda	
Target	an unconditional emissions reduction target of 16% and a conditional target of an additional 22% by 2030
Sectors	Energy, industry, waste, agriculture
GHGs covered	CO_2, N_2O, CH_4, HFCs

Source: Government of Rwanda, 2020

IV.2.2.2. Carbon credit governance

a. Guiding principles for the country's carbon markets and Article 6 regulatory framework

At the strategic level, Rwanda aims to reduce greenhouse gas emissions by 38% in its NDC, with 22% of the target conditional, suitable for Article 6 mechanism. To reach the target, the government needs USD 11 billion for mitigation and activities for full implementation of the NDC by 2030 (REJ, 2023). Hence, Rwanda intends to meet its conditional contribution using climate finance and international market mechanisms where appropriate, including participation in Article 6 mechanism (Government of Rwanda, 2023b).

All carbon trading processes in Rwanda must align with the fundamental principles of the Paris Agreement and the guidance under Article 6 as follows:

- Cooperation with other Parties shall be authorised
- Cooperation should allow for higher ambition in mitigation and adaptation actions
- Promote sustainable development
- Ensure environmental integrity and transparency, including in governance and shall apply robust accounting to avoid double counting
- Participation in the Article 6.4 mechanism should contribute to the reduction of emission levels in Rwanda and deliver an overall mitigation of global emissions.

In order to carry out the above principles, the government intends to ensure that:

- All transactions must result in the additional effect of a reduction of greenhouse gas emissions

- A carbon project is additional if the emissions reductions or removals would not have occurred without revenue from the sale of carbon credits
- All mitigation outcomes reported under Article 6 are to be accounted for in tonnes of carbon dioxide equivalent
- All emission reductions are recorded and documented for every offset scheme, utilising appropriate accounting terms, corresponding adjustments, and location of offset as required by the UNFCCC and other standard bodies
- No two countries or actors count the same emission reductions towards their emission reduction commitments
- Participants apply corresponding adjustments

b. Domestic carbon crediting mechanism (voluntary or compliance)

Rwanda is currently piloting a simplified crediting framework called the Standardised Crediting Framework (SCF) (Government of Rwanda, 2023b). The mechanism aims to: 1) improve the transparency of national crediting decision-making; 2) reduce transaction costs; 3) shorten the time it takes to generate emissions reductions; and 4) pave the way for transactions under Article 6 of the Paris Agreement (Government of Rwanda, 2023b). The SCF pilot in Rwanda focuses on high-efficiency fuelwood and charcoal cookstoves used to replace low-efficiency cookstoves (Government of Rwanda, 2023b).

c. Article 6 Governance

(i) Regulations and frameworks

Rwanda has developed a national carbon market framework with four pillars: a policy framework, a legal and institutional framework, a manual of procedures with specific steps for Article 6 project development, and a national registry (Government of Rwanda, 2023b). The framework aims to increase the transparency and trust among carbon traders (Government of Rwanda, 2023b).

(ii) Institutional arrangements

An oversight body called the Extended Governing Board is responsible for longer-term oversight, to support the process through legislation and institutional mandates, as well as to oversee the implementation processes. The Extended Governing Board builds on the existing structure for carbon markets in Rwanda, namely the Steering Committee for the CDM DNA and the SCF Governing Board.

As Article 6 requires coordination among multiple ministries, the Extended Governing Board is responsible for the coordination and comprises representatives from several ministries such as the Ministry of Finance and Economic Planning (MINECOFIN), Ministry of Trade and Industry, Ministry of Agriculture and Animal Resource and Ministry of Infrastructure. Other entities that are part of the CDM Designated National Authority, such as the Private Sector Federation (PSF), the Rwanda Forestry Authority (RFA), the National Land Authority, and the Rwanda Development Board, are also members of the Extended Governing Board. The Ministry of Environment is the coordinating ministry of the board (Government of Rwanda, 2023b).

In terms of Article 6 operationalisation, the Rwanda Environment Management Authority (REMA) - previously the focal point for CDM, has been tasked as the DNA for Article 6 (Government of Rwanda, 2023b). REMA will define and implement the Article 6 Framework, operationalise Article 6.2 activities and related processes, manage the administration of share of proceeds, provide technical support and ensuring that Article 6 activities developers can develop and operate projects, and manage or supervise transparency and accounting requirements, including recording, recording of the emissions balance and corresponding adjustments (Government of Rwanda, 2023b).

(iii) National carbon registry

Rwanda has previously announced during COP29 its plans to launch a national registry by the end of 2024. It aims to keep track of the country's ITMO transactions and avoid double-counting (Quantum Intelligence, 2024b). As cookstove projects earlier authorised have been registered under GS and VCS, this forthcoming registry may resemble Ghana's GCR in terms of its purpose to monitor and track the issuance, retirement activities of authorised mitigation activities.

d. Article 6 Strategy

(i) Authorised uses of ITMOs

According to Rwanda's first BTR, Rwanda has yet to participate in bilateral agreements involving the use of ITMOs towards the other party's NDC.

Nonetheless, since 2021, REMA has issued letters of authorisation for these projects, where the authorised ITMOs could be used towards another country's NDC and/or towards other international mitigation purposes.

Table 11: Authorised projects and authorisation details

Dates of letter, addendum (if any)	Authorised mitigation activity and project ID	Timing of first transfer; authorised uses	Authorised quantity (tCO2e) and period	Specified conditions for project proponent
27 Oct 2023	Delagua Clean Cooking Grouped Project (VCS 2749) operated by DelAgua Health Rwanda (Voluntary) Limited	Authorisation of mitigation outcomes; OIMP	31,399,717 1 Jan 2021 to 31 Dec 2025	10% of total credits submitted for ITMO authorisation will be made available to Government of Rwanda 2% will be canceled on issuance to contribute towards global emission reductions
27 Oct 2023	Delagua Improved Cookstove Grouped Project (VCS 3699) operated by DelAgua Trans Africa Stoves Pte. Ltd.		6,801,207 4 Nov 2022 to 3 Nov 2029	
27 Oct 2023	Delagua Clean Cooking Grouped Project in Rwanda (VCS 4150) operated by DelAgua Health Rwanda (Voluntary) Limited and other proponents		12,429,799 11 Oct 2021 to 28 Oct 2028	

Dates of letter, addendum (if any)	Authorised mitigation activity and project ID	Timing of first transfer; authorised uses	Authorised quantity (tCO2e) and period	Specified conditions for project proponent
27 Oct 2023	UN CDM PoA 9626: CPA - 18 & 19 (VCS 4409) operated by DelAgua Health Rwanda Limited		6,725,393 1 Jan 2021 to 31 Oct 2026	5% revenues generated from remaining credits will be provided towards the Global Adaptation Fund
11 Oct 2021, 17 Aug 2022	Improved Cook Stoves Programme for Rwanda (POA GS 1023), CPA 5 (GS 4261) operated by atmosfair gGmbH	Issuance; Other countries' NDC and OIMP	Not specified	Not specified
11 Oct 2021, 17 Aug 2022	Improved Cook Stoves Programme for Rwanda (POA GS 1023), CPA 4 (GS 4259) operated by atmosfair gGmbH			
11 Oct 2021, 17 Aug 2022	Improved Cook Stoves Programme for Rwanda (POA GS 1023), Improved Cook Stoves Programme for Rwanda (GS 1060) operated by atmosfair gGmbH			
17 Oct 2023	Improved Cookstove Project in Rwanda (VCS 3654) operated by BB Energy Trading Ltd	Authorisation of mitigation outcomes; OIMP	13,763,629 30 Sep 2022 to 29 Sep 2032	7.5% of total credits submitted for ITMO authorisation will be made available to Government of Rwanda to achieve its NDC

Source: The Consultant, 2025, elaborated based on letters of authorisation recorded on the registries of GS and VCS

Rwanda, in its BTR, has also noted these specific quantities of the credits generated from the authorised projects as contributing towards Rwanda's NDC (Government of Rwanda, 2024):

- "Dissemination of improved cooking stoves and water purification filters" project (VCS 2749): 10% of the credits calculated to be 62,651 tCO_2e have contributed towards Rwanda's NDC.
- "Dissemination of improved cooking stoves and water purification filters" project (VCS 4150): 10% of the credits calculated to be 136,792 tCO_2e have contributed towards Rwanda's NDC
- "Providing access to clean and efficient cooking solutions (distribution of 780,000 ICSs)" project tCO_2e, operated by BB Energy Ltd: 7.5% of the credits calculated to be 101,170 tCO_2e have contributed towards Rwanda's NDC

As of December 2024, Rwanda has signed cooperation agreements and MoUs with Sweden, Singapore, and Kuwait (IETA, n.d.), expecting to sell 7.5 $MtCO_2e$ carbon credits and generate USD 337 million in investment from Singapore and Kuwait (REJ, 2023). With Singapore, both countries are working to identify mitigation activities, such as energy efficiency and waste management projects, to be used by carbon tax-liable companies in Singapore (REJ, 2023).

(ii) Eligibility criteria and positive list of eligible activities

Rwanda is open to authorising credits from sectors within its conditional or beyond its NDC target, provided that it is aligned with national policies as well as SDG and demonstrates employment for Rwandan residents (The Nature Conservancy, 2024). As guidance, a list is provided by the government for interested parties to identify suitable sectors for ITMOs (Government of Rwanda, 2023b). The list is as follows:

Table 12: Sectoral actions identified for international transfers

Sector	Conditional NDC measures	Non-NDC measures
Electricity generation	Solar-mini grids	Wind power
		Geothermal power
		Utility-scale solar power
		Biomass to energy (e.g. rice husk)
Transport	Public transport infrastructure	
	Electric vehicles	
Buildings and Agriculture	Solar water heater programme	Energy efficiency projects reducing firewood use for boiling water
	Off-grid and rooftop solar electrification	Green materials in construction
	Promotion of on-farm biogas for energy	
Crops and managed soils Livestock	Soil and water conservation (terracing)	
	Soil and water conservation (multi-cropping)	
	Conservation tillage	
	Improved fertilisers	
Livestock	Improved livestock species and population	
Solid waste	Landfill gas utilisation	Reduce, reuse and recycle
	Waste-to-energy plants	
	Aerobic composting	
Wastewater treatment and reuse	Wastewater treatment plants	

Source: Government of Rwanda, 2023

Additionally, the project to be registered as a carbon project must fulfil the following (Government of Rwanda, 2023b):

- Be in line with national policies, laws and strategies;
- Indicate how the project shall contribute to the NDC;
- Adhere to national priority carbon market sectors;
- Indicate how the project will contribute to the SDGs;
- Ownership of the property involved in the project;
- Community development agreements or agreements with property owners and other relevant entities;
- Involvement of local communities;
- Adhere to transparency and fairness;
- Adhere to national investment priorities, ecological, social, cultural and economic safeguards; and
- Indicate expected employment creation.

(iii) Share of (non-authorised) mitigation outcomes for domestic mitigation (e.g. buffers and limits)

Rwanda has started to use Article 6 as a lever to achieve its NDC. However, in its national carbon framework, there is no explicit number of credits that will be retained as NDC buffer (Government of Rwanda, 2023b). Nevertheless, through clean cookstove projects developed by DelAgua and BB Energy, the government will receive 7.5 to 10% of the credits to be used for Rwanda's NDC instead of financial profits (The Nature Conservancy, 2024). Hence, the government may prefer to analyse it on a project-by-project basis to determine the quantity or proportion of the credits that should not be authorised (i.e. towards its own NDC).

(iv) Benefit-sharing or share of proceeds

For carbon market projects developed by national proponents, the share of proceeds will be determined through negotiations between the proponent, Ministry of Environment (MoE), REMA, MINECOFIN, and Rwanda Green Fund. On the other hand, for private projects, the discussion only involves the proponent, MoE, and REMA (Government of Rwanda, 2023b). Moreover, the framework also states that the authorisation of international transfer implies the contribution of the project to the OMGE and adaptation fund (Government of Rwanda, 2023b). However, similar to the NDC buffer, the explicit number is finalised in the LoA. In DelAgua's clean cookstove project, DelAgua is obliged to retire 2% of credits on issuance for OMGE and contribute 5% of the revenues to the UN Adaptation Fund (Government of Rwanda, 2023a).

(v) Corresponding Adjustment levies and designated uses of levies

Instead of taking a share of financial profits, Rwanda has opted to retain a portion of carbon credits directly from projects (Carbon Pulse, 2023c). The portion of credits will then be used for Rwanda NDC. Rwanda does not have a corresponding adjustment fee in place.

e. Article 6 procedures and requirements

(i) Administrative fees and levies

There is no clear information on other administrative fees and levies that will be charged. Based on the consultant's understanding, based on the letters of authorisation issued to date, there are no specific fees, such as corresponding adjustment fees or application fees, payable to REMA.

(ii) Carbon standard and methodology eligibility

There is no clear information yet on the preferred standard and methodology under Rwanda's National Carbon Market Framework. Nevertheless, cookstove projects have been developed using GS and Verra's standards and methodologies. The DelAgua and atmosfair cookstove projects registered under VCS and GS, respectively, were the first projects that received Article 6 Authorisation labels on the respective registries (Verra, 2023), (Gold Standard, 2023a).

(iii) Process: Article 6 mitigation activity development cycle (covering validation, registration, monitoring, verification)

A carbon market project shall be required to undergo the following process (Government of Rwanda, 2023b):

- The project proponent shall apply for non-objection of the carbon market project idea to the DNA by filling the Project Idea Note template;
- The project proponent shall apply for approval of the carbon market project to the DNA by filling the MADD and contribution to sustainable development templates, within 90 days from the date of issuance of non-objection to the project idea by the DNA;
- The completed application forms of the project idea shall be accompanied by other relevant supporting documents (e.g, agreements, MoU, registration certificate, Lab testing certificate, green technology specifications)

(iv) Article 6 requirements during the stages of (i) pre-authorisation or approval, (ii) registration, (iii) issuance, (iv) authorisation (Government of Rwanda, 2023b)

- Pre-authorisation and registration stage: Voluntary cooperation should promote sustainable development
- Issuance: Voluntary cooperation must promote environmental integrity, transparency, and apply robust accounting to avoid double-counting
- Authorisation: Voluntary cooperation with all parties should be authorised and allow for higher ambition in mitigation and adaptation actions

(v) Reporting procedures to UNFCCC

According to Rwanda's National Carbon Market Framework, the Extended Governing Board will oversee and ensure compliance with the ETF. The Extended Governing Board will review the information on Article 6 collated by REMA for submission to the UNFCCC as part of the Initial Report, BTRs and Annual Reports (Government of Rwanda, 2023b).

IV.2.3. Thailand

IV.2.3.1. NDC profile

Thailand

Target	an unconditional emissions reduction target of 30% and a conditional target of 40% by 2030 as compared to the BAU scenario
Sectors	Energy, industry, waste, agriculture *Note: Forestry and other land use (FOLU) is not part of the NDC*
GHGs covered	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6

Source: Government of Thailand, 2022b

IV.2.3.2. Carbon credit governance

a. Guiding principles for the country's carbon markets and Article 6 regulatory framework

Thailand has developed the Climate Change Master Plan (CCMP) 2015-2050 to serve as a long-term policy framework for the development of mechanisms and tools to achieve a set of mitigation and adaptation targets until 2050 (Government of Thailand, 2015). To establish a framework for mitigation measures in the energy, transport, IPPU and waste sectors, the NDC Roadmap and Action Plan was formulated in 2017 (GGGI, 2023). In November 2024, the government announced that it aimed to present the climate change bill draft for cabinet approval with the final bill to be implemented in 2026 (Carbon Pulse, 2024f). The draft bill contains provisions for an emissions trading scheme and a carbon tax, and there could be further provisions that may impact Article 6 cooperative approaches going forward.

b. Domestic carbon crediting mechanism (voluntary or compliance)

Since 2014, Thailand has implemented its national crediting mechanism called the Thailand Voluntary Emission Reduction (T-VER). To promote the domestic voluntary carbon market, methodologies are adjusted from CDM for simpler calculation and monitoring (Thailand Greenhouse Gas Management Organization, 2016).

In 2019, the Thailand Greenhouse Gas Management Organization (TGO), which oversees the T-VER program, had submitted the T-VER program to the ICAO Technical Advisory Body (TAB), to supply Eligible Emissions Units (EEU) to CORSIA (ICAO, 2024c). Based in part on feedback from the TAB's 2019 assessment cycle, the TGO launched in 2023, the Premium T-VER programme (ICAO, 2024c). Premium T-VER differs from the original T-VER program (now called Standard T-VER) in terms of the methodological requirements, which are aligned with environmental integrity principles of Article 6 i.e. aims to ensure a real, permanent, and additional emission reduction without double counting, contribute to sustainable development, and has a measure in place to prevent negative impacts (safeguards) and does not cause negative impacts (do-no-net harm) (Government of Thailand, 2022c).

As such, there are two types of projects and credits issued under the overall T-VER program: Standard T-VER and Premium T-VER (Gold Standard, 2023b). The TGO submitted the Premium T-VER program to the ICAO Technical Advisory Body (TAB), to supply Eligible Emissions Units (EEU) to CORSIA (ICAO, 2024c). In the TAB's 2024 assessment cycle, Premium T-VER was granted conditional eligibility, on the condition that the program updates meet the specified conditions laid out by the TAB (ICAO, 2024c).

c. Article 6 governance

(i) Regulations and frameworks

In 2022, the NCCC approved the Carbon Credit Management Guideline and Mechanism (CCMGM), describing eligible project types, the procedures for authorisation, and their international transfers (Government of Thailand, 2022a). Thailand has a bilateral agreement with Switzerland and has entered discussions with Singapore. Meanwhile, under the JCM agreement with Japan, Thailand and Japan are actively reviewing potential mitigation activities for joint authorisation, further expanding their collaborative efforts to reduce greenhouse gas emissions utilising cooperative approaches (Government of Thailand, 2024). Through the cooperation with Switzerland, the first Article 6 programme in Asia: the Bangkok E-Bus Programme, was authorised in early 2023 (KliK Foundation, 2023b). This authorisation led to the world's first issued ITMOs for NDC use, with 1,916 ITMOs transferred from Thailand to Switzerland during the crediting period 1 October to 31 December 2022 (Government of Thailand, 2024).

(ii) Institutional arrangements

Climate governance is spearheaded by the National Committee on Climate Change Policy (NCCC), an interministerial committee chaired by the Prime Minister (GGGI, 2023). The NCCC has the mandate to define national climate policies and establish guidelines and mechanisms for international collaboration regarding conventions and protocols on climate change, including supporting and evaluating relevant domestic agencies to be in accordance with the national established policies and plans (Government of Thailand, 2024). Moreover, the NCCC serves at the strategic level to formulate policies, guidelines, and rules to implement Article 6 (GGGI, 2023).

The Ministry of Natural Resources and Environment (MONRE), through the Department of Climate Change and Environment (DCCE) (superseding the Office of Natural Resources and Environmental Policy and Planning (ONEP) since 2023), and the Thailand Greenhouse Gas Management Organisation (TGO), are responsible for the Article 6 implementation (Gold Standard, 2023b). DCCE acts as the focal point for the implementation related to the bilateral agreements between Thailand and partner countries, including issuing letters of authorisation, performing corresponding adjustments, and reporting to the UNFCCC (Gold Standard, 2023b). The day-to-day activities and administrative tasks for the operation of the T-VER program and registry are performed by TGO (Gold Standard, 2023b).

(iii) National carbon registry

The TGO has laid the groundwork for the carbon market registry in Thailand, which has been used for T-VER since 2013 (ICAP, 2024c). As the national voluntary crediting program, the T-VER registry y tracks and monitors the issuance, transfer and retirement of carbon credits (Gold Standard, 2023b). As described earlier; and as noted by the GGGI Supporting Preparedness for Article 6 Cooperation (SPAR6C) program, the Premium T-VER programme's registry do not fully meet the international standards of compliance with the modalities, procedures, and guidelines of Article 13 of the Paris Agreement to be suitably operationalised for Article 6 and thus currently the TGO is working to update the registry (GGGI, 2023).

d. Article 6 strategy

(i) Authorised uses of ITMOs

Under its CCMGM (Government of Thailand, 2022a), the government requires credits exported for international objectives, such as meeting emission reduction targets under international organisations or agreements, to obtain authorisation. Authorisation will be required for credits intended for use under Article 6.2 cooperative approaches, the Article 6.4 mechanism, other international mitigation purposes such as CORSIA, and other future international compliance schemes. Project developers aiming to export credits for these purposes are required to request a Letter of Authorisation from DCCE (Government of Thailand, 2022a).

