

SPAR 6C

Supporting Preparedness for Article 6 Cooperation



Thailand Article 6 Readiness and Needs Assessment

A Technical Brief









Thailand Article 6 Pendiness and Needs Assessment

A Technical Brief

Thailand Article 6

Readiness and Needs Assessment

A Technical Brief

GGGI Technical Brief

Technical Brief December 2023: Assessing the Readiness and Needs for Thailand's Participation in Article 6 of the Paris Agreement.

Authors

Christoph Prandstetten Sylvie Rietmann Marshall Brown Li Cheng Preediphat Luang-On

Design & layout

Puntoaparte Editores www.puntoaparte.com.co

Photo credits

Cover: © Anekoho / Adobe Stock

Cover: © EGAT Thailand

 ${\tt Cover: @TimeImage\ Production/Shutterstock.com}$

Page 6-7: © Sayan Chuenudomsavad

Page 8: © Torychemistry / Shutterstock.com

Page 14: © Vanchai / Shutterstock.com

Page 14: © Schantalao / Freepik.com

Page 14: © Love Silhouette / Shutterstock.com

Page 15: © PanyaStudio / Shutterstock.com

Page 15: © Chakrit Thongkhundam / Shutterstock.com

Page 15: © Sittitap / Shutterstock.com

Page 16: © EGAT Thailand

Page 17: © Agriculture and Food Cluster / GIZ Thailand

Page 18: © KPC SPAR6C - GGGI Thailand

Page 19: © SPAR6C - GGGI Thailand

This technical brief aims to highlight the key recommendations after assessing the readiness and needs of Thailand to implement mitigation activities under the Article 6 of the Paris Agreement framework. This assessment is part of the Supporting Preparedness for Article 6 Cooperation (SPAR6C) program, a German-funded initiative led by GGGI with a consortium including Carbon Limits, GFA Consulting, Kommunalkredit Public Consulting, and United Nations Environment Programme Copenhagen Climate Centre.

Digital version



www.gggi.org



Copyright © 2023

The Global Green Growth Institute does not: (i) make any warranty, either express or implied; or (ii) assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use or the results of such use of any information contained herein; or (iii) represents that its use by any third party would not infringe privately owned rights. The views and opinions of the authors expressed herein do not necessarily state or reflect those of the Global Green Growth Institute.



SPAR6C

Supporting Preparedness for Article 6 Cooperation



Thailand Article 6

Readiness and Needs Assessment

A Technical Brief









openhagen

List of Acronyms

AFOLU	Agriculture, Forestry, and Other Land Use		
BAU	Business as Usual		
DCCE	Department of Climate Change and Environment		
CCMGM	Carbon Credit Management Guideline and Mechanism		
ССМР	Climate Change Master Plan		
CoP-ASIC	Community of Practice for Article 6 Implementing Countries		
GHG	Greenhouse Gas		
IPPU	Industrial Process and Product Use		
ITMO	Internationally Transferred Mitigation Outcome		
LT-LEDS	Long-term low emission development strategy		
LoA	Letter of Authorization		
LULUCF	Land Use Land Use Change and Forestry		
MtCO ₂ e	Million tonnes of carbon dioxide equivalent		
NCCC	National Committee on Climate Change Policy		
NDC	Nationally Determined Contribution		
ONEP	Office of Natural Resources and Environmental Policy and Planning		
SPAR6C	Supporting Preparedness for Article 6 Cooperation		
TGO	Thailand Greenhouse Gas Management Organization		
ТНВ	Thai Baht		

Assessing Article 6 Readiness



In the context of international carbon markets under the Paris Agreement, the concept of "readiness" refers to the preparedness of a country to effectively engage in Article 6 collaboration. Readiness involves the development of policies, infrastructures, capacities, and systems that enable countries to strategically participate in Article 6 activities¹. This readiness is crucial because it allows both seller and buyer countries to transparently implement and account for ITMOs. This helps countries to achieve their climate goals, as defined in their NDCs.

The "Supporting Preparedness for Article 6 Cooperation" (SPAR6C) program aims to enhance climate ambition and to support countries in engaging in cooperative approaches under Article 6 of the Paris Agreement. The SPAR6C program conducted assessments to examine the needs of each partner country in terms of context and capacity for carbon market participation under Article 6. The findings helped identify the specific technical assistance and capacity-building actions that the program can take to enhance a country's readiness. These actions are designed to move the country closer to the implementation of mitigation activities in line with national climate change and sustainable development objectives.

Kommunalkredit Public Consulting (KPC) leads the implementation of activities in Thailand,

......

supporting the national partner Department of Climate Change and Environment (DCCE) within the Ministry of Natural Resources and Environment (MONRE), and working closely with the Thailand GHG Management Organization (TGO) and GGGI-Thailand.

The Article 6 Readiness and Needs Assessment examined Thailand's readiness in several areas:

1

Assessment of the country's alignment with Article 6 of the Paris Agreement and the Paris Rulebook.

2

Assessment of the country's Article 6 institutional framework (including the institutional arrangements and procedures for authorization, transfer, tracking and reporting, and registry design).

3

Identifying and exploring sectoral opportunities for ITMO-generating mitigation activities.

4

Assessing the readiness of the national finance and investment ecosystem to engage in mitigation activities.

The recommendations in the RNA are based on the guiding questions developed by KPC and local experts and through a participatory process with relevant stakeholders (i.e. DCCE, TGO, ministries, climate experts, etc). The validation workshop was organized in late April 2023 to gather final feedback and suggestions from the stakeholders.

^{1.} Michaelowa, A., et al. (2021). Article 6 Readiness in Updated and Second NDCs. Final Report. Available at: https://perspectives.cc/ publication/article-6-readiness-in-updated-and-second-ndcs/





Thailand

The Readiness and Need Assessment (RNA) for Article 6 implementation in Thailand reveals progress in exploring international carbon market mechanisms. While Thailand lacks a defined strategy, the Bangkok E-Bus Program serves as an Article 6 pilot. Recommendations for Thailand include refining institutional coordination, stakeholder engagement, and investing in capacity-building. A comprehensive national strategy will be crucial for leveraging international carbon markets, enhancing Thailand's readiness and effectiveness in climate change mitigation.

Article 6 Participation Requirements

Thailand has fulfilled the basic requirements for participating in Article 6 activities. The country signed the Paris Agreement in September 2016 and submitted its initial Nationally Determined Contribution (NDC) in 2016, followed by its 2nd updated NDC in November 2022. Remaining gaps include:



Establishing specific approval and/or authorization criteria for project activities and transfer of International Transfer of Mitigation Outcomes (ITMOs) under Article 6



Improving the functionality and quality of the national registry in accordance with international standards

Institutional and **Legal Arrangements**

The National Committee on Climate Change Policy (NCCC) is an interministerial committee chaired by the Prime Minister serving as the core institution for climate governance in Thailand. The country has developed the Climate Change Master Plan (CCMP) which serves as a long-term policy framework specifying measures to achieve short-, medium- and long-term targets in the areas of mitigation, adaptation and capacity building. Specific to Article 6, Thailand the NCCC has approved the Carbon Credit Management Guideline and Mechanism (CCMGM), which describes eligible project types, the procedures for seeking project authorization, project registration. issuance of carbon credits and their international transfers. While the CCMGM provides a broad structure for the implementation of Article 6, details should be developed to provide clearer guidance to key responsible agencies as well as other relevant stakeholders.

Key Climate Mitigation Sectors

The RNA evaluates the potential for Article 6 to support mitigation in six sectors: Land use and forestry, Energy, Agriculture, Waste, and Industry Process and Product Uses (IPPU). Of these sectors Energy has the largest emissions followed by Agriculture (mainly rice cultivation). The RNA is inconclusive on which sectors hold the greatest potential to benefit from carbon finance under Article 6, but it does identify key cross-cutting activities required to enhance Thailand's ability to transact in any of the country's mitigation sectors include:



Enhance inter-agency coordination and stakeholder engagement mechanisms for Article 6 implementation, ensuring effective communication. collaboration, and decisionmaking