As of January 2025, Thailand has signed Article 6.2 bilateral agreement with Switzerland, Japan through the JCM, and an MoU with Singapore.

(ii) Eligibility criteria and positive list of eligible activities

Based on the latest draft of Thailand's climate change bill that the Consultant received, the draft outlines eight project types eligible for international objectives, namely capture, storage or utilisation of GHG, renewable energy or fossil fuel replacement, energy efficiency in building, factories, and households, improvement of efficiency of electricity and heat generation, GHG reduction in transport sector, improvement of production process or management of industrial waste, wastewater or waste management adv. Technology, and emission reduction from forest areas. The list is largely similar to the previous project type listed in CCMGM, with several project types missing, such as methane recovery and utilisation, natural refrigerant, and clinker substitute (Government of Thailand, n.d.). While these project types are clearly listed, the CCMGM does not fully elaborate on the approval criteria for project activities or ITMOs (GGGI, 2023).

(iii) Share of (non-authorised) mitigation outcomes for domestic mitigation (e.g. buffers and limits)

Mitigation activities involving risks of non-permanence, particularly in forestry, agricultural, and other removal projects, must adhere to rules on buffer credits. These buffer credits may later be released in accordance with announcements by the Board of Directors of the TGO. In contrast, activities without non-permanence risks, such as the Bangkok e-bus programme, are exempt from such requirements (Government of Thailand, 2022a). To the Consultant's understanding, under the current draft climate change bill, it is intended that 10% of the mitigation outcomes from authorised mitigation activities will be kept for domestic NDC use and not be authorised.

(iv) Benefit-sharing or share of proceeds

There is no information specifying Thailand's approach and requirements on the share of proceeds and OMGE. In the letter of authorisation for the Bangkok e-bus programme, all generated ITMOs are solely used for Switzerland's NDC, and there is no requirement about the share of proceeds and OMGE (Government of Thailand, 2023).

(v) Corresponding Adjustment levies and designated uses of levies

Currently, there is no corresponding adjustment fee for the authorisation of carbon credits for Article 6. Instead, for projects that are developed and registered under the T-VER

program, applicants are required to pay a registration and issuance fee, which will be detailed in the next section. Additionally, TGO is authorised to charge fees for executing transactions in the carbon credit registry, but these fees are currently waived, facilitating cost-effective participation in the carbon market (Gold Standard, 2023b).

e. Article 6 procedures and requirements

(i) Administrative fees and levies

There are no administrative fees and levies specific to Article 6 implementation under the CCMGM. Based on the T-VER Program under which the Bangkok E-Bus Programme is developed and registered, TGO collects fees for registering domestic T-VER projects and for the issuance of carbon credits. For every registration request coming from a single project or bundle of projects, the applicant is charged THB 10,000 (USD 293). Next, the issuance fee has two options of THB 10,000 (USD 293) per request or THB 5,000 (USD 146) plus a 10 tCO_2e deduction per request (Government of Thailand, 2022c).

(ii) Carbon standard and methodology eligibility

All projects that are prepared in Thailand for the Article 6 mechanism are likely to be developed under the T-VER Premium - a program where emission reduction activities must follow the standard that aligns with Article 6 requirements (Government of Thailand, n.d.). Therefore, such a project must be developed according to the T-VER Premium methodology, which is divided into 16 sectoral scopes, such as renewable energy or fossil fuel replacement, improvement of the efficiency of electricity and heat generation, use of public transportation systems, use of electric vehicles, and improvement of the efficiency of engines (Government of Thailand, 2022c).

Moreover, the project under T-VER Premium must meet the following characteristics (Government of Thailand, 2022c):

- The project is located in Thailand
- The amount of GHG emission reductions of the project activities can really be measured
- Reduction of GHG emissions or removals shall be permanent and in addition to those that would have occurred in the absence of the project activity or BAU
- No double counting is allowed
- Project activities shall foster sustainable development
- Project activities shall not negatively impact the natural environment or local communities and do no net harm.

(iii) Process: Article 6 mitigation activity development cycle (covering validation, registration, monitoring, verification)

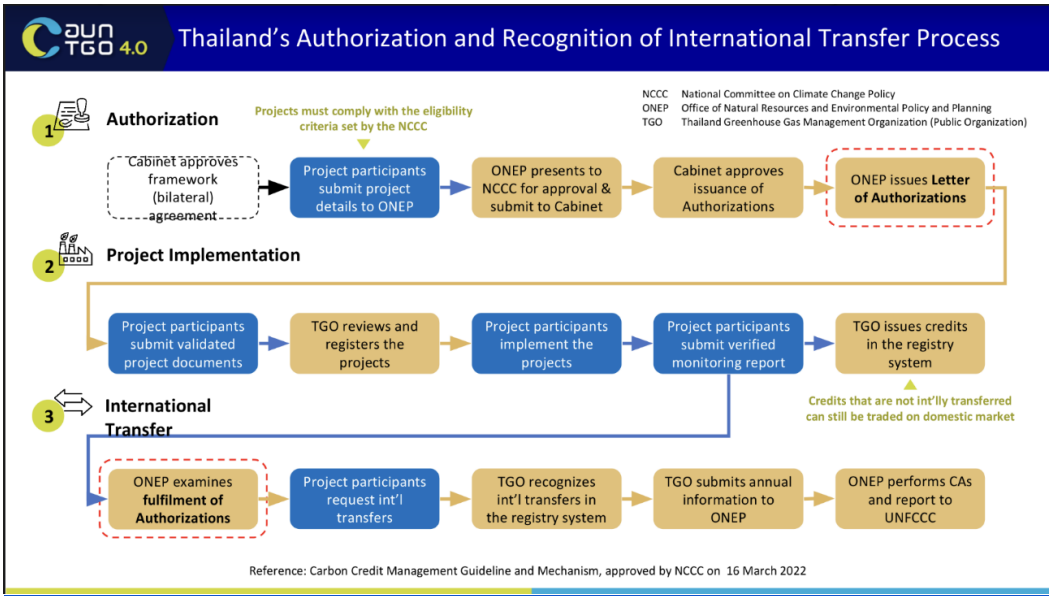

Figure 22: Thailand's authorisation and recognition of international transfer process

Source: Government of Thailand, 2022

In developing the Article 6 project, there are three stages that must be followed (Government of Thailand, 2022a) (Please note that DCCE has superseded ONEP since 2023):

1) Authorisation stage

The authorisation stage begins with the bilateral cooperation partners agreeing on the framework for their partnership. Project participants then submit project details to ONEP, which presents the proposal to the NCCC for approval. If approved by the NCCC, the application is forwarded to the Cabinet for final approval to issue Authorisations. Once authorised, ONEP issues the LoA for the project.

2) Project implementation stage

At this stage, project participants submit validated project documents to TGO for review and registration. Upon successful registration, project implementation begins. Participants are required to submit monitoring reports for each cycle. Credits not intended for international transfer may be traded domestically through TGO's registry system.

3) International transfer stage

For credit-seeking international transfer, ONEP assesses whether the project complies with its Authorisation requirements. Once approved, project participants request the transfer, which TGO then records in its registry system. TGO submits annual credit information to ONEP, which performs the corresponding adjustment and reports the details to the UNFCCC.

(iv) Article 6 requirements during the stages of (i) pre-authorisation or approval, (ii) registration, (iii) issuance, (iv) authorisation

To transfer carbon credits in the Article 6 framework (Government of Thailand, 2022a):

- The project developer must file a request through the national carbon registry;
- The registry administrator - TGO must record the transfer; and

- The ONEP must apply a corresponding adjustment in accordance with the methods and procedures specified under the Paris Agreement.

(v) Reporting procedures to UNFCCC

All reporting to the UNFCCC will be carried out by the ONEP after it performs the corresponding adjustments (Government of Thailand, 2022a). Information regarding the frequency or timing of the report submission is not yet available.

IV.2.4. Cambodia

IV.2.4.1. NDC profile

Cambodia	
Target	Reduce GHG emissions by 41.7% compared to BAU by 2030, with the majority of the target being conditional
Sectors	Energy, industry, waste, agriculture
GHGs covered	CO_2, CH_4, N_2O

Source: Government of Cambodia, 2020

IV.2.4.2. Carbon credit governance

a. Guiding principles for the country's carbon markets and Article 6 regulatory framework

In 2020, the RGC submitted an updated NDC to the UNFCCC, which included a commitment to reduce national GHG emissions by 64.6 $MtCO_2e$ in 2030 compared to a BAU baseline scenario (Government of Cambodia, 2024). To help achieve its NDC goals, Cambodia has indicated that Article 6 will be one of the levers used as a financing strategy for sector-specific targets (Government of Cambodia, 2024).

b. Domestic carbon crediting mechanism (voluntary or compliance)

Cambodia does not have a domestic carbon crediting mechanism. Instead, the country adopts the mechanism that is agreed upon with partner countries through bilateral agreements or adopts existing standards such as GS, VCS, and the Article 6.4 Mechanism (Government of Cambodia, 2024).

c. Article 6 governance

(i) Regulations and frameworks

The Ministry of Environment has established the Operations Manual for the Implementation of Article 6 of the Paris Agreement on Climate Change in Cambodia (Government of Cambodia, 2024). This manual provides a comprehensive framework for issuing and transferring ITMOs, referred to as authorised Greenhouse Gas Emission Reductions (GHG ERs) in the document. This guidance applies solely to projects seeking Article 6 authorisation. However, Cambodia is expected to introduce separate registration and revenue-sharing requirements for voluntary projects through a distinct Sub-Decree (MSCI, 2024a).

(ii) Institutional arrangements

The government has designated the Ministry of Environment as the permanent National Authority for GHG ER mechanisms (Government of Cambodia, 2024). This National Authority

is the sole entity authorised to act on behalf of the government in relation to Article 6 projects. The National Authority is chaired by the Minister of Environment (Government of Cambodia, 2024). Specifically, it is responsible for issuing letters of no objection for GHG ER projects, as well as letters of authorisation and positive examination for emission reductions generated from eligible projects in Cambodia. This centralised structure means that the Ministry of Environment maintains control over the approval processes related to carbon credit projects and facilitates the country's participation in Article 6.

(iii) National carbon registry

The government aims to establish a National GHG ER Registry to track the progress of projects in the country (Government of Cambodia, 2024). Until this registry becomes operational, the RGC will adopt one of the following approaches for participation in cooperative mechanisms under Article 6 of the Paris Agreement:

- Utilise the international registry provided by the UNFCCC.
- Use the registry infrastructure provided by the issuing carbon crediting mechanism, which could include bilateral or independent crediting mechanisms, as long as these mechanisms have established procedures that allow Cambodia to meet its Article 6 reporting requirements.

This approach ensures that Cambodia can engage in cooperative climate efforts while the national registry is being developed, facilitating its integration into the international carbon market.

d. Article 6 strategy

(i) Authorised uses of ITMOs

The cost of implementing Cambodia's NDC is estimated at USD 5.8 billion for the period from 2021 to 2030, with the majority of actions conditional on securing international finance. To support the achievement of its NDC goals, Cambodia has identified Article 6 cooperation as a key element of its financing strategy to meet specific sectoral targets (Government of Cambodia, 2024). Cambodia has entered into Article 6 cooperation agreements with Japan and Singapore. Under its JCM partnership with Japan (JCM, n.d.-a), Cambodia has initiated Article 6.2 pilot activities, including a large-scale REDD+ project that issued the first nature-based JCM credits. While Cambodia has yet to formalise an Article 6 agreement with South Korea (Carbon Pulse, 2024d), South Korea is developing Article 6.2 pilot projects, including REDD+ projects under South Korea's newly established bilateral forest carbon crediting program. South Korea, through the Korea International Cooperation Agency (KOICA) and a South Korea-based electric mobility company, will be developing an electric mobility project which involves establishing electric vehicle charging infrastructure in Phnom Penh and Siem Reap provinces (Khmer Times, 2024), and is expected to cut 5,000 $tC0_2e$ per year (Quantum Intelligence, 2025) or generate a total of 800,000 tCO_2e of ITMOs for South Korea's NDC (Carbon Pulse, 2024c), according to different reports.

In June 2024, the first letter of authorisation was issued for a water purifier project (VCS 3052), for a total quantity of 16,588,095 tCO_2e from May 2022 to May 2032, to the authorised

entity, Sustainability Investment Promotion and Development Joint Stock Company (SIPCO) (Verra, 2022).

The National Authority Secretariat will apply corresponding adjustments for all authorised ITMOs that have been 'first transferred', ensuring that the emissions balance is reported to the UNFCCC as part of the biennial transparency report.

The definition of 'first transfer' varies depending on the use of the ITMOs:

- For ITMOs authorised for use towards another country's NDC, the 'first transfer' refers to the first international transfer of those ITMOs. The project proponent's notification of this transfer will trigger the application of a corresponding adjustment to Cambodia's emissions balance.
- For ITMOs authorised for Offsetting and Mitigation Projects (OIMP), the 'first transfer' can be any of the following: 1) authorisation, 2) issuance, or 3) use or cancellation of the GHG ER, as specified in the Letter of Authorisation.

(ii) Eligibility criteria and positive list of eligible activities

All projects seeking to generate ITMOs in Cambodia must meet a set of criteria to ensure compliance and environmental integrity. These requirements include:

- Inclusion in the 'positive list' of eligible ITMO projects.
- A share of ITMOs is reserved for domestic use to support national targets.
- The authorisation period must align with Article 6.4 crediting periods.
- Authorised ITMOs must be issued by an eligible carbon mechanism.
- GHG ERs must be real, verified, and additional, demonstrating actual reductions beyond BAU scenarios.
- GHG ERs must be generated from 2021 onwards to align with the country's climate objectives.
- The project must ensure environmental integrity by:
    - Setting baselines conservatively and ensuring they are below business-as-usual emissions projections.
    - Minimising the risk of non-permanence of mitigation efforts.
- The project must align with Cambodia's sustainable development priorities, ensuring that it contributes to the country's broader economic, social, and environmental goals.

These criteria ensure that ITMO projects contribute to both global climate goals and national sustainability targets, maintaining the credibility and effectiveness of Cambodia's carbon credit mechanisms.

The positive list in this regard is all activities designated as 'conditional' in Cambodia's NDCs, which, for example, includes (Government of Cambodia, 2020):

- Energy (Power): Increase energy access to rural areas
- Energy (Power): Diversification of household and community energy generation sources to reduce reliance on biomass as an energy source
- Waste: New sanitary landfills with LFG extraction and LFG extraction
- Energy (Transport): Promote integrated public transport systems in main cities
- Industry: Introduction of efficient electrical industrial motors and transformers

(iii) Share of (non-authorised) mitigation outcomes for domestic mitigation

Cambodia's guidance for implementing Article 6 (Government of Cambodia, 2020) outlines that the government retains sovereign rights over all carbon resources within its territory. It grants ownership of carbon credits to authorised project participants, though credit-sharing provisions are included. Additionally, the government reserves the right to claim up to 10% of the carbon credits from projects in which it is not directly involved, based on its role in providing the enabling policy framework. These credits cannot be authorised for international transfer, ensuring that a portion of the reductions contributes directly to meeting Cambodia's NDC targets. The specific share of ITMOs to be reserved for domestic use will be determined on a case-by-case basis. This approach helps balance Cambodia's participation in international carbon markets with its domestic emissions reduction commitments.

(iv) Benefit-sharing or share of proceeds

Cambodia's National Authority will engage with the buyer entity and/or the Party to determine the share of proceeds that will be levied on any transfer of authorised ITMOs. These shares will be reserved as a contribution to adaptation efforts within Cambodia (Government of Cambodia, 2020). By requiring this in the negotiation, Cambodia ensures that a portion of the proceeds from international carbon credit transactions support its national climate adaptation priorities. For the "Grouped Projects for Cambodia Water Purifier" project (VCS 3052), 10% of the revenues from the credits are to be provided to the Environmental and Social Fund in Cambodia (Climate Action Center of Excellence (CACE), 2024).

(v) Corresponding Adjustment levies and designated uses of levies

A corresponding adjustment fee could also be charged for the authorisation of each GHG ER unit, to support Cambodia in raising its level of mitigation and adaptation ambition. The corresponding adjustment fee shall be paid to the National Authority prior to the issuance of a Letter of Positive Examination. The details of such a fee are expected to be further developed and regulated through the legal framework by the Ministry of Environment (Government of Cambodia, 2020).

e. Article 6 procedures and requirements

(i) Administrative fees and levies

For mitigation projects seeking Article 6 authorisation, an administrative fee will be charged to cover the costs of the National Authority Secretariat and the payment of experts. This fee must be paid before the issuance of a Letter of Authorisation. For REDD+-related ITMO projects, an additional fee may be levied to cover the costs of monitoring and evaluation associated with such projects. Proponents of REDD+ projects should refer to the specific REDD+ regulations for further details. The structure for these fees will also be further developed and regulated through legal frameworks established by the Ministry of Environment, with clear communication to ITMO project proponents (Government of Cambodia, 2020).

(ii) Carbon standard and methodology eligibility

Cambodia permits the following types of carbon mechanisms to issue authorised ITMOs for projects implemented within the country (Government of Cambodia, 2020):

- **Bilateral Carbon Mechanisms**: A mechanism established through agreements between Cambodia and another Party under Article 6.2 agreement
- **Independent Carbon Mechanisms**: Independent mechanisms, such as GS and VCS, are not governed by national or international regulations but are administered by third-party organisations
- **Article 6.4 Mechanism**: The international mechanism established under Article 6.4 of the Paris Agreement

Carbon mechanisms issuing authorised ITMOs must meet the following criteria:

- **Additionality:** Units must represent emissions reductions or removals that are additional to what would have occurred without the project
- **Verification:** Units must be quantified, monitored, reported, and independently verified
- **Traceability:** Each ITMO must have a unique identifier ensuring a transparent chain of custody from issuance to transfer or cancellation
- **Permanence:** Units must represent permanent emissions reductions or removals
- **Leakage mitigation:** Mechanisms must include measures to assess and mitigate leakage risks
- **Avoidance of double counting:** Systems must prevent double issuance, use, or claiming of units
- **No net harm:** Projects generating ITMOs must not cause net harm to the environment or communities

This approach ensures that Cambodia's authorised ITMOs maintain credibility, environmental integrity, and alignment with both national and international climate goals.

(iii) Process: Article 6 mitigation activity development cycle (covering validation, registration, monitoring, verification)

The process for implementing ITMO projects in Cambodia under authorised mechanisms involves three main stages (Government of Cambodia, 2020):

- Pre-Implementation
    - Project developers may request an optional Letter of No Objection. This provides recommendations to maximise sustainable development co-benefits and align the project with Cambodia’s national development priorities.
    - The National Authority (Ministry of Environment, MOE) oversees the issuance of the Letter of No Objection and registers the project in the National GHG ER Registry.
- Implementation
    - Registration: Developers must register the GHG ER project with the relevant carbon mechanism.
    - Project Execution: The project is implemented by the developers.

- Verification: Independent verification is conducted according to the carbon mechanism's procedures.
- Letter of Positive Examination:
  - After verification, the project developer must request this mandatory letter from the MOE to seek authorisation for the GHG ERs generated.
  - If approved, the MOE issues the letter and updates the National GHG ER Registry with the volume of authorised ITMOs.
- The MOE also updates the project's status in the registry, indicating its eligibility for issuing and transferring authorised ITMOs.

- Issuance and Transfer/Cancellation
  - Once the Letter of Positive Examination is obtained, the developer must request the issuance of ITMOs from the relevant carbon mechanism.
  - The project developer must inform the MOE of any issuance, transfer, or cancellation of ITMOs within 20 working days.

(iv) Article 6 requirements during the stages of (i) pre-authorisation or approval, (ii) registration, (iii) issuance, (iv) authorisation

- **Pre-implementation:** Following the issuance of a Letter of Authorisation, the NA Secretariat will submit an Article 6 initial report to the UNFCCC for the relevant cooperative approach
- **Implementation:** Prior to the operationalisation of the National GHG ER Registry, the NA may utilise the international registry to be provided by the UNFCCC, or utilise the infrastructure provided by independent carbon crediting mechanisms with respect to the provision of all information required to fulfil Article 6 reporting requirements.
- **Issuance and Transfer/Cancellation:** The National Authority Secretariat shall apply corresponding adjustments for all authorised ITMOs that have been 'first transferred'

(v) Reporting procedures to UNFCCC

Cambodia ensures transparency in managing authorised GHG ERs by submitting two types of reports to the UNFCCC (Government of Cambodia, 2020):

- **Annual Information:**
  - Uploaded to the Article 6 database by 15 April each year using UNFCCC templates.
  - Includes data on issuance, transfer, holdings, and cancellations of authorised GHG ERs.
- **Regular Information:**
  - Submitted every two years as part of Cambodia's biennial transparency reports by 31 December.
  - Reports corresponding adjustments for GHG ERs and uses the averaging approach to calculate emissions balances in the target NDC year (2030).

This dual-reporting approach aligns with Article 6 and ensures accountability in Cambodia's carbon market activities.

IV.2.5. Chile

IV.2.5.1. NDC profile

Chile	
Target	An absolute target of 95 $MtCO_2e$ unconditional reduction by 2030
Sectors	Energy, industry, waste, agriculture
GHGs covered	CO_2, CH_4, N_2O, HFC, PFC, SF_6, NF_3

Source: Government of Chile, 2020

IV.2.5.2. Carbon credit governance

a. Guiding principles for the country's carbon markets and Article 6 regulatory framework

In June 2022, Chile enacted its Framework Law on Climate Change, establishing a legal foundation for achieving carbon neutrality by 2050. This law is a cornerstone of Chile's climate strategy, outlining the integration of national, regional, and local policies. Key elements include the NDC, Long-Term Climate Strategy, Climate Change Financial Strategy, and specific sectoral mitigation and adaptation plans (ICAP, 2024a). Through this framework, instruments used for climate goals should be designed to internalise the environmental, social, and economic cost of GHG emissions while also incentivising abatement activities, risk reduction, and climate change adaptation (ICAP, 2022).

b. Domestic carbon crediting mechanism (voluntary or compliance)

Chile does not have a domestic carbon crediting mechanism and instead adopts existing international mechanisms such as Verra, GS, and the UN CDM in its carbon tax offset scheme (Government of Chile, 2020). If the Article 6 mechanism in the country follows the same route, the above standard will potentially be adopted.

c. Article 6 governance

(i) Regulations and frameworks

The Ministry of Environment (MMA) has released the approved (Government of Chile, 2024a) framework for national Article 6 implementation, detailing the structure for cooperative approaches under the Paris Agreement (Government of Chile, 2024b). It is developed in the form of a supreme decree, making the approval process more streamlined as it does not require congressional discussion. Based on the Consultant's understanding, the Framework is expected to become fully operational once the Decree has been signed off, which is expected to take place by March 2025, and a positive list is also expected to be published by June 2025.

The Article 6 Framework includes provisions for:

- ITMOs under Article 6.2
- Emission Reduction (ER) units through Article 6.4, and
- Non-market approaches under Article 6.8.

Key features of the Article 6 Framework (Government of Chile, 2024b):

- **General Provisions:** Intended to provide a general overview of the regulation's scope, general definitions and establish the country's Article 6 institutional arrangements and governmental tasks
- **Article 6.2 governance:** Defines the technical requirements and procedures for Article 6.2 operationalisation within Chile, including the activity cycle and the authorisation procedures
- **Article 6.4 governance:** Defines the technical requirements for the MMA to grant approval and authorisation in accordance with UNFCCC guidance and international protocols
- **Temporary provisions:** Alternative options for registration, project transitions, Chile's potential status as an Article 6 acquiring country and the status of current authorisations

(ii) Institutional arrangements

Chile's MMA sits as the Focal Point for Article 6.2 implementation and DNA for Article 6.4. It has a role in operationalising Article 6 by authorising entities, issuing Letters of Intent and Letters of Authorisation, authorising activities that generate ITMOs, and ensuring compliance with UNFCCC's guidance and requirements (Government of Chile, 2024b). Next, an interministerial body shall be established as the Article 6 Committee, which has the role of ensuring the proper use of the Article 6 mechanism, proposing eligible activities, and assessing authorisation requests (Government of Chile, 2024b). Lastly, the Sectoral Authorities Working Group serves to prepare and implement Sectoral Climate Change Mitigation Plans and ensure Article 6's contribution to the NDC.

(iii) National carbon registry

The Chilean government has established the National Mitigation Actions Registry (RENAMI) to implement the offset scheme introduced in its carbon tax reform. RENAMI will also support emerging instruments under the Framework Law on Climate Change and mechanisms aligned with Article 6 of the Paris Agreement, ensuring efficient tracking of mitigation projects and emission reductions (ICAP, 2024a).

d. Article 6 strategy

(i) Authorised uses of ITMOs

Chile has already signed three Article 6.2 cooperation agreements with ITMOs designated for different purposes:

- **Japan** (JCM, n.d.-b): Through the JCM, the credits generated are eventually used for the achievement of Japan's NDC;
- **Singapore** (Ministry of Trade and Industry Singapore, 2023): A memorandum of understanding is signed to set a framework for generating ITMOs to be used for Chile's NDC and compliance entities in Singapore; and
- **Switzerland** (Chile - Switzerland, 2023): An implementing agreement establishing a legal framework for ITMO transfers under Article 6.2, for use mainly toward Switzerland's NDCs or other purposes.

At a carbon forum in October 2024, it was announced that under the Chile-Switzerland bilateral agreement, 11 Article 6.2 projects in various stages of development have been identified, which collectively could issue 4.9 million tCO_2e over a 5-year crediting period (towards Switzerland's NDC) (Carbon Pulse, 2024a).

(ii) Eligibility criteria and positive list of eligible activities

Under the framework, the eligibility criteria for ITMOs would be similar to credits used towards obligations under Chile's carbon tax. However, only mitigation activities outside of the scope of Chile's NDC targets would be considered eligible, as defined below (Government of Chile, 2024b):

- The mitigation activity is not included in the mitigation measures established for compliance with the NDC
- The mitigation activity advances the implementation of a mitigation measure, established for compliance with the NDC (i.e., conditional NDC)
- The mitigation activity is included within the mitigation measures established for compliance with the NDC, however, there are economic entry barriers that affect the implementation of the measure (i.e., demonstrate additionality)

Moreover, the mitigation activities must have the following criteria:

- The reduced emissions should be additional, measurable, verifiable and permanent;
- Projects must be based in Chile;
- Emission reductions cannot originate from the emitting sources subject to the carbon tax;
- Reductions used for offsetting must take place within three years of the generation of the emission concerned; and
- Non-CO_2 projects are required to be located in the same area as the emitting installation.

Based on the Chile-Switzerland Article 6.2 pipeline, project types include electric mobility, battery storage, energy efficiency, biomass energy, refrigerant gases and wind power. (Carbon Pulse, 2024a).

(iii) Share of (non-authorised) mitigation outcomes for domestic mitigation (e.g. buffers and limits)

There is no clear information on the proportion of mitigation outcomes that will be retained for domestic mitigation. At the carbon forum in October 2024, the Government said that Chile is negotiating to retain 70% of the issuances towards Chile's NDC, while the remaining 30% would be authorised as ITMOs (Carbon Pulse, 2024a). This information and further details would be expected to be finalised in 2025, once the Framework is operational, and also reflected in Chile's implementation agreement with partner countries (Government of Chile, 2024b).

(iv) Benefit-sharing or share of proceeds

There is no clear information on how the mitigation outcomes or revenues will be shared for specific purposes, such as OMGE or adaptation fund. However, if it follows the requirement

for corresponding adjustment, such an agreement will be made in Chile's implementation agreement with partner countries (Government of Chile, 2024b).

(v) Corresponding Adjustment levies and designated uses of levies

The framework notes that corresponding adjustment procedures for Article 6.2 trades will be outlined within Chile's agreements with partner countries (Government of Chile, 2024b).

e. Article 6 procedures and requirements

(i) Administrative fees and levies

The framework states that the agreement on fees related to Article 6 activities shall be determined under the implementation agreement between Chile and partner countries (Government of Chile, 2024b).

(ii) Carbon standard and methodology eligibility

The MMA, ex officio or at the request of a party, may recognise external certification programs that issue emission reduction that have methodologies, standards, guides and tools that ensure compliance with the criteria and guidelines (Government of Chile, 2024b). Moreover, if it follows the standards that are allowed for the carbon tax offset mechanism, the common international standards, such as VCS, GS, and the UN CDM, can potentially be eligible as well (ICAP, 2024a).

(iii) Process: Article 6 mitigation activity development cycle (covering validation, registration, monitoring, verification)

The activity development cycle involves six stages that Mitigation Activity Participant (MAP) must follow (Government of Chile, 2024b):

- **MAP Registration**: The process starts with which MAP that will be "registered", defined as "authorising an eligible entity" for Article 6 Mitigation Activity implementation within the country
- **Prior consideration**: The process to obtain a mandatory soft approval of the Mitigation Activity (prior to its authorisation). The government's intention is to award a Letter of Intent (LoI) to provide certainty to the process and to authorised entities
- **MADD development and validation**: Authorised entities, who have been granted an LoI, to develop a Mitigation Activity Design Document (MADD) and validate it with an accredited VVB to seek authorisation of the intended Mitigation Activity.
- **Authorisation**: The process to obtain an authorisation of the Mitigation Activity, which includes providing detailed activity documentation, undergoing an admissibility and committee review, and receiving a resolution
- **MA implementation and verification**: The process to execute the authorised mitigation activity and associated MRV requirements and responsibilities. The verification represents a key requirement for the issuance of mitigation outcomes.
- **Mitigation outcomes issuance and inscription in the National Registry**: Once authorised, the MMA will proceed to inscribe them in the National Registry of Mitigation Activities and Outcomes

- **Mitigation outcomes transfer**: The transfer request of mitigation outcomes and its use, as well as clarity on conditions for transfer rejection and the process when the request is approved

(iv) Article 6 requirements during the stages of (i) pre-authorisation or approval, (ii) registration, (iii) issuance, (iv) authorisation

- **Pre-authorisation stage**: Submit a summary of how the activity aligns with environmental integrity and double-counting guidelines, emphasising adherence to additionality criteria outlined in Article 6.
- **Registration stage**: Sworn statement from the entity's legal representative, stating it will comply with the Article 6 Framework's directives with an official e-signature
- **Issuance**: Submit a summary of how the activity aligns with environmental integrity and double-counting guidelines, emphasising adherence to additionality criteria outlined in Article 6 and Chile's NDC, as well as positive and negative lists.
- **Authorisation**: The National Committee, under Article 6 of the Paris Agreement, reviews the admissible requests. It ensures compliance with mitigation criteria, integrity, and no double-counting.

(v) Reporting procedures to UNFCCC

The MMA will be responsible for preparing the three reports of initial report, annual report, and regular report. While annual and regular reports are submitted on a timely basis, the initial report is coming at the latest, at the time of the first authorisation of a mitigation result to be transferred internationally (Government of Chile, 2024b).

IV.2.6. Summary and lessons learnt from the case studies

Based on these case studies, there are many important and useful lessons to draw from the topic of carbon credit management. This section seeks to summarise these lessons into three main points, followed by a summary of the case studies. The next section will lay out the foundation of the carbon credits management mechanism for Viet Nam.

Lesson #1: Develop a framework approach to carbon markets development and carbon credits management

It is important to have an overarching framework to frame and determine the approach to carbon markets and the management of carbon credits. This starts with understanding the role of carbon credits in the country's national priorities, including NDC and long-term low-emission development strategy. This, in turn, helps the Government determine the guiding principles and key considerations of climate change policies, which are then articulated in regulations and policy frameworks concerning carbon markets and carbon credits.

The figure below is an example of such an overarching framework developed based on the various case studies of international experiences. This framework will be discussed in greater detail in the next section.

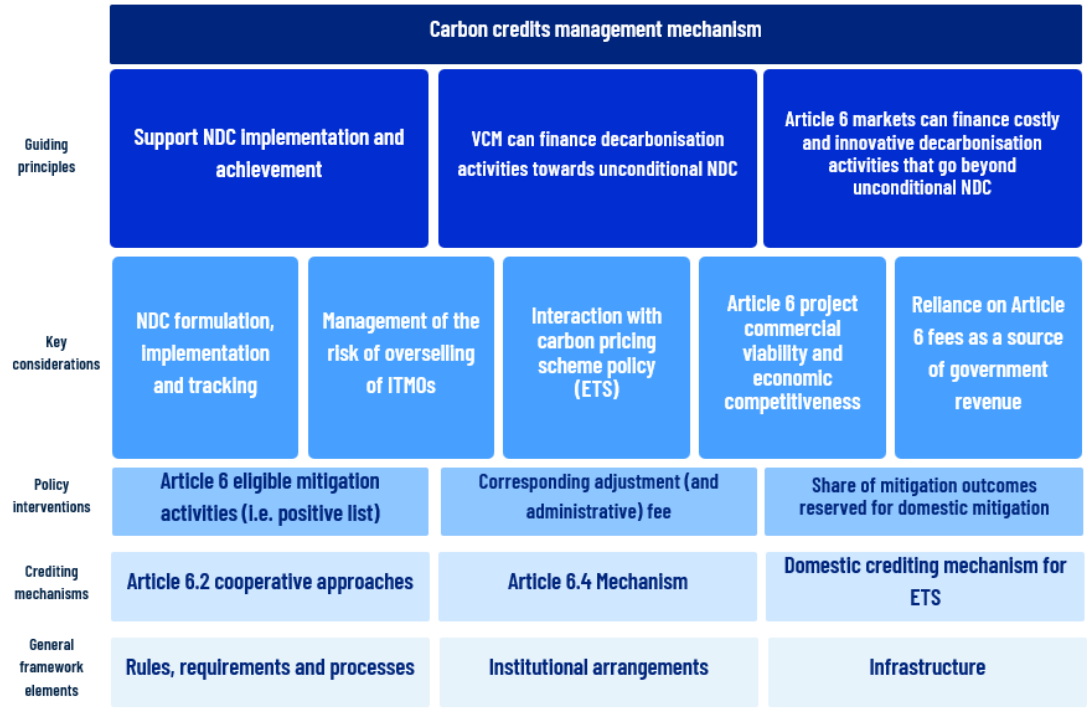

Figure 23: Framework for the carbon credits management mechanism

Source: The Consultant, 2025

Lesson #2: Ensure that the essential ingredients for carbon markets to thrive are in place

Carbon credits are essentially an avenue for channelling international and/or private finance into climate mitigation in the country through the generation and trade of carbon credits. To achieve so, it is critical to identify the constituents (i.e. enabling conditions) behind a thriving carbon market and then ensure that the enabling conditions are in place.

From the case studies, it is clear that carbon markets are highly interconnected globally through various inter-dependencies of various actors. The creation of carbon credit projects to the generation and monetisation of carbon credits is a complex value chain comprising various actors i.e. stakeholders and service providers. Each type of stakeholder or service provider has a function to perform that ensues carbon market activity.

The enabling factors for carbon markets to thrive anywhere in the world can be summarised into three main factors as follows:

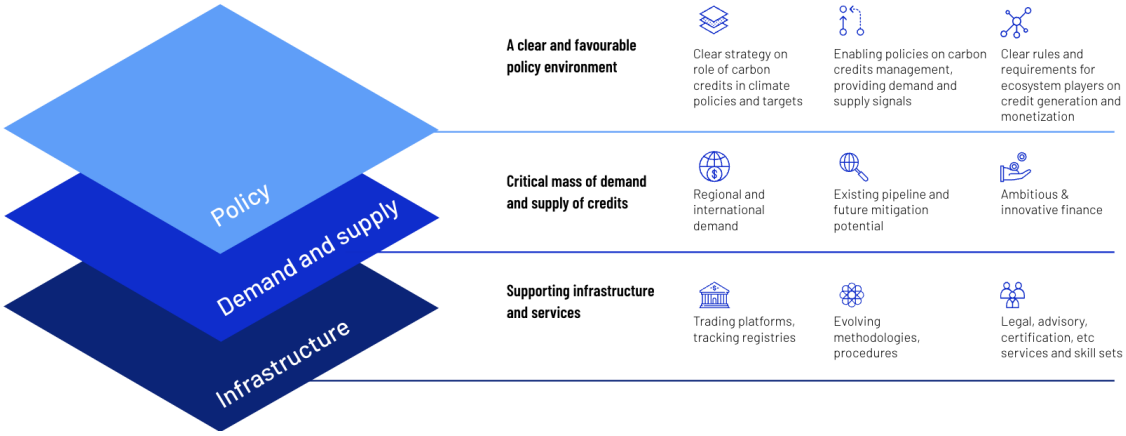

Figure 24: Carbon markets' essential constituents

Source: The Consultant, 2025

a. **A clear and favourable policy environment** - There needs to be a clear strategy on the role of carbon credits in climate policies and targets, which informs the development of enabling policies on carbon credits as well as regulations and guidelines for carbon market participants. These policies, rules and regulations are important as they in turn send the demand and supply signals to the market participants and organise the carbon market.

b. **Critical mass of demand and supply of carbon credits** - It is critical to have both demand and supply of carbon credits in place for carbon markets to thrive, and to have a view of the current and expected demand and supply for carbon credits. On the supply side, this entails understanding the current pipeline of carbon credit projects and future mitigation potential, and for the demand side, to understand the sources of demand, buyers' preferences, requirements and estimated quantities in demand.

c. **Supporting infrastructure and services** - The value chain for the development of carbon credit projects and issuance of carbon credits requires various types of infrastructure and services. It is important to identify these types of infrastructure and services and ensure that there are providers of the infrastructure and services. These providers could be existing market players, domestic or international, or a new market opportunity for the country to develop these various services and infrastructure. Types of infrastructure include the carbon registries, which issue and track the carbon credits, and trading platforms where carbon credit transactions may take place. The generation of carbon credits is dependent on the technical standards and methodologies, and is subject to the rules and requirements set by carbon standards bodies. As the type of mitigation measures and carbon projects evolve, methodologies also need to be created to cater to new types of mitigation measures and carbon projects. Different market players in the value chain have specialised sets of skills and expertise, including legal, advisory, certification and verification.

Lesson #3: Develop a comprehensive, clear, and easy-to-implement carbon credits framework that enables carbon markets to thrive

Lastly, the creation of an enabling carbon market starts with the Government, through the creation of the carbon credits management rules and regulations. This encompasses Article 6 frameworks studied for the various case studies.

A comprehensive and clear framework is one where essential elements are addressed:

1. Principles and environmental integrity criteria
2. Institutional arrangements, including legal authority and responsibilities
3. Carbon credits management mechanism, including a strategy to avoid overselling
4. Approach for contribution to adaptation and OMGE
5. Authorised uses of ITMOs
6. Types of carbon crediting mechanisms
7. Timing of authorisation and first transfer
8. Project assessment criteria
9. Project participants, including definition and legal obligations
10. Carbon rights
11. Authorisation, transfer and retirement process
12. Project cycle - including requirements on the process and procedures (if any), document submission requirements such as the MAIN, MADD.
13. Timelines, fees, and penalties

Especially where Article 6.2 bilateral approaches are concerned, market players would require clarity over the synchronised process and requirements of both host and acquiring countries in terms of eligible activities, authorisation criteria and timelines. Therefore, the above information is information that is essential for market players in order to inform their business strategy, operating models and how they should operate and conduct their business activities.

To ensure compliance and promote adoption of the carbon market framework by market players, the rules, procedures, and criteria should be easy to implement. This means allowing for the interoperability of carbon markets. This means that the carbon credits framework rules should be aligned with internationally recognised practices in terms of processes and timelines in relation to carbon project development. The Government should consider recognising existing international carbon standards and methodologies and leverage their existing registries to perform various functionalities such as issuance, retirement and their linkage to international trading platforms.

The table below summarises overseas carbon credits management mechanisms from the selected case studies.

Table 13: Carbon credits management mechanism from selected case studies

	Domestic carbon crediting mechanism	Article 6 governance	Article 6 strategy	Article 6 procedures and requirements
Ghana	Does not have a domestic carbon crediting mechanism. Instead, recognises existing international carbon crediting programs.	**Regulations and frameworks**: Ghana's Article 6 framework includes operational guidelines for Article 6.2 and RMP implementation under Article 6.4. **Institutional arrangements:** MESTI oversees implementation, while EPA and its CMO handle operations. Three national structures are established to support transactions CM-IMC, CMC, and CM-TAC. The CMO manages the registry, tracking mitigation activities and preventing double issuance. **National carbon registry**: Ghana has their own registry to track mitigation activities at the sector, city, and corporate levels.	**Authorised uses of ITMOs:** Used towards another country's NDC or international mitigation purposes (e.g. CORSIA) **Eligibility criteria and positive list of eligible activities:** Ghana only authorises mitigation outcomes from sectors in its conditional NDC/outside of its NDC or National GHG Inventory. Whitelisted activities include waste and renewable energy sectors. Excluded activities include forestry and energy efficiency. **Share of (non-authorised) mitigation outcomes for domestic mitigation**: Ghana requires 1% of issued mitigation outcomes to be held in reserve, meaning 99% can be monetised. This reserve mitigates overselling risks and contributes to global emissions reductions. Some buyer countries (e.g. Singapore) may require this reserved share to be cancelled for OMGE. **Benefit-sharing or share of proceeds:** All proceeds are directed into Ghana's	**Administrative fees and levies**: Ghana applies various administrative fees, including Entity Application fee (USD 300-1,000), MID fee (USD 200-500), Listing Fee (USD 0.01-0.2/tCO_2e), and Listing fee (USD 0.2/tCO_2e). Fees vary by project scale and type. **Carbon standard and methodology eligibility:** Ghana pre-approves CDM, VCS, Gold Standard, and the REDD+ Environmental Excellence Standard. Developers can also use ISO 14064-compliant methodologies recommended by the CMO. **ITMO Project Process**: The process involves: (1) Pre-activity development; (2) Mitigation activity preparation; (3) Validation & authorisation; (4) Implementation & verification (5) Transfer & reporting. **Reporting to UNFCCC**: Initial report, Annual report, and Regular Information to

			mitigation ambition fund to finance additional mitigation activities and cover authorisation, transfer, and reporting costs. **Corresponding Adjustment levies and designated uses of levies**: Ghana charges an ex-post fee on ITMOs: USD 3/tCO_2e for small-scale grant-based activities and USD 5/tCO_2e for other projects, including forestry. These levies support additional mitigation activities and administrative costs.	ensure compliance with Article 6 transparency requirements.
Rwanda	Rwanda is piloting the Standardised Crediting Framework (SCF)	**Regulations and frameworks**: Rwanda has a national carbon market framework with four pillars: policy framework, legal and institutional framework, manual of procedures, and a national registry. **Institutional arrangements**: Oversight by the Extended Governing Board encompassing representatives from multiple ministries (Finance, Trade, Agriculture, Infrastructure, etc.) and other entities. The Ministry of Environment coordinates the	**Authorised uses of ITMOs:** Rwanda has not yet participated in bilateral ITMO agreements but has issued Letters of Authorisation for projects where ITMOs can be used for other countries' NDCs or international mitigation. **Eligibility criteria and positive list of eligible activities:** Rwanda authorises ITMOs from projects within its conditional or beyond its NDC that are aligned with national policies, SDGs, and employment generations. Eligible sectors include renewable energy, transport, agriculture, waste management, and conservation projects.	**Administrative fees and levies:** There are no clearly defined administrative fees or levies, and no corresponding adjustment fees have been identified in issued Letters of Authorisation. **Carbon standard and methodology eligibility:** Rwanda has not specified a preferred carbon standard, but cookstove projects have been authorised under GS and Verra's VCS. **ITMO Project Process**: 1) Project proponents submit a Project Idea Note for non-objection approval; 2) Full project approval requires a Mitigation Activity

		board while REMA is the DNA for Article 6, responsible for implementation, administration, and transparency. **National carbon registry**: Rwanda plans to launch a national carbon registry by the end of 2024 to track ITMO transactions and prevent double counting.	**Share of (non-authorised) mitigation outcomes for domestic mitigation:** Rwanda determines the share of credits retained for its NDC on a project-by-project basis. Clean cookstove projects allocate 7.5–10% of credits to the government for Rwanda's NDC instead of financial profits. **Benefit-sharing or share of proceeds**: For national projects, revenue-sharing is negotiated with government bodies. Private projects negotiate directly with MoE and REMA. Authorised transfers must contribute to OMGE and adaptation funds, e.g., DelAgua's project requires 2% credit cancellation for OMGE and 5% revenue contribution to the UN Adaptation Fund. **Corresponding Adjustment levies and designated uses of levies:** Rwanda does not impose a corresponding adjustment fee but retains a share of credits for NDC use.	Design Document (MADD) and contribution to SDG templates within 90 days; 3) Supporting documents such as agreements, MoUs, registration certificates, and lab tests must be submitted. To comply with Article 6 requirements, voluntary cooperation should promote sustainable development, environmental integrity, and transparency, apply robust accounting to avoid double counting, and should be authorised and allow for higher ambition in mitigation and adaptation actions. **Reporting to UNFCCC**: Initial Report, BTRs and Annual Reports to ensure compliance with Article 6 transparency requirements.
Thailand	Thailand has been operating the Thailand Voluntary Emission Reduction (T-VER) program since 2014, with	**Regulations and frameworks**: The CCMGM was approved in 2022, governing eligible projects and international transfers.	**Authorised uses of ITMOs:** Intended for use under Article 6.2 cooperative approaches, the Article 6.4 mechanism, other international mitigation purposes such as CORSIA, and other future	**Administrative fees and levies:** TGO collects registration (THB 10,000) and issuance fees (THB 10,000 or THB 5,000 + 10 tCO_2e deduction).

	methodologies simplified from CDM. In 2023, the Premium T-VER was introduced, aligned with Article 6 environmental integrity principles. Premium T-VER was granted conditional eligibility by ICAO TAB in 2024.	**Institutional Arrangements:** The NCCC, chaired by the Prime Minister, defines climate policies while MONRE through the DCCE and the TGO oversee Article 6 implementation. **National Carbon Registry:** The T-VER registry tracks credit issuance, transfers, and retirements. The Premium T-VER registry does not fully meet international compliance standards, and updates are ongoing.	international compliance schemes. **Eligibility criteria and positive list of eligible activities:** The CCMGM outlines eight project types eligible for international crediting, including GHG capture, renewable energy, energy efficiency, and forestry mitigation. **Share of (non-authorised) mitigation outcomes for domestic mitigation**: Forestry, agriculture, and removal projects require buffer credits. The draft climate change bill proposes 10% of authorised mitigation outcomes to be retained for domestic NDC use. **Benefit-sharing or share of proceeds:** No specific requirements on share of proceeds or OMGE. The Bangkok E-Bus Programme's ITMOs were solely used for Switzerland's NDC. **Corresponding Adjustment levies and designated uses of levies:** No specific fees for corresponding adjustment.	**Carbon standard and methodology eligibility:** Article 6 projects must align with Premium T-VER standards and meet additionality, permanence, double-counting prevention, and sustainability criteria. **ITMO Project Process**: Involves 1) Authorisation Stage – Bilateral agreement, submission to NCCC, Cabinet approval, LoA issuance; 2) Project Implementation – Validation, registration with TGO, monitoring, and reporting; and 3) International Transfer – Compliance check, transfer request, corresponding adjustment, and reporting to UNFCCC. **Reporting to UNFCCC**: ONEP performs corresponding adjustments and submits reports, but specific reporting timelines are not yet available.
Cambodia	Does not have a domestic carbon crediting mechanism. Instead,	**Regulation:** Established an Operations Manual for Article 6 implementation, covering ITMO	**Authorised uses of ITMOs:** ITMOs support Cambodia's NDC financing by allowing it to be used towards another	**Administrative Fees & Levies**: Fees apply for project approvals, REDD+ monitoring, and corresponding adjustments, regulated

	recognises existing international carbon crediting programs.	issuance and transfers. **Institutional Arrangements:** The Ministry of Environment serves as the National Authority, responsible for project approvals and authorisations. **National Carbon Registry:** Cambodia plans to establish a National GHG ER Registry; until then, it may use UNFCCC's international registry or other mechanisms.	country's NDC or international mitigation purposes (e.g. CORSIA) **Eligibility criteria and positive list of eligible activities:** The positive list in this regard is all activities designated as 'conditional' in Cambodia's NDCs. Eligible activities include energy access to rural areas, new sanitary landfills with LFG extraction, and introduction of efficient electrical industrial motors. **Share of (non-authorised) mitigation outcomes for domestic mitigation:** Government reserves up to 10% of non-authorised mitigation outcomes for domestic use. **Benefit-sharing or share of proceeds:** Proceeds from ITMO transfers support Cambodia's climate adaptation efforts. **Corresponding Adjustment levies and designated uses of levies:** A corresponding adjustment will be imposed with specific fee will be determined later.	by the Ministry of Environment. **Carbon Standards & Eligibility**: Cambodia accepts bilateral, independent (GS, VCS), and Article 6.4 mechanisms. **ITMO Project Process**: Involves pre-implementation, implementation, and issuance/transfer phases. **Reporting to UNFCCC**: Annual and biennial reports to ensure compliance with Article 6 transparency requirements.
Chile	No domestic mechanism; adopts Verra, Gold Standard, and UN CDM in	**Regulation:** MMA released a framework for Article 6 implementation, structured as a	**Authorised uses of ITMOs:** Chile has cooperation agreements under Article 6.2 with Japan (JCM credits for Japan's NDC),	**Administrative Fees & Levies:** Fees to be determined under bilateral implementation agreements.

	its carbon tax offset scheme.	supreme decree. Expected to be fully operational by March 2025, with a positive list published by June 2025. **Institutional Arrangements:** MMA serves as the focal point (Article 6.2) and DNA (Article 6.4). An interministerial Article 6 Committee is established to ensure proper use, eligibility assessment, and authorisation while the Sectoral Authorities Working Group oversees mitigation plan implementation. **National Carbon Registry:** The National Mitigation Actions Registry (RENAMI) tracks mitigation projects and emission reductions.	Singapore (ITMOs for Chile's NDC and Singapore's compliance entities), and Switzerland (legal framework for ITMO transfers). **Eligibility criteria and positive list of eligible activities:** Only mitigation activities outside Chile's NDC targets are eligible. Project types include electric mobility, battery storage, energy efficiency, biomass energy, refrigerant gases, and wind power. **Share of (non-authorised) mitigation outcomes for domestic mitigation:** No finalised details yet; Chile is negotiating to retain 70% of issuances for its NDC while authorising 30% as ITMOs. **Benefit-sharing or share of proceeds:** No specific allocation details; will be defined in Chile's implementation agreements with partner countries. **Corresponding Adjustment levies and designated uses of levies**: Procedures for Article 6.2 trades outlined in agreements with partner countries.	**Carbon Standards & Eligibility**: MMA may recognise external certification programs. Likely to accept Verra, Gold Standard, and UN CDM, similar to Chile's carbon tax offset mechanism. **ITMO Project Process**: Involves seven stages: MAP registration, prior consideration (Letter of Intent), MADD development and validation, authorisation, implementation and verification, mitigation outcomes issuance, and mitigation outcomes transfer. **Reporting to UNFCCC**: Initial report, annual report, and regular report to ensure compliance with Article 6 transparency requirements.

Source: The Consultant, 2025

V. DEFINE THE KEY PRINCIPLES FOR THE GOVERNANCE OF CARBON CREDITS AND MITIGATION OUTCOMES, WITH A FOCUS ON INTERNATIONAL TRADING UNDER ARTICLE 6

V.1. Gap analysis for the governance of international transfer of carbon credits and mitigation outcomes in Viet Nam

As explained in the above section IV.2.6, the framework for the carbon credits management mechanism can be summarised as follows:

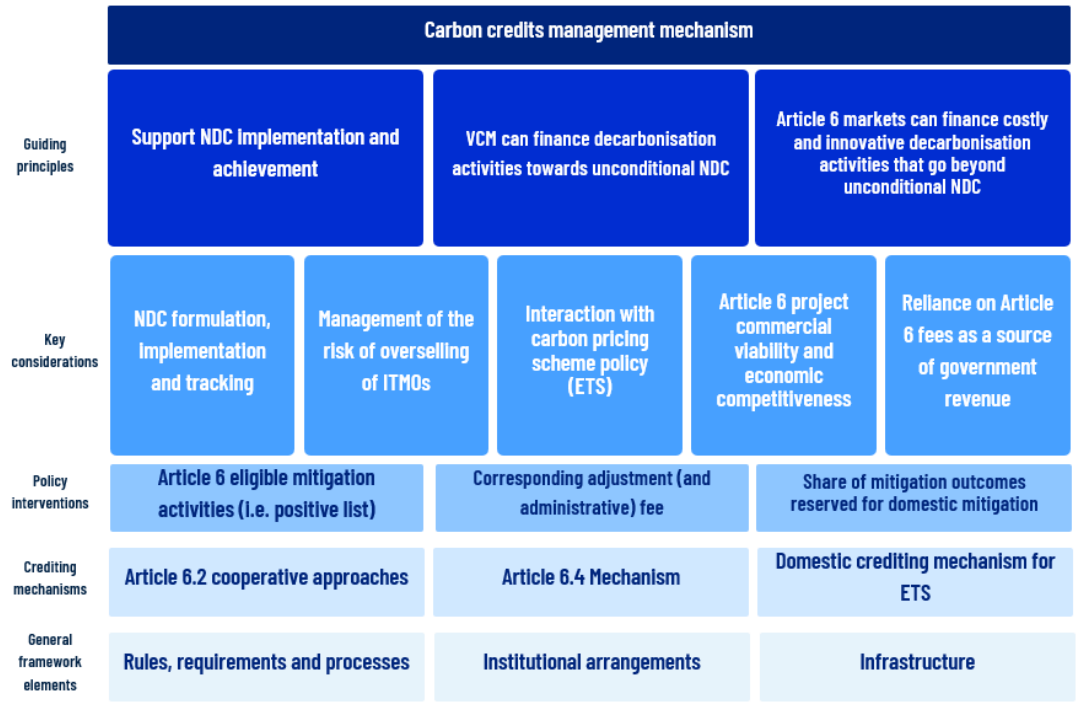

Figure 25: Framework for the carbon credits management mechanism

Source: The Consultant, 2025

Analysing the current status and existing regulations of Viet Nam against the general framework for carbon credits management, as learnt from the selected case studies, shows the significant gaps in governance of international transfer of carbon credits and mitigation outcomes under Article 6 as follows:

Guiding principles

There is an absence of guiding principles to frame Viet Nam's engagement in international carbon markets. While Decree 119/2025/ND-CP outlines administrative steps for approval and authorisation under Article 6.4, it lacks a strategic orientation to ensure that such transfers support NDC implementation, leverage voluntary carbon markets for unconditional targets, and incentivise high-cost mitigation beyond current commitments.

Key considerations

Decree 06/2022/ND-CP provides no substantive guidance on the implementation of Article 6, while Decree 119/2025/NĐ-CP offers only basic definitions of Article 6.2 and 6.4 and

outlines administrative procedures related to the approval of Article 6.4 activities, the transition of CDM projects, and the authorisation of international transfers of carbon credits and mitigation outcomes. However, the current regulatory framework falls short in addressing key governance considerations, such as ensuring alignment with NDC implementation and tracking, managing the risk of ITMO overselling, clarifying the interaction with the domestic emissions trading scheme, assessing the economic viability of mitigation projects, and defining the use of revenues generated from international carbon transactions.

Policy interventions

Although Decree 119/2025/ND-CP provides an Annex with a list of measures, activities encouraged for implementation for GHG emission reductions under international carbon credit offsetting, trading mechanisms, which can be considered Article 6 eligible mitigation activities (i.e. positive list) for Viet Nam, it does not clarify crucial elements such as the structure of administrative or corresponding adjustment fees, nor does it define the share of outcomes retained for domestic use.

Crediting mechanisms

Decree 119/2025/ND-CP defines the concepts of Article 6.2 and 6.4 and references a domestic crediting mechanism under the ETS. However, detailed procedures for crediting under Article 6 are lacking. There is no guidance on project approval, credit issuance, or the tracking and transfer of mitigation outcomes under bilateral or multilateral cooperation.

General framework elements

Similarly, with the status of crediting mechanisms, no detailed rules, requirements, and processes, institutional arrangement, and infrastructure for Article 6.2 and Article 6.4 are provided in existing regulations. Without these elements, Viet Nam's ability to participate effectively in international carbon markets and ensure environmental integrity is significantly constrained.

V.2. Carbon credits management mechanism

The available policy interventions for the management of international trading of carbon credits and ITMOs, as observed overseas, are as follows, which will be elaborated further over the next sections of this report.

- Positive list of eligible activities for Article authorisation
- Corresponding adjustment (and administrative) fee
- Share of mitigation outcomes reserved for domestic mitigation (i.e. not authorised under Article 6)

As shown in Figure above, any carbon credits management mechanism framework needs to account for these important considerations:

- Alignment and coherence with NDC implementation roadmaps and tracking of NDC implementation progress
- Avoiding overselling of ITMOs and the non-achievement of the unconditional NDC
- Interaction of the Article 6 framework with the domestic carbon pricing scheme

- Commercial viability of carbon credit projects and overall economic competitiveness of domestic projects (as compared to other host countries)
- Reliance on Article 6 fees as a source of government revenue

When participating in Article 6, a host country must ensure that it does not undermine its capacity to achieve its unconditional NDC target by overselling mitigation outcomes.

It is important to recognise that the risk of not achieving the NDC target is a combination of various factors: (1) planning of the NDC implementation; (2) understanding and modelling of the impact of various types of government interventions, policies and regulations that will drive and incentivise investments in emissions reductions within the economy; and (3) overselling of ITMOs. The key to a meaningful carbon credits management mechanism is to manage the NDC implementation. This entails having a clear NDC implementation plan and a monitoring system to track the progress of implementing NDC and monitoring if the policies are delivering the emission reductions as expected (This is also further discussed in the next section).

The risk of overselling and not achieving its NDC can turn into a reality if there is no proper carbon credit management mechanism in place. There are several methods for host countries to adopt to minimise the risk of overselling, as described in the following subsections.

It is important to recall that the purpose of Article 6 cooperative approaches is to promote technology transfer and adoption of innovative decarbonisation technologies in the host country. Concurrently, carbon pricing schemes in the form of ETS or carbon taxes are increasingly adopted worldwide, including in prospective Article 6 host countries such as Viet Nam.

With regard to potential mitigation measures especially in the energy and industry sectors that could generate carbon credits or ITMOs, the issue arises when there is a carbon pricing regulation that obliges the regulated emitters to reduce their emissions, which therefore means that there would be no policy/regulatory additionality to speak of from a carbon credit project development perspective. This effectively means entities covered by the carbon pricing scheme cannot implement Article 6 mitigation projects in order to meet their ETS obligations, and Article 6 mitigation projects can only be implemented by entities that do not have allowances, i.e. entities outside the ETS scope.

Therefore, both Article 6 and carbon pricing scheme policies would need to be carefully designed to ensure alignment and complementarity of their policy goals. The covered sectors, gases and emitters under the carbon pricing scheme, as well as the eligible mitigation activities, sectors for Article 6 cooperative approaches, need to be identified.

Taking the JCM as an example, Viet Nam has 14 JCM projects registered, with many of the projects being energy efficiency projects in the industry and power sectors. Considering that certain industry and power sectors are covered under Viet Nam's ETS, there is a potential overlap between mitigation actions to be implemented by the regulated emitters for meeting the ETS obligations and those that are eligible for JCM.

The Government needs to determine whether Article 6 cooperative approaches, such as the JCM can play a significant role in providing the innovative technologies and financial incentives for decarbonisation in the sectors covered by the carbon pricing scheme. If so, there would be a need to design additional rules (such as in the allocation of allowances, cut-off dates for project submission) in the national carbon pricing policy frameworks to enable the covered sectors and emitters to pursue Article 6 cooperative approaches.

V.2.1. Positive list

V.2.1.1. Qualitative evaluation criteria for prioritisation of Article 6 activities

To avoid overselling and to provide clarity to project developers/investors, a key approach involves developing a robust criterion for determining eligible activities under Article 6 (positive list). So far, host countries have developed their eligibility criteria using two approaches. A host country can also combine both approaches to determine its positive list.

1) strategic list of activities
2) conditionality and unconditionality of an activity according to its NDC.

Positive lists are developed based on NDC implementation roadmaps and long-term carbon neutrality goals, and projects (that would go into the positive list) are identified through a deliberate process of understanding their role in the NDC achievement and their GHG mitigation cost per tonne. The types of mitigation projects that would go into the positive list are mitigation measures that the Government would not expect to be implemented as a result of national regulations and policies. In addition, as the NDC undergoes updates over time in accordance with the rules of the Paris Agreement, positive lists that are developed based on NDCs need to be updated over time as well.

Based on the selected case studies, Ghana and Thailand define their eligibility criteria through a strategic list of activities. Ghana refers to conditional NDC mitigation activities, but also other criteria whereby a mitigation activity should contribute to sustainable development and must align with Ghana's national priorities and regulations.

Beyond the selected case studies, countries such as India, Zimbabwe and Zambia adopted the first approach (stated above) where they picked eligible activities from their priority sectors. Thailand, for example, specifically listed out eight project types in its draft Climate Change Bill. India included activities that have significant potential in the clean energy transition and hard-to-abate sectors. Zimbabwe has included activities in e-mobility and conservation farming in the list of eligible activities for Article 6. Similarly, Zambia also outlined activities promoting clean energy transition and activities in the agriculture, forestry, waste and transport sectors.

On the other hand, countries such as Rwanda, Cambodia, and Chile adopted the second approach, where the eligibility criteria are derived from how the NDC classifies a mitigation activity. For example, Cambodia's 'positive list' is a list of mitigation activities derived from its conditional NDC activities. Rwanda also developed a 'positive list' based on its conditional NDC target, or activities that fall beyond its NDC target.

Viet Nam's Nationally Determined Contributions

Viet Nam's NDC clarifies: i) *unconditional contribution:* the country's effort to reduce emissions made possible by resources including: state budget, loan capital, investment of domestic and foreign enterprises, contribution and investment of the people; ii) *conditional contribution*: the country's effort to reduce emissions made possible by resources received from international financing in adequate and appropriate manner through grants, concessional portions of loans, financial resources, technology and capacity building under bilateral and multi lateral international cooperation mechanisms, especially under UNFCCC and the Paris Agreement.

The Technical Report of the NDC identifies a list of GHG mitigation measures that contribute to the unconditional and/or conditional targets of the NDC, which can serve as a strong foundation for developing the positive list for Viet Nam under Article 6.

V.2.1.2. Article 6 opportunity screening matrix on Sectors and activities to be prioritised for authorisation

A positive list serves various purposes: as an initial starting list, it is primarily being used to communicate to the market on the eligible activities that the government would consider issuing an authorisation for Article 6 cooperative approaches, subject to further downstream requirements and procedures.

The positive list is an important list as it serves as a guide for the market to conduct its project sourcing and other related activities.

Nevertheless, it is important to go beyond developing the positive list itself and provide early insights to help guide the Government on future work (beyond the timeline of this Assignment) such as updates to the positive list and on internal decision-making around new project opportunities with technologies and solutions that are not studied or identified in the NDC.

This section proposes a set of evaluation criteria that can be used by the Government to gauge the attractiveness or suitability of any future project for Article 6 cooperative approaches. The evaluation criteria address three areas of 'value'. Value refers to the merit or worth of the project to Vietnam's economy.

1. Strategic fit: Alignment of the project with the national (socio-economic) development and decarbonisation priorities
2. Competitiveness: Extent to which the project brings a competitive advantage to the country's economy and NDC achievement.
3. Favourable risk: Likelihood and significance of possible negative impacts the project can bring about. Favourable risk means a lower level of risk.

Table 14: Evaluation criteria for assessing suitability of projects for Article 6 cooperative approaches

Evaluation criteria		Competitiveness	Strategic Fit	Favourable risk
Availability	Scale, timing, state of art	✓		

Affordability	USD/tCO_2 mitigation, commercial viability	✓		
Flexibility	Market opportunities, carbon intensity	✓	✓	
Value chain upside	Industry transformation opportunity	✓	✓	
Acceptability	Public, political and/or NGO opinions, environmental protection and climate mitigation		✓	✓
Partnership	Level of influence, alignment with the project proponent(s), value of the project proponents		✓	✓
Reliability	Project risks, uptime			✓
Downstream monetisation	Route to carbon and product monetisation, carbon rights			✓

Source: South Pole, 2024

The following table details the relevant considerations which guide the evaluation of a project activity against each evaluation criterion.

The table below is designed to be adaptive towards the purposes and uses of the user. The considerations could be reformulated as questions and issues for different situations and purposes, such as:

- Clarification questions for a project proponent, when deciding whether to make certain decisions around Article 6 authorisations, e.g.:
    - Whether to authorise a project when it is out of scope of the positive list
    - Which project to prioritise over another when there are limited authorisations to issue
    - How much emission reductions (or removals) to authorise for an eligible project
- Internal rationalisation on revisions to the positive list, e.g.:
    - On reducing the number of eligible projects, which project types to prioritise from a broader list of emission reduction (or removal) activities?
    - On considering the addition of a new project, whether to include the project activity in the positive list

The types of considerations would need to be adjusted to reflect the purposes and situations, as well as also on the availability of the information at hand to inform the decision making. The considerations in the table below are formulated as a set of clarification questions for the project proponent that is seeking Article 6 authorisation for a hypothetical project activity

that is outside the scope of the positive list, and the project proponent has sufficient technical and financial information about the project to answer the clarification questions.

Subsequently, the responses to the considerations can be subject to a scoring system where points are awarded for the various evaluation criteria and their sub-components. This is beyond the scope of the Technical Assistance at this point, though this is a broad suggestion for the Government to consider as its positive list and Article 6 framework matures.

Table 15: Evaluation criteria and guiding considerations

Evaluation criteria		Considerations, i.e. questions and issues to clarify with the project proponent
(1) Availability	**State of art**	(a) Is there any pre-existing and similar project that has been implemented before (in the country or elsewhere) and has been proven to work in practice?
		(b) Is the project in an advanced state of development in terms of its technological and technical processes? E.g. If relevant, have there been pre-commercial/demonstration scale project phase(s) planned or required before the first Final Investment Decision (FID) can be taken?
	Scale	(c) What is the potential scale of the entire project (all project phases combined, if the project is carried out in phases) in terms of tCO_2e expected to be mitigated? How can the project lead to emissions reductions?
		(d) Regarding the project scale, how about energy and/or feedstock input/consumption rate, and product outputs on a per annum basis?
	Timing	(e) What is the expected date for Final Investment Decision (FID) of the project, or the first project phase (if relevant)? How 'ready' is the project in terms of reaching financial close?
		(f) What is the expected Readiness for Startup (RFSU) date or Commercial Operations Date (COD) for the project, or the first project phase (if relevant)? How 'soon' can the project be operational and start issuing carbon credits? In terms of the NDC period, is the project going to be operational before 2030 or after 2030?
		(g) What other considerations are to be considered in terms of key external commitments (e.g. permits, licences, infrastructure access, etc.) that determine the timescale or scope of the project?
(2) Affordability	**USD/tCO_2 mitigation**	(a) What other forms of climate, etc., financing have been assumed in the project economics? Is there any government support in terms of grants, subsidies, or preferential loans?

	Commercial viability	(b) What is the expected electricity cost (LCOE) (USD/MW) (if relevant) or other feedstock/fuel inputs for the project? How 'expensive' will it be to operate and run the project?
		(c) What is the expected price of the products generated (USD/unit product) from the project? What are the non-carbon revenue streams of the projects? To what extent is the project dependent on the carbon revenues to keep the project commercially viable?
		(d) What is the expected price range of the carbon credits (USD/tCO_2e) that can be generated by the project?
(3) Flexibility	**Market opportunities**	(a) What international and local market opportunities exist for the products of the project?
		(b) What international and local market opportunities exist for the carbon credits, as Article 6-authorised carbon credits as well as non-Article 6 authorised carbon credits?
	Carbon intensity	(c) What is the level of flexibility in varying the carbon intensity of the project (e.g. flexibility in percentage utilisation of grid power)
(4) Value chain upside	**Industry transformation opportunity**	(a) What are the areas of value upside that the project has secured or is expected to secure, e.g. attraction of further investments, etc., into the market?
		(b) Are there potential areas of synergies with others, e.g. sharing of common infrastructure (e.g. electric vehicle charging infrastructure), optimising OPEX vs CAPEX, etc?
(5) Acceptability	**Public, political and/or NGO opinions**	(a) Please demonstrate how the project supports climate policy goals and objectives.
		(b) Please demonstrate how local community support is achieved for the project. E.g. is there an increase in income generation opportunities for the local communities; improvement of livelihoods of local communities, including disadvantaged and low-income groups.
		(c) What NGOs and other relevant third parties have been engaged in the project? What have been the key areas of concern?
		(d) Please demonstrate how and why this project is preferred by relevant parties among potential competing projects in the area, if any.
	Environmental protection and climate	(e) What permits have already been obtained for the project and what key other permits are still outstanding? What is required to obtain outstanding approvals?

	mitigation	(f) Have potential lenders been approached and that have they expressed their 'in principle' support for the project? Please demonstrate that the project improves or causes no significant change in terms of impact on public health and biodiversity (ecosystem health).
		(g) What is the status of any environmental impact assessments (EIA) already being progressed? What are the expected key concerns?
(6) Partnership	**Value of the project proponent**	(a) What are the key areas of value that the Project Proponent can bring into the project? Is the Project Proponent a publicly known/established entity? Is this a Public-Private Partnership?
	Level of influence	(b) Is the Project Proponent expected to be the operator during the project operation phase? What is the role of the Project Proponent and the relevant Government entity (if applicable) and other stakeholders in the project?
		(c) What are the key partnerships that you expect for the Project Proponent to have to deliver the project? What other external relationships do you expect to establish through the partnership with the Project Proponent (if any)?
	Alignment	(d) What are the Government's key objectives that you wish to realise through this project?
(7) Reliability	**Uptime**	(a) What is the uptime expected from the project during the operations phase?
	Project risks	(b) What are the key areas of technical risk for the project? (c) How do you/Project Proponent expect to mitigate these risks (if known)?
		(d) What are the key areas of commercial risk for the project? How do you/Project Proponent expect to mitigate these risks (if known)?
		(e) What are the key areas of regulatory/legal risk for the project? How do you/Project Proponent expect to mitigate these risks (if known)?
		(f) What are the key areas of external stakeholder/community risk for the project? How do you/Project Proponent expect to mitigate these risks (if known)?
(8) Downstream monetisation	**Carbon rights**	(a) Has land been secured for the project? Is the land leased or owned, and what are the lease/ownership conditions and relevant regulations?

		Who owns the title/land tenure to the land?
		(b) Are the rights to the carbon credits and carbon revenues clearly defined, and who does it belong to? Are there limitations in terms of tenure, etc.
	Route to carbon monetisation	(c) What are the available carbon crediting standards/methodologies, or if there is a need to develop a new bespoke carbon crediting methodology for the project?
		(d) Have the buyers of the carbon credits been identified and confirmed? What are buyer profiles for this project?
	Route to product monetisation	(e) Has a product (e.g. grid electricity) off-take agreement been secured (if applicable)? Has the feedstock supply been secured through a purchase agreement?

Source: South Pole, 2024

While Viet Nam has already identified the list of mitigation measures contributing to the conditional target of the NDC, which can be served as a basis for eligible activities under Article 6, it is important for the Government to develop a detailed assessment framework, as proposed herein, to support further screening process and guide updates of the positive list.

V.2.2. Quantitative limits to prevent overselling

Mitigation outcomes retention or share of mitigation outcomes reserved for domestic NDC implementation/compliance and withheld from Article 6 authorisation. This means a portion of the emissions reductions (or removals), i.e. mitigation outcomes, will be authorised by the host country for international transfer under Article 6.

This concept of retention is defined in terms of a proportion of mitigation outcomes (from an emissions reduction or removal project that is) not authorised for international transfer as per Article 6 of the Paris Agreement. This means that for this proportion of mitigation outcomes that are retained and not authorised, there is no corresponding adjustment required. The intent of doing so is to ensure some level of contribution towards domestic NDC implementation. Even though policy and regulatory additionality would have been established in order for the project to qualify for carbon credits, this is still a form of 'insurance' for the Government in achieving the country's NDC. The UNFCCC recognises this as well - under the future Article 6.4 mechanism, there will be authorised Article 6.4 ERs as well as mitigation contribution units (MCU), i.e. ERs that are not authorised under Article 6. Ultimately, the host country gets to decide the quantity or proportion that it would like to retain to be used for NDC implementation.

Some may name this retention policy as 'buffers', which is accurate. Nonetheless, this concept is not to be confused with the concept of 'buffer pools' used by many international carbon crediting mechanisms or programmes such as GS and VCS. Buffer pools are different and distinct from mitigation outcome retention, in terms of (a) purpose and (b) monetisation potential of the carbon credit. Buffer pools are a form of insurance or safeguard against 'reversal' of the emission reduction or removal, i.e. release of GHG emissions that were

previously verified to have been reduced or removed. An example is the loss of carbon stock due to an unexpected event of drought. Buffer pools are usually targeted for Agriculture, Forestry and Other Land Use (AFOLU) projects where the non-permanence risk of the carbon credits is greater than technology-based projects. Second, these verified emission reductions or removals are held in the buffer pool and remain non-monetised, whereas mitigation outcomes that are not authorised still essentially remain as issued carbon credits that can be sold in the voluntary carbon market, where credits do not require Article 6 authorisation. With regard to the treatment of the buffer pool's 'buffer credits', different mechanism/programmes have different rules for determining the proportion of verified carbon credits that needs to be channelled to the buffer pool, when are the buffer credits cancelled (i.e. retired) from the buffer pool, or when can the buffer credits be released for monetisation. It is also important to understand that the concept of buffer pool is an essential governance feature of any reputable international carbon crediting mechanism (that has AFOLU methodologies) to ensure robustness and integrity, and it is not a special feature.

Given this importance, almost all countries analysed in our case study have included a clause on mitigation outcomes retention in their Article 6 governance. However, not all explicitly specify the number of credits to be retained as an NDC buffer, while information on Chile is not yet available. For example, Rwanda and Cambodia's approach is to analyse projects on a case-by-case basis to determine the quantity of the retained mitigation outcomes. On the other hand, Ghana and possibly Thailand specifically state retention rate: Ghana requires 1% of all issued mitigation outcomes to be held in the NDC buffer, while Thailand is considering retaining 10% of mitigation outcomes per authorised mitigation activity.

While Viet Nam has already identified the list of mitigation measures contributing to the conditional target of the NDC, which can be served as a basis for eligible activities under Article 6, it is important for the Government to develop a detailed assessment framework, as proposed herein, to support further screening process and guide updates of the positive list.

V.2.3. Price-based

V.2.3.1. Corresponding Adjustment fee

Corresponding Adjustment fee is a fee amount levied to support domestic mitigation activities in the host country, in exchange for the application of a corresponding adjustment. The fee is in the form of a uniform fee per unit of ITMO.

The economic rationale for a Corresponding Adjustment fee is to reflect the opportunity cost of Article 6 authorisation and corresponding adjustment, because with the corresponding adjustment performed for each tCO_2e of ITMO the level of the country's national GHG inventory increases accordingly and becomes further away from the emissions level target as per the country's unconditional NDC. In this regard, an important consideration of the Article 6 strategy is the determination of the list of eligible mitigation activities.

The main challenge lies in setting a price that reflects the opportunity cost, yet ensuring that Article 6-eligible projects can still attract crucial international investments to finance the project activities. It is important to be mindful that host countries are in a competition to attract Article 6-related investments into the country (in exchange for transferring ITMOs), and a high Corresponding Adjustment fee will detract investors from implementing Article 6 mitigation activities in the country. As such, charging a corresponding adjustment fee to raise funds for the implementation of other mitigation activities is a double-edged sword, because while it raises funds, it also increases the cost of developing and implementing Article 6 mitigation activities in the country, making the country less competitive compared to others. Charging such a fee is also only necessary if the Government authorises activities that it may have wanted to count on towards its NDC. If all activities authorised are truly beyond the NDC, i.e. very additional (based on the formulation of the positive list), then there is no real reason for that fee. Hence, not all host countries impose a Corresponding Adjustment fee. For example, Ghana imposes a Corresponding Adjustment fee of 3 USD/tCO_2e for grant-based small-scale activities and 5 USD/tCO_2e for all other project types at ex-post. In contrast, Rwanda opted to retain a portion of carbon credits instead of charging a Corresponding Adjustment fee.

The Corresponding Adjustment fee is also sometimes part of the broader Article 6 fee structure that the Government may impose, not simply to address overselling, but in order for the Government to acquire a monetary share of the ITMO transactions and reap the benefits from the carbon credit project developed in the country. The Government may merge the Corresponding Adjustment fee (for the purposes described above) and benefit-sharing 'tax' (to be described below) into a generic Article 6 fee. Article 6 fees to cover administrative costs in administering the Article 6 cooperative approach are typically applied on a per project basis, whereas the Corresponding Adjustment fee and benefit-sharing tax are applied on a per quantity of mitigation outcome authorised, i.e. USD/tCO_2e of ITMO basis.

On the necessity of instituting a Corresponding Adjustment fee for the purpose of acquiring a portion of the monetary benefit of the Article 6 mitigation activity, it is also important to consider how the carbon credit project owners (or developers) and the mitigation activities are presently contributing to the country's economy. These organisations (or individuals) could be contributing through national corporate and personal income tax laws[2]. Therefore, it is important to consider existing effective tax rates in the country for corporations and assess whether adding a Corresponding Adjustment fee would make carbon credit development business activities not economically viable for the carbon credit project developer. Moreover, if the intent of such a fee is for the Government to distribute the carbon revenues to local communities who may be local stakeholders in the implementation of the carbon credit project activities, it is also important to consider that the project developer could have instituted benefit-sharing arrangements in the project design - and

[2] Conversely, some countries, such as Thailand, are implementing tax exemptions on net profits from the sale of carbon credits from domestic projects, as part of plans to promote carbon credit project development.

such requirements are also mandatory in many reputable international carbon crediting mechanisms to ensure equitable benefits to local communities.

As the Corresponding Adjustment fee is paid to the government, e.g. via Article 6 DNA, the Corresponding Adjustment fee effectively establishes a government fund for domestic mitigation action. The fund could possibly also fund future ITMO purchases, for example, if the country sees itself becoming a potential buyer from regional countries in the future. This strategy also sets the expectation for a higher minimum selling price for domestic carbon credits that could potentially become authorised, ensuring that the price is always higher than the marginal cost of NDC implementation for any Article 6 mitigation activity. Additionally, when Corresponding Adjustment fees are imposed, the carbon credit management mechanism should determine the rules and conditions relating to the use of revenues. The Government can consider setting up a fund to manage the revenues from Article 6 participation. The funds can then be used to cover administrative expenses related to participation in Article 6, including operating an Article 6 registry, for international negotiations and the administration of international agreements, the development of MRV systems, and so on. Alternatively, it can be channelled towards other green and/or sustainable development sectors in the country.

Viet Nam's Fee for Selling of Certified Emission Reductions

Vietnam imposes a selling fee on Certified Emission Reductions (CERs) transacted under Clean Development Mechanism (CDM) projects based on clear regulatory mandates. According to Decision 130/2007/QĐ-TTg (August 2, 2007), CDM project owners in Vietnam are legally obliged to pay a fee calculated as a percentage of the revenue earned from CER sales, or for foreign investors transferring CERs abroad without direct sale on the market value of those credits. The fee is collected and managed by the Vietnam Environment Protection Fund (VEPF)

The detailed structure of the fee is provided under Joint Circular 58/2008/TTLT-BTC-BTNMT (July 4, 2008), which specifies sector-based rates:

- 1.2 % for energy efficiency, conservation, renewable energy, and forestry projects;
- 1.5 % for methane capture from landfills, livestock, and biogas;
- 2 % for methane from oilfields and other greenhouse-reducing activities.

Collections serve multiple purposes: financing fee administration, promoting CDM awareness, supporting development and approval of project documentation, supervising project implementation, subsidising priority CDM products, and contributing to other related CDM activities.

V.2.3.2. Benefit-sharing / share of proceeds

As explained earlier, to acquire a monetary share of the ITMO transactions and reap the benefits from the carbon credit project developed in the country, the Government may impose benefit-sharing levies.

There are several types of benefit sharing levies that a host country may adopt:

- **Benefit-sharing rules.** Benefit sharing rules are a tool used by one of the host countries covered in our case study - Cambodia to obtain and redistribute the benefits from proceeds of the carbon credits of mitigation activities developed within their jurisdictions to other purposes such as adaptation efforts. Such rules are not

specific to Article 6 mitigation activities but also apply to carbon credit projects developed for the VCM as well and are typically focused on certain project types which tend to involve a variety of stakeholders. In this context, the purpose of the benefit-sharing rules is not intended to cover administrative burden resulting from Article 6 participation, but instead it is seen as an avenue for the different levels of Government to obtain a share of revenue from ITMO sales i.e. additional benefit from the sale of credits. In addition, benefit sharing rules are also used by African countries such as Kenya and Tanzania as a way to support their local communities and governments.

Before imposing benefit sharing provisions on the ITMO transactions, the Government should consider a few issues to ensure that the benefit-sharing rules will not lead to the mitigation activities (carbon projects) becoming economically unviable. First, if a project developer is already paying some form of tax (e.g. corporate, income taxes) in line with national taxation laws, it is important for the host country to assess the total effective tax rate. Secondly, the project developer may have a form of benefit-sharing mechanism already in place with the necessary stakeholders in the project (Also refer to the earlier section above).

If a host country decides to impose benefit sharing rules on ITMO (or carbon credit) sales, it is also important to consider various pertinent issues such as the approach to determine an appropriate benefit-sharing rate i.e. percentage of total carbon credit revenues (% of revenues), the definition of carbon credit sales, earnings or revenues as well as how it could be determined, and taxable entity which the benefit-sharing rules will apply to.

- **Adaptation levy.** Under Article 6.2, participating countries are encouraged to contribute to adaptation activities while under the Article 6.4 mechanism, 5% of ITMOs are required to be forwarded to the UNFCCC Adaptation Fund. The Article 6.4 Supervisory Body has also agreed to deduct 3% of the issuance fee paid for each request for credit issuance under the Article 6.4 mechanism and transfer it annually to the UNFCCC Adaptation Fund.

  A host country may adopt the adaptation fee quantum as set out under Article 6.4 in many ways for Article 6.2 cooperative approaches:

  - Setting a fixed rate per tonne of mitigation outcome, which is the most straightforward way; or
  - Retaining a certain percentage of ITMOs for later sale, which requires additional competencies and resources on part of the Government, which is not recommended,
  - Setting a percentage of the revenue from the sale of credits, which is similar to the benefit-sharing rules as described above.

  The host country government can transfer the collected adaptation levy to the UNFCCC Adaptation Fund or to its own national adaptation fund.

- **Overall Mitigation in Global Emissions (OMGE).** OMGE refers to the portion of ITMOs that must be cancelled to achieve a reduction in global greenhouse gas

emissions. Article 6.2 participants are strongly encouraged to contribute to OMGE while for Article 6.4, there is a mandatory requirement to cancel 2% of the authorised ITMOs to contribute to OMGE. A host country participating in Article 6.2 can adopt the same OMGE percentage set out under Article 6.4. OMGE is applied upon the authorisation of ITMOs by the host country.

While engaging in carbon credit transactions under Article 6, Viet Nam should carefully assess the implications of benefit-sharing mechanisms, the share of proceeds, and price-based contributions. A comprehensive impact assessment is essential to ensure these measures are economically viable and do not undermine the country's competitiveness in attracting international investment. The next section of this Report presents scenarios and options for carbon credit trading, grounded in an analysis of Viet Nam's context, lessons from international experience, and the governance principles outlined above. These scenarios will form the analytical basis for the impact assessment to be conducted in the next Deliverable of this Technical Assistance.

VI. IDENTIFYING DIFFERENT SCENARIOS AND OPTIONS FOR TRADING CARBON CREDITS AND MITIGATION OUTCOMES TO THE INTERNATIONAL MARKET WITH CONSIDERATION OF NDC TARGETS AND CORRESPONDING ADJUSTMENTS

Finally, this section discusses the scenario and options for the trading of carbon credits and mitigation outcomes in the international markets, building on the key principles outlined in the previous discussion and the applicability in Viet Nam's context. As highlighted earlier, an effective framework for managing international carbon credit trading should address critical factors, including alignment with NDC implementation roadmaps, avoidance of ITMO overselling, integration with domestic carbon pricing instruments, and the need to maintain the commercial viability and competitiveness of domestic projects. Experiences observed in other countries show the available policy interventions include: i) positive list of eligible activities for authorisation; ii) share of mitigation outcomes reserved for domestic mitigation; and iii) corresponding adjustment (and administrative) fee. The options for adoption of these interventions in the context of Viet Nam are elaborated below:

VI.1. Positive list of eligible activities for Article 6 authorisation

According to the Technical Report of the NDC of Viet Nam, the mitigation measures to achieve the NDC can be grouped into three categories:

1. Mitigation measures contribute to the unconditional NDC target only (22 measures): This includes 11 measures in the energy sector, 6 in the agriculture sector, 2 in the waste sector, and 3 in the IP sector
2. Mitigation measures contribute to the conditional NDC target only (19 measures): This includes 1 measure in the energy sector, 11 in the agriculture sector, 5 in the waste sector, and 2 in the IP sector
3. Mitigation measures contribute to both unconditional and conditional NDC targets (37 measures): This includes 26 measures in the energy sector, 7 in the LULUCF sector, and 4 in the waste sector

A detailed list of the specific measures under each sector and category is provided in Annex 3 of this Report.

As outlined in Viet Nam's NDC, conditional contributions refer to emission reduction efforts that are contingent upon the availability of international support, including financial resources, technology transfer, and capacity building, particularly through cooperative mechanisms under the UNFCCC and the Paris Agreement, such as Article 6.

Accordingly, the mitigation measures from the second and third categories, which contribute wholly or partially to the conditional NDC target, are considered potential candidates for the development of carbon projects generating carbon credits and mitigation outcomes under Article 6 of the Paris Agreement. The distinction between these two categories is significant: measures in the second category are fully conditional and thus clearly reliant on external support, making them strong candidates for inclusion in the positive list. In contrast, measures in the third category involve a combination of unconditional (domestically

supported) and conditional efforts, where the portion attributable to international support is not easily disaggregated. Nevertheless, due to their partial dependency on external finance, these measures may also be considered for inclusion, subject to further assessment and safeguards to ensure environmental integrity and avoid double counting.

In contrast, measures in the first category, which are associated exclusively with the unconditional target and are expected to be implemented through domestic resources alone, are proposed for exclusion from the positive list. The rationale is that these measures are already part of Viet Nam's autonomous mitigation commitment and do not require additional financial support through Article 6 mechanism.

Hence, the options below are developed based on the definitions of unconditional contribution and conditional contribution of the Viet Nam's NDC to inform inclusion (or exclusion) of these categories of mitigation measures into the positive list.

Table 16: Options to develop Viet Nam's positive list for Article 6 authorisation

Options	Positive list
Option 1: Positive list consists of 19 measures that contribute wholly to the conditional NDC target of Viet Nam	Energy sectors 1. Developing LNG-fired gas turbine combined-cycle power plants Agriculture sector 2. Improving diet quality for dairy cattle 3. Improving diet quality for beef cattle 4. Improving diet quality for buffaloes 5. Reusing agricultural residue 6. Replacing urea with slow-release nitrogen fertiliser 7. Applying AWD and SRI in areas with moderate infrastructure 8. Applying AWD and SRI in areas with poor infrastructure 9. Applying drip fertigation technology to coffee farming 10. Renovating technology to reuse animal waste as organic fertiliser 11. Biogas programme 12. Organic fertilization and organic farming practices Waste sector 13. Applying semi-aerobic landfill method 14. Optimising domestic wastewater treatment conditions 15. Application of biotechnology to remove CH4 from domestic wastewater treatment 16. Optimising industrial wastewater treatment conditions 17. CH4 recovery from industrial wastewater treatment conditions Industrial sector 18. Applying the best technology to reduce emissions in the steel industry (improvement of BOF technology) 19. Using climate-friendly refrigerants (conversion of low GWP HFCs in the refrigeration and air conditioning sectors, enhanced recovery, recycling, and reuse of refrigerants)

Options	Positive list
Option 2: Positive list consists of 56 measures that contribute wholly or partly to the conditional NDC target of Viet Nam	**Mitigation measures contribute to conditional NDC target only (19 measures)** ● (See above list) **Mitigation measures contribute to both unconditional and conditional NDC targets (37 measures)** <u>Energy and industrial sectors</u> 1. Using high-performance household air conditioners 2. Using high-performance refrigerators 3. Using energy-saving lights. 4. Substituting coal with biogas for domestic cooking in rural areas 5. Using cleaner fuels for domestic cooking in rural areas 6. Waste heat from cement production to generate electricity. 7. Improving energy efficiency in industry sub-sectors (except for three sub-sectors, including bricks cement and iron and steel production 8. Shifting passenger transportation from private to public transport 9. Shifting cargo transportation from roadway to railway 10. Shifting the transportation mode from roadway to inland waterway and coastal roadway 11. Promoting the use of CNG buses 12. Increasing load factor of truck fleets 13. Encouraging the use of biofuel 14. Using electric cars 15. Using electric motorbikes 16. Using electric bus 17. Using high-performance electrical appliances in commercial services 18. Developing small-sized hydropower plants. 19. Developing farm solar power. 20. Developing onshore wind power. 21. Developing offshore wind power. 22. Developing biomass thermal power 23. Development of waste-to-energy (incineration) 24. Developing waste to energy landfill 25. Developing biogas power 26. Developing ultra-super-critical coal-fired power technology <u>Forestry sector</u> 27. Protecting the existing area of natural forest in hilly and mountainous areas 28. Conserving protection forest and coastal special-use forest 29. Restoring protective and special use forests 30. Improving natural forest quality and carbon stock 31. Improve productivity and carbon stocks of large timber plantations 32. Replicating agro-forestry models to improve carbon stock and soil conservation 33. Applying sustainable forest management and

Options	Positive list
	certification Waste sector 34. Reducing waste generation 35. Producing compost from solid waste. 36. Applying landfill gas recovery for electricity generation 37. Reducing methane emission via LFG recovery.

Source: MAE, 2022

Building on the two options for defining the positive list of eligible mitigation measures for Article 6 authorisation above, three policy scenarios have been developed to guide the impact assessment of Viet Nam's approach to managing the international transfer of carbon credits and mitigation outcomes. These include: (i) a conservative base case with no authorisation of emission reductions for international transfer; (ii) authorisation limited to the 19 mitigation measures that contribute exclusively to the conditional NDC target (Positive List Option 1); and (iii) a broader authorisation approach covering all 56 measures that contribute wholly or partially to the conditional target (Positive List Option 2). These scenarios reflect increasing levels of engagement in Article 6 cooperation and are designed to test trade-offs between environmental integrity, NDC achievement, investment attractiveness, and administrative complexity. The key advantages and limitations of each scenario are analysed in the assessment presented in the table below:

Table 17: Scenario assessment

Scenario	Estimated ITMOs in 2030 ($MtCO_2e$)	Assessment/commentary
Scenario 1: No authorisation (no supply of authorised emission reductions)	0	This scenario is the most conservative as it avoids the possibility of overselling ITMOs, and foregoes the opportunities for higher NDC ambition, development and adoption of innovative technological solutions with the financing enabled through Article 6.
Scenario 2: Only authorise emission reductions from 19 measures that contribute wholly to the conditional NDC target of Viet Nam	133.94	The adoption of this scenario for the positive list implies that the Government is clear that these mitigation activities clearly go beyond the unconditional NDC, hence there is no strong justification to impose any percentage of the mitigation outcomes (generated from projects) to be reserved for NDC achievement.
Scenario 3: Authorise emission reductions from 56 measures that	257.39	From an NDC planning perspective, there is a certain level of ambition that has been established for each mitigation

contribute wholly or partly to the conditional NDC target of Viet Nam		measure, for which there is a certain extent that can be attained through policies, regulations or incentive mechanisms which forms the unconditional NDC, and then a higher ambition or level envisaged that can be attained from Article 6 cooperative approaches. With regard to the Technical Report of the NDC of Viet Nam, the approach to determine the extent to which each mitigation measure contributes to the conditional and unconditional NDC is not clear. Hence, there could be a challenge in demonstrating additionality for the same type of projects with the same economics and same project 'barriers', if some of these projects are considered for Article 6 cooperative approaches and some are not allowed for Article 6. To address this challenge, there could be a delineation between a mitigation measure's contribution to the conditional or unconditional NDC could be based on an emissions efficiency threshold, and this requires further elaboration of the mitigation measure into sub-components.

Source: The Consultant, 2025

The main considerations to guide decision-making on which scenario and option to adopt is mainly:

- **Government's level of certainty to achieve its NDC, specifically and more importantly, the unconditional NDC.**

  This level of certainty is contingent on various factors:

  - **Level of understanding of how Viet Nam's NDC is formulated**, including its assumptions and roadmaps. This includes understanding of the formulation of the conditional and unconditional components of the NDC, the NDC implementation roadmap of identified mitigation measures, supporting sectoral mitigation roadmaps, as well as also the delineation of measures that can be implemented through mandatory requirements, incentive schemes i.e. through

domestic policy and funds, vis-a-vis measures that require external i.e. private finance. As part of the assumptions, there could be a margin of safety imposed to account for the underperformance of emissions reduction of mitigation measures as compared to what is expected, due to a variety of factors.

- **Level of oversight over NDC implementation progress**, current national emissions profile, understanding of the emissions trajectory over the NDC period, the emissions drivers and sources, and the relative contribution of different sectors to the overall national emissions. Overall emissions levels are subject to fluctuations based on the prevailing economic conditions; hence it is also important to understand underlying factors such as emissions intensity of products and sectors, and track their levels over time to understand the progress of decarbonisation of sectors.
- **Level of knowledge of the emissions mitigation potential by sector**, including understanding of the marginal costs of mitigation by sector or industry-specific mitigation measure.

- **Government's level of reliance on Article 6-related fees as a source of revenues for the national budget.**
  - **Role of revenues to (i) fund the implementation of other mitigation activities in Viet Nam and (ii) to bear the costs of authorisation, transfer and reporting of ITMOs.** The imposition of the Corresponding Adjustment fees as well as separate administrative fees, is observed in various host countries, and for the reasons described. The fees to cover administrative expenses may be justified as the implementation of Article 6 frameworks can be seen as a new core function of the Government and where the existing national budget is already limited.

The inter-play between these key guiding considerations and the potential scenarios and the impact on the (1) share of mitigation outcomes reserved for domestic NDC and (2) Corresponding Adjustment fee is discussed below.

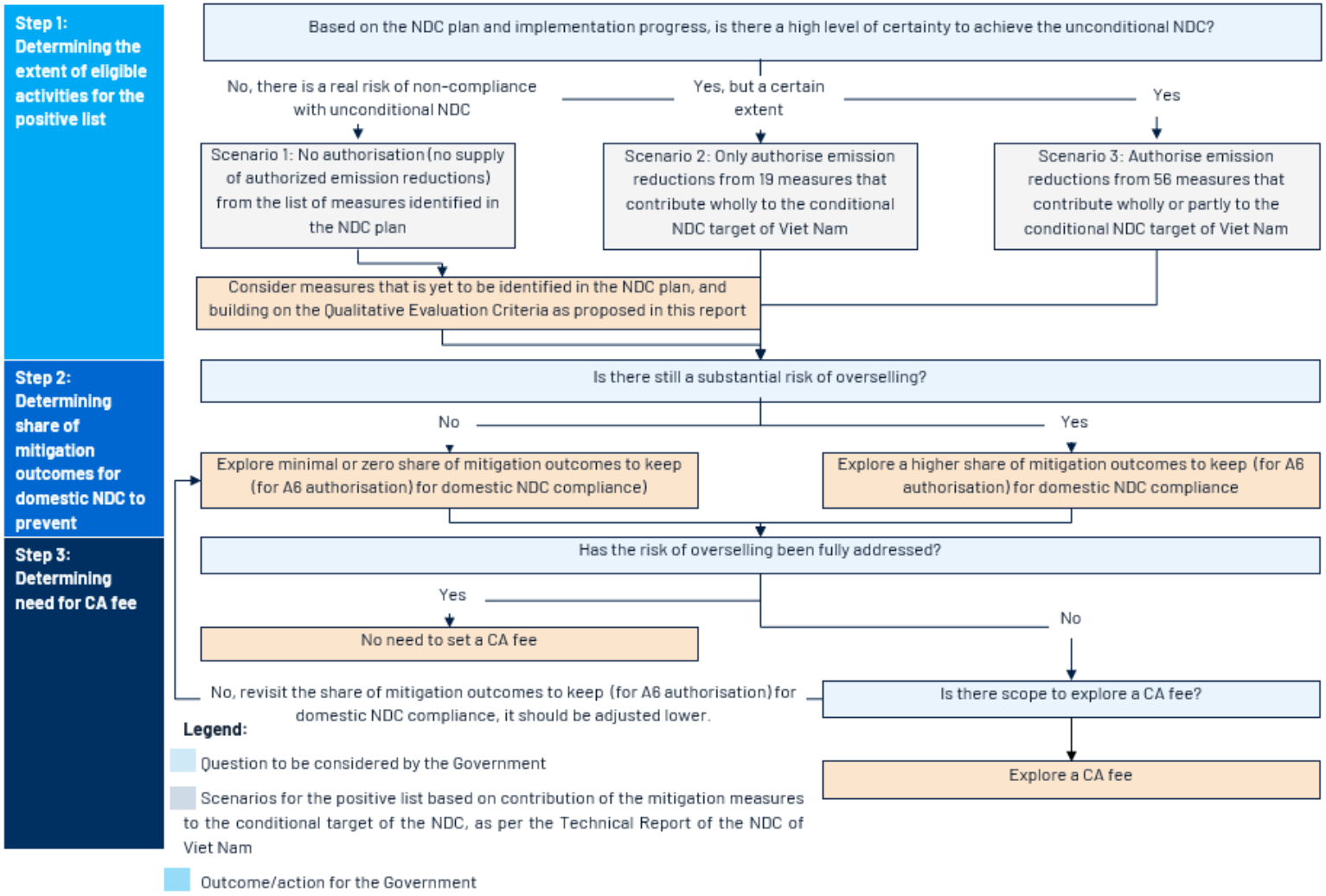

Figure 26: Decision-making flow chart for developing a carbon credits management mechanism

Source: South Pole, elaborated based on Climate Finance Innovators, 2024

The next step is to define the options for the governance management mechanism for carbon credits and mitigation outcomes. The variables or aspects to minimise the risk of overselling, which would vary under the scenarios are as follows:

1. Variable 2: Share of mitigation outcomes reserved for domestic NDC
2. Variable 3: Corresponding Adjustment fee

VI.2. Share of mitigation outcomes reserved for domestic NDC

As discussed in Table 17, each scenario presents varying risks, ranging from missing out on additional financing through Article 6, to further NDC ambition, to the risk of overselling NDCs, which could jeopardise the achievement of the unconditional NDC target. To mitigate these risks, reserving a certain percentage of mitigation outcomes for the domestic NDC is essential.

There are two approaches that Viet Nam may consider adopting to identify the share of reserved mitigation outcomes following sector- specific approach or project type- specific approach.

Sector- specific approach to determine the share of retained mitigation outcomes:

A sector-specific approach provides a rational and transparent basis for determining the share of mitigation outcomes to be retained domestically versus those eligible for international transfer under Article 6. Given Viet Nam's NDC comprises both unconditional targets (to be achieved using domestic resources) and conditional targets (reliant on international support), a prudent strategy to mitigate the risk of overselling is to reserve the emission reductions associated with the unconditional contribution, while only considering the additional reductions attributable to international support as eligible for transfer. This approach aligns with the principles of environmental integrity and ensures that domestic climate commitments remain intact, even as the country engages in carbon market cooperation.

The table below illustrates the application of this approach across key sectors identified in Viet Nam's updated 2022 NDC. For each sector, the unconditional contribution is retained for domestic purposes, while the incremental contribution enabled through international support is earmarked as the potential volume available for trading.

Table 18: Proposed sector- specific approach to determine the share of retained and tradable mitigation outcomes

Sector	Unconditional contribution ⇒ reserve		Increased contribution with International support ⇒ possible trading		Conditional contribution	
	($MtCO_2e$)	(%)	($MtCO_2e$)	(%)	($MtCO_2e$)	(%)
Energy	64.8	29%	162.2	71%	227	100%
Agriculture	12.4	24%	38.5	76%	50.9	100%
LULUCF	32.5	70%	14.1	30%	46.6	100%
Waste	8.7	30%	20.7	70%	29.4	100%
IPPU	27.9	56%	21.9	44%	49.8	100%

Source: The Government, 2022

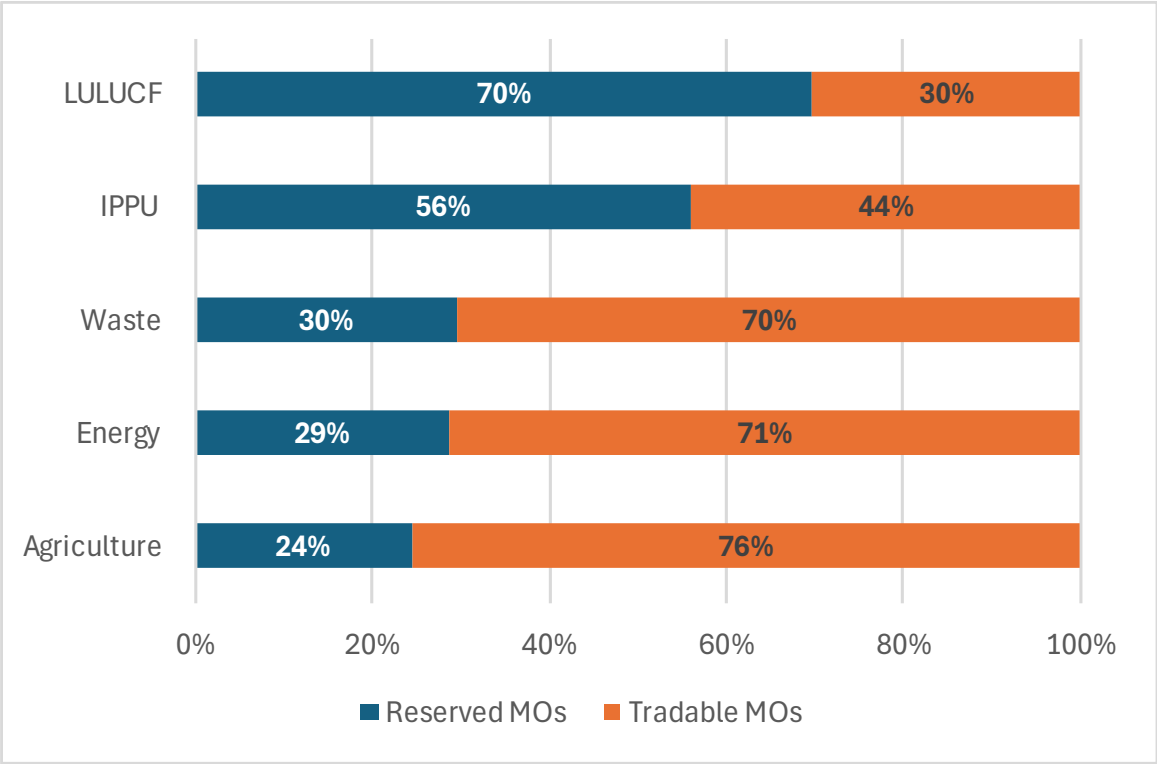

Figure 27: Proposed sector- specific approach to determine the share of retained and tradable mitigation outcomes

Source: The Government, 2022

Mitigation measures- specific approach to determine the share of retained mitigation outcomes:

In addition to the sector-specific allocation method, a mitigation measure-specific approach can also be employed to determine the share of mitigation outcomes retained for domestic use versus those eligible for international transfer. This approach builds directly on the classification of mitigation measures outlined in the Technical Report of Viet Nam's Updated NDC (2022), which categorises each measure according to its contribution to either the unconditional target, the conditional target, or both. Under this method, mitigation outcomes associated with unconditional-only measures are retained to ensure Viet Nam's core NDC commitments are met through domestic efforts. In contrast, outcomes from conditional-only measures are considered for international trading, while those from hybrid measures, contributing to both targets, may require proportional allocation based on their expected domestic and supported impacts.

This measure-based allocation framework offers greater granularity than the sector-level approach by allowing for tailored assessments of individual interventions (e.g., afforestation, energy efficiency in transport, rice cultivation improvement, etc.). This can enhance the precision of corresponding adjustments and align credit authorisation with actual financing needs and implementation pathways.

Details of the specific mitigation measure types and their share of unconditional (retained) and conditional (tradable) contributions are provided in Annexes 3 and 4 of this Report.

Advantages of the measure-specific approach include:

- Greater alignment with national mitigation planning: It directly reflects the NDC's technical structure and financing assumptions.
- Improved environmental integrity: It reduces the risk of double claiming by isolating mitigation outcomes directly linked to international support.
- Enhanced transparency for buyers: It provides clearer attribution of emission reductions to specific activities, which may be favoured in high-integrity Article 6 transactions.

However, this approach also presents several challenges relative to the sector-specific method:

- Higher administrative complexity: It requires disaggregated MRV systems and detailed tracking at the measure level.
- Risk of inconsistent data or assumptions: If measure-level baselines or overlaps are not well defined, it may create ambiguities in credit authorisation.
- Institutional capacity strain: It demands more technical capacity and coordination across implementing agencies and project developers.

By contrast, the sector-specific approach, as previously outlined, offers a more aggregated and administratively feasible alternative, which is better suited for early-stage implementation or when MRV infrastructure is still under development. It is especially practical for setting high-level caps on credit issuance and corresponding adjustments.

Ultimately, the choice between the two approaches, or a combination thereof, should be informed by Viet Nam's institutional readiness, MRV capacities, and long-term Article 6 strategy. In the short term, a sector-based allocation may serve as a transitional measure, with gradual integration of measure-level detail as data systems mature.

Additional quantitative limits to prevent overselling

While the proposed approaches, whether sector-specific or mitigation measure-specific, help delineate the share of mitigation outcomes that may be retained domestically versus those eligible for international transfer, they do not fully eliminate the risk of overselling. This risk arises particularly when a disproportionate number of mitigation activities are implemented in sectors or measures with a high share of conditional contributions, thereby increasing the volume of tradable mitigation outcomes beyond what is prudent for safeguarding national climate targets.

Furthermore, under the corresponding adjustment requirement of Article 6, for every tonne of CO_2e transferred internationally, a corresponding addition must be made to the host country's emission balance. If not properly managed, this mechanism can offset domestic climate progress and undermine Viet Nam's ability to achieve its NDC targets.

To mitigate this risk and preserve environmental integrity, Viet Nam may consider establishing additional quantitative limits on the volume of internationally transferred mitigation outcomes. A conservative cap could be set at no more than 50% of the emission reductions attributed to international support, thereby maintaining a buffer for corresponding adjustments and preserving flexibility for domestic compliance. Based on the conditional contributions presented in the Updated NDC (2022), this cap would amount to a maximum tradable volume of 128.7 $MtCO_2e$ across sectors, allocated as follows:

- Energy: 81.1 Mt CO_2e
- Agriculture: 19.25 Mt CO_2
- LULUCF: 7,05 Mt CO_2e
- Waste: 10.35 Mt CO_2e
- IP: 10,95 Mt CO_2

This quantitative safeguard would complement the mitigation outcome retention approach by establishing an upper bound on tradable volumes, thereby enhancing predictability and supporting a more prudent, integrity-driven engagement in international carbon markets.

VI.3. Corresponding Adjustment fee

The imposition of a Corresponding Adjustment fee offers a potential instrument for Viet Nam to enhance its governance of Article 6 transactions. Such a fee can serve multiple purposes: it may generate additional public revenue, offset administrative costs related to the implementation of international carbon market mechanisms, and support the broader climate policy framework. Importantly, it may also function as a tool to manage overselling risks, particularly mitigation outcomes originally intended to contribute to the country's NDC are authorised for international transfer.

However, introducing a Corresponding Adjustment fee also carries potential drawbacks. From the perspective of investors and acquiring countries, additional transaction costs may reduce Viet Nam's competitiveness relative to other host countries.

International experience demonstrates a range of approaches to Corresponding Adjustment fee design. While some countries apply no fee, others, such as Ghana, have introduced a fixed fee of up to USD 5 per tonne of CO_2e transferred. This variation reflects differing national priorities, institutional capacities, and market positioning strategies.

For Viet Nam, one policy-aligned and contextually relevant option is to anchor the Corresponding Adjustment fee to the domestic carbon price established under the forthcoming national ETS. This approach ensures that the opportunity cost of transferring mitigation outcomes internationally, rather than using them to fulfil domestic targets, is adequately internalised. It also mirrors the marginal abatement cost within the national context, thereby promoting alignment between domestic and international carbon pricing instruments.

Using the ETS price as a reference would:

- Prevent market distortions by maintaining consistency in pricing signals across carbon markets;
- Encourage efficient allocation of mitigation outcomes, with international transfers occurring primarily when external carbon prices exceed domestic valuations;
- Mobilise revenue for reinvestment in national climate action, particularly in areas such as capacity building, MRV infrastructure, and project development aligned with Viet Nam's NDC.

As Viet Nam's ETS matures and its carbon price becomes more reflective of market fundamentals, this strategy could provide a dynamic, transparent, and nationally appropriate fee-setting mechanism. A report "Assessing and modelling the impacts of governance options for emission

trading system in Viet Nam" conducted under this Technical Assistance estimated that the carbon price in the domestic ETS falls within a range of USD 1.1 – 3.7 per tCO_2e, depending on the scenarios.

Alternatively, Viet Nam may consider adapting an approach similar to the CER transaction fee, currently levied at 1.2% to 2% of the carbon revenue from credit sales, which is collected through the Viet Nam Environmental Protection Fund. While this percentage-based model offers simplicity and linkage to market revenues, it may not fully reflect mitigation opportunity costs or carbon price dynamics.

Regardless of the approach chosen, a thorough review of the existing legal and institutional framework is required to assess the feasibility of establishing a Corresponding Adjustment fee mechanism, including its integration with existing fiscal instruments and carbon market regulations.

VI.4. Scenarios development for modelling and impact assessment

Based on the above analysis and identification of governance options for international trading of carbon credits and mitigation outcomes from Viet Nam, the table below identifies the scenarios and variables formulated for modelling and impact assessment in the next Deliverable of the Technical Assistance.

The scenarios illustrate a spectrum of policy choices for Viet Nam's engagement in international carbon markets under Article 6. Each scenario reflects different levels of ambition, risk tolerance, and governance readiness, ranging from conservative non-participation to full-scale authorisation with complementary safeguards such as retention shares, quantitative limits, and corresponding adjustment fees. By evaluating these scenarios, Viet Nam can make informed decisions that align international cooperation with national climate objectives, ensure environmental integrity, and optimise the mobilisation of finance and technology for its low-carbon development pathway.

Table 19: Proposed governance scenarios for modelling and impact assessment of international transfer of carbon credits and mitigation outcomes from Viet Nam under Article 6

Scenario	Description	Authorisation Scope	Estimated ITMOs in 2030 ($MtCO_2e$)	Governance Instruments	Pros	Cons
1. No transfer (Baseline)	No mitigation outcomes authorised for international transfer	None	0	None	Preserves full NDC potential	No access to Article 6 finance
2. Conditional-only measures (Option 1)	Authorises only 19 measures contributing exclusively to the conditional NDC	Positive List Option 1	133.94	No share reserved; no fee	Clear international alignment	Limited ITMO volume
3. Conditional & hybrid measures (Option 2)	Authorises all 56 measures contributing wholly or partly to the conditional target	Positive List Option 2	257.39	No share reserved; no fee	Maximise ITMOs and finance	Overselling and integrity risk
4. Option 2 with share of mitigation outcomes reserved for NDC	Same as Scenario 3, but retains unconditional share by sector or measure	Positive List Option 2	Up to 128.7	Sector/measure-specific retention	NDC safeguarded	Requires MRV capacity
5. Option 1 with additional quantitative limits	Same as Scenario 2 but with a cap (e.g., 50%)	Positive List Option 1	≤66.97	Hard volume cap	Conservative safeguard	May restrict finance
6. Option 2 with additional	Same as Scenario 3 but with a cap (e.g., 50%)	Positive List Option 2	≤128.7	Hard volume cap	Balance risk/reward	Lower ITMO supply

quantitative limits						
7. Option 1 with Corresponding Adjustment fee	Authorises 19 conditional-only measures with the Corresponding Adjustment fee	Positive List Option 1	133.94	Corresponding Adjustment fee (linked to ETS or % of value)	Generates revenue	Buyer cost concern
8. Option 2 with Corresponding Adjustment fee	Authorises 56 measures with the Corresponding Adjustment fee	Positive List Option 2	257.39	Corresponding Adjustment fee (linked to ETS or % of value)	High participation & governance	Price sensitivity & competitiveness risk

Source: The Consultant compiled from analysis, 2025

VII. CONCLUSION AND RECOMMENDATIONS

This report has explored a range of governance options for Viet Nam to manage the international transfer of carbon credits and mitigation outcomes under Article 6 of the Paris Agreement. It has examined key variables critical to the design of a robust and transparent carbon credit management framework, including the definition of eligible mitigation activities through positive list, retention of mitigation outcomes for domestic use, the imposition of Corresponding Adjustment fees, and quantitative safeguards to mitigate the risk of overselling.

To inform such a framework, the report has drawn lessons from past and ongoing carbon crediting mechanisms in Viet Nam, including the CDM, the JCM, and voluntary carbon standards. It also analysed global demand from a range of potential buyers, NDC-compliant countries, corporations pursuing voluntary targets, and airlines under CORSIA, highlighting the importance of credibility, transparency, and alignment with buyer requirements. Furthermore, case studies of selected host countries (Ghana, Rwanda, Thailand, Cambodia, and Chile) provided practical insights into the governance and institutional design of Article 6-related mechanisms. Synthesising these insights, the report proposed a set of key principles to guide the development of Viet Nam's governance framework for Article 6 authorisation.

Viet Nam's active engagement in cooperative approaches under Article 6 demonstrates both its strategic intent to leverage international carbon markets and the need for careful planning to ensure such participation complements, rather than compromises, the achievement of its NDC targets. In particular, the Viet Nam's NDC, with clearly delineated unconditional and conditional targets, necessitates a calibrated governance framework that balances environmental integrity, economic competitiveness, and national interest.

Built on the analysis of Viet Nam's context and lessons learnt from international experiences, key governance options evaluated in this report include:

- The use of positive lists and evaluation criteria to define eligible mitigation activities for Article 6 authorisation;
- The adoption of sector-specific and mitigation measure-specific approaches to determine the share of mitigation outcomes retained for domestic NDC compliance versus those available for international transfer;
- The establishment of quantitative limits on tradable volumes to provide an additional buffer against the risk of overselling;
- The introduction of a corresponding adjustment fee, potentially anchored to the domestic carbon price under Viet Nam's emerging ETS, to reflect opportunity costs and generate revenue for national climate finance.

While each governance option presents distinct benefits and challenges, the overall objective remains to develop an integrated and adaptive system that supports the country's long-term climate goals, safeguards its NDC commitments, and enables high-integrity participation in global carbon markets.

Based on the mentioned governance options, eight governance scenarios have been developed for impact assessment to reflect a range of plausible policy pathways for Viet Nam's participation

in international carbon markets under Article 6. These scenarios vary in terms of the scope of authorisation (i.e., which mitigation measures are eligible for crediting and transfer), the application of retention rules to preserve NDC integrity, the use of corresponding adjustment fees to internalise opportunity costs, and the imposition of quantitative limits to avoid overselling. Together, they allow for the evaluation of trade-offs between environmental ambition, economic returns, administrative feasibility, and investor attractiveness. The scenarios are designed not only to test the technical and financial implications of different Article 6 engagement levels but also to inform future policy decisions that ensure transparency, environmental integrity, and alignment with Viet Nam's climate and development priorities.

The governance options identified in this report will be further assessed and quantified in the next deliverable through a modelling exercise. This modelling will simulate various trading scenarios under different policy configurations to identify the optimal governance strategy for Viet Nam. The analysis will consider not only environmental integrity and compliance risks but also economic efficiency, institutional feasibility, and the potential to mobilise international climate finance.

This evidence-based approach will help inform government decision-making and support the design of a nationally appropriate Article 6 framework that aligns with Viet Nam's evolving climate policy landscape and its ambitions under the Paris Agreement.

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ANNEXES

Annex 1: Registered JCM projects and the share of issued credits

Reference number	Project title	Emissions reductions	Share of issued credits
VN001	Eco-Driving by Utilising Digital Tachograph System	716	Viet Nam: 144 Japan: 572
VN002	Promotion of green hospitals by improving efficiency / environment in national hospitals in Vietnam	878	Viet Nam: 193 Japan: 685
VN003	Low carbon hotel project in Vietnam: Improving the energy efficiency of commercial buildings by utilisation of high efficiency equipment	261	Viet Nam: 80 Japan: 181
VN004	Introduction of amorphous high efficiency transformers in power distribution systems in the southern part of Viet Nam	3,045	Viet Nam: 1522 Japan: 1523
VN005	Introduction of High Efficiency Air-conditioning in Hotel	189	Viet Nam: 56 Japan: 133
VN006	Energy saving and work efficiency improvement by introducing a new chip-on-board LED system in Vietnam	143	Viet Nam: 15 Japan: 128
VN007	Introduction of Solar PV System at shopping mall in Ho Chi Minh	292	Viet Nam: 89 Japan: 203
VN008	Introduction of Amorphous High Efficiency Transformers in Southern and Central Power Grids	14,110	Viet Nam: 7054 Japan: 7056
VN009	Introduction of Energy-Efficient Air Conditioners in RICOH IMAGING PRODUCTS (Vietnam) CO., LTD	94	Viet Nam: 28 Japan: 66
VN010	Installation of Container Formation Facility at Lead Acid Battery Factory of Hitachi Chemical Energy Technology (Vietnam) Co., Ltd.	3,288	Viet Nam: 1,644 Japan: 1,644
VN011	Installation of Energy Saving Equipment in Lens Factory	1,493	Viet Nam: 449 Japan: 1,044

VN012	Introduction of High Efficiency Water Pumps in Da Nang City		
VN013	Introduction of Amorphous High Efficiency Transformers in Northern, Central and Southern Power Grids	10,425	Viet Nam: 5,212 Japan: 5,213
VN014	Introduction of high-efficient wire stranding machines to the factory of YAZAKI EDS VIETNAM Co., LTD.	379	Viet Nam: 189 Japan: 190

Source: JCM, 2025

Annex 2: Comparison of Decree 06/2022/ND-CP and Decree 119/2025/ND-CP and the remaining gaps in the governance framework for Article 6 in Viet Nam

Item	Decree 06/2022/ND-CP	Decree 119/2025/ND-CP	Remaining gaps
Scope of regulations	Only refers to domestic carbon market.	Expanded to cover international carbon credit mechanisms under Article 6 of the Paris Agreement.	Not yet cover independent carbon credit standards like GS, VCS, GCC, etc. that already exist in Viet Nam
Terms and definitions	Did not mention specific mechanisms under Article 6.	Adds definitions for Article 6.2 and 6.4 mechanisms, national registry, sustainable cooling, and methods for domestic carbon crediting.	Not yet defines technical terms related to specific requirements under Article 6.2 and 6.4, such as corresponding adjustment, double-counting, mitigation outcomes, Article 6.4 Supervisory Body, etc.
Organisation for GHG emission allowance allocation	Provides general guidance and assignment of responsibility on allowance allocation for 2026 – 2030 period	Specifies responsibilities for 2 year-periods, in which thermal power, cement production and steel production facilities will be initially covered in the ETS (2025-2026 period); for 2027-2028 and 2029-2030 periods: Ministries in charge of sector shall propose list of facilities to be covered in the ETS and MAE will announce the allowances to the facilities before end of October in the first year of the crediting period	No clear principles and overarching strategy to guide Viet Nam's engagement in Article 6 activities, especially a framework to avoid overselling of credits that could undermine domestic climate targets

Monitoring, Reporting and Verification (MRV) of GHG emission reductions	1) Only mentions the responsibility of Ministry of Natural Resources and Environment 2) No responsibility of the provincial People Committee 3) Assigns MONRE Minister to promulgate the procedures for validation of GHG emission reductions.	1) Adds the responsibility of line ministries for collaborating with Ministry of Agriculture and Environment in developing and operating the national online database on MRV of GHG emission reductions in Item 2 2) Only retains the responsibility of monitoring, inspection of the compliance of the MRV of GHG emission reductions at facilities 3) Adds the responsibility of the provincial People Committee to review and consolidate GHG emission reduction results of facilities to report to the Ministry of Agriculture and Environment 4) Adds details about content and procedures for validation of GHG emission reductions at sector level and national level	No clear procedures for governance of Article 6.4 and Article 6.2, including MRV responsibilities
Carbon credit offsetting, trading mechanism	Provides general provisions for registration of programs and projects under carbon credit offsetting, trading mechanisms	Specifies details for domestic and international carbon credits offsetting, trading mechanisms. i) for domestic carbon credit offsetting, trading mechanisms, ministries in charge of sector shall be responsible for approval of methodologies, registration of projects and issuance of carbon credits ii) for international carbon credit offsetting, trading mechanisms, provides detailed procedures for approval of projects,	No clear eligibility criteria for project selection under Article 6 such as additionality, avoidance of double counting, benefit-sharing, or sustainable development contributions, issues that are essential for high-integrity participation in Article 6 mechanisms.

		programs under Article 6.4 Mechanism, transition of CDM projects to Article 6.4 and authorization for international transfer of carbon credits	
Article 21. Responsibilities	Defines the role of MOF on development and establishment of carbon trade exchange and promulgation of financial management mechanisms for operation of carbon markets, the role of MONRE in pilot and official operation of the carbon market, management and oversight of the carbon market, linkage with regional and world carbon market.	Removes the functions of MAE related to carbon market management and oversight and the linkage with internation and the world market	Lacks clarity on the roles and mandates of key institutions in authorising, tracking, and overseeing the international transfer of mitigation outcomes.
Appendixes	Appendix 1 on GHG emission reductions of sectors up to 2030	Adds a list of measures, activities encouraged for international transfer of GHG emission reductions, i.e. under Article 6	No clear approach to ensure compliance with the NDC target and avoid overselling.

Source: The Consultant based on Decree 06/2022/ND-CP & Decree 119/2025/ND-CP

Annex 3: Mitigation measures under Technical NDC 2022

Unconditional only			Conditional only			Both conditional and unconditional		
Mitigation measures	Potential for emission reductions ($mtCO_2e$)		Mitigation measures	Potential for emission reductions ($mtCO_2e$)		Mitigation measures	Potential for emission reductions ($mtCO_2e$)	
	2025	2030		2025	2030		2025	2030
Energy sector								
						E1, E1s	0,81	3,38
						E2, E2s	0,45	1,24
						E3, E3s	1,15	2,86
E4	0,15	0,77						
						E5, E5s	0,65	1,29
						E6, E6s	2,79	5,56
E7	0,18	0,38						
E8	0,33	0,7						
						E9, E9s	1,05	2,23
E10	0,54	1,38						
E11	0,65	1,5						
E12	0,01	0,06						
E13	0,08	0,34						
E14	0,39	1,25						
E15	0,22	1,41						
						E16, E16s	3,85	14,25
E17	0,83	5,06						
						E18, E18s	0,33	0,42
						E19, E19s	0,36	0,92
						E20, E20s	1,13	1,58
						E21, E21s	0,00	0,01
						E22, E22s	0,79	1,14
						E23, E23s	0,72	1,93
						E24, E24s	0,91	4,31

Unconditional only			Conditional only			Both conditional and unconditional		
Mitigation measures	Potential for emission reductions ($mtCO_2e$)		Mitigation measures	Potential for emission reductions ($mtCO_2e$)		Mitigation measures	Potential for emission reductions ($mtCO_2e$)	
	2025	2030		2025	2030		2025	2030
						E25, E25s	1,41	2,82
						E26, E26s	0,08	1,12
						E27, E27s	1,27	4,02
						E28, E28s	17,12	21,2
						E29, E29s	11,82	11,42
E30	8,3	8,02						
						E31, E31s	27,74	29,36
						E32, E32s	0,00	9,96
						E33, E33s	3,75	4,57
						E34, E34s	0,98	1,58
						E35, E35s	0,10	0,16
						E36, E36s	0,07	0,09
			E37s	9,91	66,00			
						E38, E38s	7,91	12,69
Total	**11**	**11,68**	**20,87**	**1**	**9,91**	**66,00**	**26**	**87,24**	**140,11**
Agriculture sector								
A1	0,71	1,41						
A2	2,4	4,8						
A3	0,98	1,96						
A4	1,25	2,5						
A5	0,5	1						
A6	0,38	0,75						
			A7.1s	0,03	0,07			
			A7.2s	0,17	0,33			
			A7.3s	0,04	0,08			
			A8s	1,96	3,91			

	Unconditional only			Conditional only			Both conditional and unconditional		
	Mitigation measures	Potential for emission reductions ($mtCO_2e$)		Mitigation measures	Potential for emission reductions ($mtCO_2e$)		Mitigation measures	Potential for emission reductions ($mtCO_2e$)	
		2025	2030		2025	2030		2025	2030
				A9s	1,69	3,38			
				A10.1s	1,17	2,34			
				A10.2s	2,34	4,68			
				A11s	0,57	1,14			
				A12s	3,09	6,19			
				A13s	2,38	4,76			
				A14	5,8	11,6			
Total	**6**	**6,22**	**12,42**	**11**	**19,24**	**38,48**	**0**	**0**	**0**
	LULUCF sector								
							F1, F1s	22,29	37,31
							F2, F2s	1,51	2,54
							F3, F3s	0,15	0,23
							F4, F4s	0,99	1,77
							F5, F5s	0,35	1,33
							F6, F6s	0,03	0,04
							F7, F7s	2,7	3,34
Total	**0**			**0**			**7**	**28,02**	**46,56**
	Waste sector								
							W1, W1s	3,39	9,61
	W2	0,54	1,42						
							W3, W3s	2,45	8,49
							W4, W4s	0,137	0,58
	W5	0,13	0,34						
				W6s	0,91	0,93			
							W7, W7s	1,26	1,44
				W8s	1,47	2,97			

	Unconditional only			Conditional only			Both conditional and unconditional		
	Mitigation measures	Potential for emission reductions ($mtCO_2e$)		Mitigation measures	Potential for emission reductions ($mtCO_2e$)		Mitigation measures	Potential for emission reductions ($mtCO_2e$)	
		2025	2030		2025	2030		2025	2030
				W9s	0,67	1,37			
				W10s	0,086	0,63			
				W11s	0,33	1,64			
Total	**2**	**0,67**	**1,76**	**5**	**3,466**	**7,54**	**4**	**7,237**	**20,12**
	IP sector								
	I1	6,5	9						
	I2	12,07	16,6						
	I3	0,34	2,3						
				I4s	5,28	16,35			
				I5s	1,33	5,57			
Total	**3**	**18,91**	**27,9**	**2**	**6,61**	**21,92**	**0**	**0**	**0**
Total of all mitigation measures	**22**	**37,48**	**62,95**	**19**	**39,23**	**133,94**	**37**	**122,50**	**206,79**

Energy sector

E1/E1s. Using high-performance household air conditioners

E2/E2s. Using high-performance refrigerators

E3/E3s. Using energy-saving lights

E4. Using solar-powered water heaters

E5/E5s. Substituting coal with biogas for domestic cooking in rural areas

E6/E6s. Using cleaner cooking fuels in rural areas

E7. Optimising clinker burning process

E8. Reducing clinker kiln heat losses

E9/E9s. Recovering waste heat from cement production

E10. Using vertical roller mills in cement production
E11. Applying advanced technology in fired brick production
E12. Pre-heating scrap steel for electric arc furnace (EAF)
E13. Hot charging in rolling mill
E14. Recovering gas heat from basic oxygen furnace (BOF)
E15. Injecting pulverised anthracite into blast furnaces
E16/E16s. Improving energy efficiency in other industrial sub-sectors (except for three sub-sectors, including bricks cement and iron and steel production)
E17. Limiting fuel consumption for new manufactured, assembled and imported motor vehicles
E18/E18s. Shifting passenger transport from private to public
E19/E19s. Shifting freight transport from roadway to railway
E20/E20s. Shifting the freight transport from roadway to inland waterway and marine waterway
E21/E21s. Promoting the use of CNG buses
E22/E22s. Increasing load factor of truck fleets
E23/E23s. Using biofuel
E24/E24s. Promoting the use of electric cars
E25/E25s. Using electric motorbikes
E26/E26s. Encourage the use of electric bus
E27/E27s. Using high-performance electrical appliances in commercial services
E28/E28s. Development of small hydropower
E29/E29s. Development of centralised solar power
E30. Development of rooftop solar power
E31/E31s. Development of onshore wind power
E32/E32s. Development of offshore wind power
E33/E33s. Development of biomass thermal power

E34/E34s. Development of waste-to-energy (incineration)

E35/E35s. Development of waste-to-energy (landfill gas)

E36/E36s. Development of biogas power

E37. Development of combined-cycle gas turbines using LNG

E38/E38s. Development of ultra-supercritical thermal power technology

Agriculture sector

A1. Alternate wetting and drying (AWD) and System of Rice Intensification (SRI) in areas with adequate infrastructure (1000 ha)

A2. Mid-season drainage for rice fields (1000 ha)

A3. Conversion of low-productivity rice land to rice–shrimp farming (1000 ha)

A4. Conversion of low-productivity rice land to upland crops (1000 ha)

A5. Integrated crop management (ICM) for rice (1000 ha)

A6. Integrated crop management (ICM) for upland crops (1000 ha)

A7.1s.Improved feeding practices for dairy cattle (1000 heads)

A7.2s. Improved feeding practices for beef cattle (1000 heads)

A7.3s. Improved feeding practices for buffaloes (1000 heads)

A8s. Agricultural waste recycling (using crop residues for organic fertilizer) (1000 tons)

A9s. Replacing urea with slow-release fertilizers, controlled-release fertilizers, and stabilized nitrogen fertilizers (1000 ha)

A10.1s. Alternate wetting and drying (AWD) and SRI (moderate infrastructure) (1000 ha)

A10.2s. Alternate wetting and drying (AWD) and SRI (poor infrastructure) (1000 ha)

A11s. Modernisation of irrigation and fertilisation for perennial crops (1000 ha)

A12s. Agricultural waste recycling (livestock manure for organic fertiliser) (1000 tons)

A13s. Biogas systems (1000 standard digesters)

A14s. Compost application + Organic farming (1000 tons)

Waste sector

W1. Reduce Municipal solid waste (MSW) generation

W1s. Anaerobic treatment with methane recovery for power generation

W2. Recycling

W3/W3s. Composting

W4/W4s. Reduce methane emissions from landfills by incinerating MSW for electricity generation

W5. Refuse-derived fuel (RDF)

W6s. Semi-aerobic disposal

W7/W7s. Reduce methane emissions by recovering gas from landfills

W8s. Optimising domestic wastewater treatment condition

W9s. Application of biotechnology to remove CH4 from domestic wastewater treatment

W10s. Optimising industrial wastewater treatment conditions

W11s. Recovery of CH4 gas from industrial wastewater treatment

IPPU sector

I1. Using natural mineral additives to replace clinker

I2. Using industrial waste additives to replace clinker

I3.Applying best available technologies to reduce N_2O emissions in the chemical industry

I4s. Applying best available technologies to reduce emissions in the steel industry (improving BOF technology)

I5s. Using climate-friendly refrigerants

LULUCF sector

F1/F1s. Protecting existing natural forest areas in mountainous regions

F2/F2s. Protecting coastal protection forests and special-use forests

F3/F3s. Restoring protection forests and special-use forests

F4/F4s. Improving the quality and carbon stock of degraded natural forests

F5/F5s. Enhancing productivity and carbon stocks of large timber plantations

F6/F6s. Scaling up agroforestry models to increase carbon storage and conserve soil

F7/F7s. Sustainable forest management and forest certification

Annex 4: Measures- specific contribution to unconditional and conditional NDC targets

Mitigation measures	Unconditional		Emission reductions achieved through international assistance	
	$MtCO_2e$	%	$MtCO_2e$	%
Energy				
E1. Using high-performance household air conditioners	9.16	70%	3.92	30%
E2. Using high-performance refrigerators	4.19	70%	1.8	30%
E3. Using energy-saving lights	9.86	70%	4.22	30%
E4. Using solar-powered water heaters	2.83	100%		0%
E5. Substituting coal with biogas for domestic cooking in rural areas	3.58	50%	3.58	50%
E6. Using cleaner cooking fuels in rural areas	27.59	90%	3.07	10%
E7. Optimizing clinker burning process	2.05	100%		0%
E8. Reducing clinker kiln heat losses	3.66	100%		0%
E9. Recovering waste heat from cement production	4.81	40%	7.22	60%
E10. Using vertical roller mills in cement production	6.89	100%		0%
E11. Applying advanced technology in fired brick production	7.46	100%		0%
E12. Pre-heating scrap steel for electric arc furnace (EAF)	0.23	100%		0%
E13. Hot charging in rolling mill	1.38	100%		0%
E14. Recovering gas heat from basic oxygen furnace (BOF)	5.31	100%		0%
E15. Injecting pulverised anthracite into blast furnaces	4.57	100%		0%
E16. Improving energy efficiency in other industrial sub-sectors (except for three sub-sectors, including bricks cement and iron and steel production)	8.52	15%	48.3	85%
E17. Limiting fuel consumption for new manufactured, assembled and imported motor vehicles	15.66	100%		0%
E18. Shifting passenger transport from private to public	2.99	50%	2.99	50%
E19. Shifting freight transport from roadway to railway	0.88	20%	3.52	80%
E20. Shifting the freight transport from roadway to inland waterway and marine waterway	2.36	20%	9.44	80%
E21. Promoting the use of CNG buses	0.03	50%	0.03	50%
E22. Increasing load factor of truck fleets	5.07	70%	2.17	30%
E23. Using biofuel	7.21	80%	1.8	20%
E24. Promoting the use of electric cars	3.06	20%	12.24	80%
E25. Using electric motorbikes	7.66	50%	7.66	50%
E26. Encourage the use of electric bus	0.7	20%	2.8	80%

Mitigation measures	Unconditional		Emission reductions achieved through international assistance	
E27. Using high-performance electrical appliances in commercial services	3.53	20%	14.1	80%
E28. Development of small hydropower	45	30%	105	70%
E29. Development of centralized solar power	27.58	30%	64.35	70%
E30. Development of rooftop solar power	65.92	100%		0%
E31. Development of onshore wind power	45.59	20%	182.38	80%
E32. Development of offshore wind power	3.01	10%	27.11	90%
E33. Development of biomass thermal power	6.53	20%	26.1	80%
E34. Development of waste-to-energy (incineration)	2.03	20%	8.13	80%
E35. Development of waste-to-energy (landfill gas)	0.1	10%	0.89	90%
E36. Development of biogas power	0.19	31%	0.43	69%
E37. Development of combined-cycle gas turbines using LNG		0%	228.56	100%
E38. Development of ultra-supercritical thermal power technology	35.49	45%	43.37	55%
Agriculture				
A1. Alternate wetting and drying (AWD) and System of Rice Intensification (SRI) in areas with adequate infrastructure (1000 ha)	7.97	100%		0%
A2. Mid-season drainage for rice fields (1000 ha)	27.04	100%		0%
A3. Conversion of low-productivity rice land to rice–shrimp farming (1000 ha)	11.12	100%		0%
A4. Conversion of low-productivity rice land to upland crops (1000 ha)	14.07	100%		0%
A5. Integrated crop management (ICM) for rice (1000 ha)	5.53	100%		0%
A6. Integrated crop management (ICM) for upland crops (1000 ha)	4.13	100%		0%
A7.1s.Improved feeding practices for dairy cattle (1000 heads)		0%	0.39	100%
A7.2s. Improved feeding practices for beef cattle (1000 heads)		0%	1.9	100%
A7.3s. Improved feeding practices for buffaloes (1000 heads)		0%	0.46	100%
A8s. Agricultural waste recycling (using crop residues for organic fertiliser) (1000 tons)		0%	21.52	100%
A9s. Replacing urea with slow-release fertilisers, controlled-release fertilisers, and stabilised nitrogen fertilisers (1000 ha)		0%	18.56	100%
A10.1s. Alternate wetting and drying (AWD) and SRI (moderate infrastructure) (1000 ha)		0%	12.87	100%
A10.2s. Alternate wetting and drying (AWD) and SRI (poor infrastructure) (1000 ha)		0%	25.74	100%
A11s. Modernisation of irrigation and fertilisation for perennial crops (1000 ha)		0%	6.27	100%
A12s. Agricultural waste recycling (livestock manure for organic fertiliser) (1000 tons)		0%	34.06	100%

Mitigation measures	Unconditional		Emission reductions achieved through international assistance	
A13s. Biogas systems (1000 standard digesters)		0%	26.15	100%
A14s. Compost application + Organic farming (1000 tons)		0%	63.83	100%
Waste				
W1. Reduce Municipal solid waste (MSW) generation	12.58	100%		0%
W1s. Anaerobic treatment with methane recovery for power generation		0%	30.93	100%
W2. Recycling	6.69	100%		0%
W3. Composting	12.51	36%	22.24	64%
W4. Reduce methane emissions from landfills by incinerating MSW for electricity generation	0.43	20%	1.72	80%
W5. Refuse-derived fuel (RDF)	1.6	100%		0%
W6s. Semi-aerobic disposal		0%	8.08	100%
W7. Reduce methane emissions by recovering gas from landfills	5.75	50%	5.75	50%
W8s. Optimising domestic wastewater treatment condition		0%	16.2	100%
W9s. Application of biotechnology to remove CH4 from domestic wastewater treatment		0%	7.45	100%
W10s. Optimising industrial wastewater treatment conditions		0%	2.86	100%
W11s. Recovery of CH4 gas from industrial wastewater treatment		0%	7.55	100%
IPPU				
I1. Using natural mineral additives to replace clinker	64.7	100%		0%
I2. Using industrial waste additives to replace clinker	120.2	100%		0%
I3. Applying best available technologies to reduce N_2O emissions in the chemical industry	5.64	100%		0%
I4s. Applying best available technologies to reduce emissions in the steel industry (improving BOF technology)		0%	61	100%
I5s. Using climate-friendly refrigerants		0%	19.04	100%
LULUCF				
F1. Protecting existing natural forest areas in mountainous regions	67.88	80%	17.31	20%
F2. Protecting coastal protection forests and special-use forests	4.76	76%	1.49	24%
F3. Restoring protection forests and special-use forests	0.39	80%	0.1	20%
F4. Improving the quality and carbon stock of degraded natural forests	2.88	79%	0.75	21%
F5. Enhancing productivity and carbon stocks of large timber plantations	1.92	79%	0.52	21%
F6. Scaling up agroforestry models to increase carbon storage and conserve soil	0.06	75%	0.02	25%

Mitigation measures	Unconditional		Emission reductions achieved through international assistance	
F7. Sustainable forest management and forest certification	6.58	80%	1.65	20%