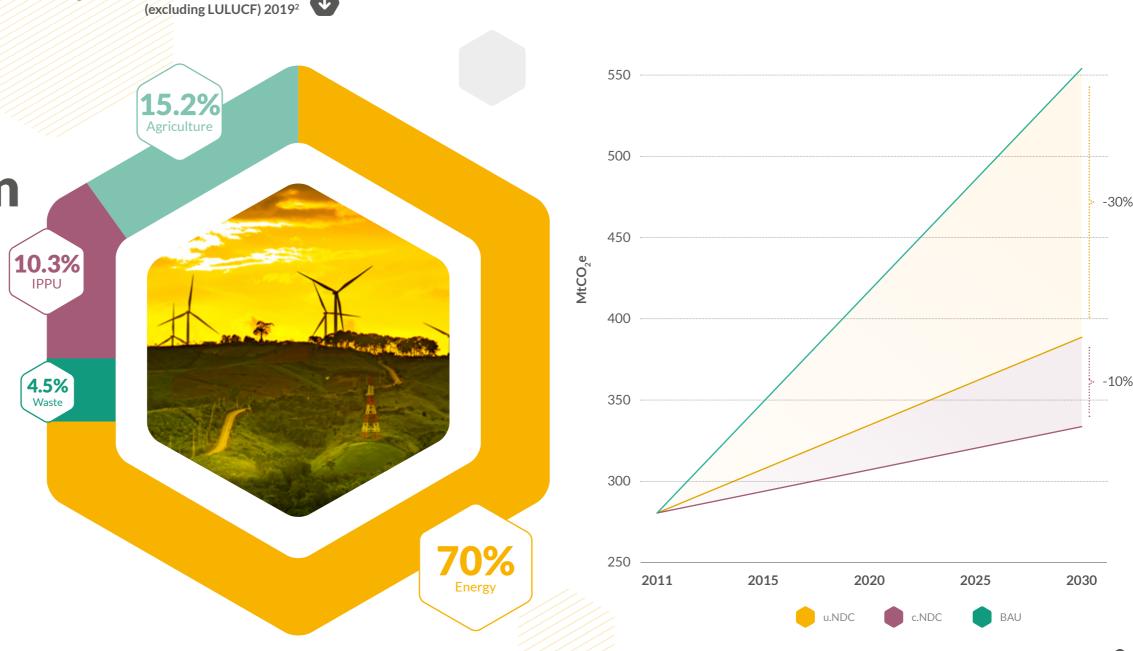
Build capacity through awareness-raising and training programs for government agencies, private sector entities, and other stakeholders involved in Article 6 mechanisms



Develop a national strategy for implementing Article 6, outlining key priorities, sectors, technologies, and targets, aligned with Thailand's NDCs and LT-LEDs and approval criteria and procedures for Article 6 project activities and ITMOs



Thailand's
Market
Objectives
and Mitigation
Profile



600

NDC Emission Reduction Goal

Population (2021)

GDP per capita (2021)

GDP Growth (2021)

Greenhouse gas

inventory (2019)



Unconditional NDC: reducing GHG emissions by 30% in 2030 against business as usual (BAU) of 555MtCO₂e.

71.6 million

7066 USD

280.73 MtCO₂e

1.5%



Conditional NDC: to reduce GHG emissions by up to 40% in 2030 against BAU.

As a developing country highly vulnerable to the impacts of climate change, Thailand attaches great importance to the global efforts to address climate change³. Thailand intends to reduce its greenhouse gas emissions by 30

Figure 1: Total GHG emissions by sector

percent from the projected business-as-usual (BAU) level by 2030. The level of contribution could increase up to 40 percent, contingent upon sufficient access to technology development and transfer, financial resources

and capacity building support. Furthermore, Thailand will continue vigorous efforts in its challenge to meet the long-term goal of carbon neutrality by 2050 and net-zero greenhouse gas emission by 2065^{4,5}.

Figure 2: Thailand's Emissions Reduction Goal

Government of Thailand. (2022). Thailand's Fourth Biennial Update Report. Available at: https://climate.onep.go.th/wp-content/uploads/2023/01/Thailand_BUR4_A4_final_revised_24022023-compressed-1.pdf.

^{3.} Government of Thailand. (2022). Thailand's 2nd Updated Nationally Determined Contribution. Available at: https://unfccc.int/sites/default/files/NDC/2022-11/Thailand%202nd%20Updated%20NDC.pdf

^{4.} Government of Thailand. (2022). Thailand's 2nd Updated Nationally Determined Contribution. Available at: https://unfccc.int/sites/default/files/NDC/2022-11/Thailand%202nd%20Updated%20NDC.pdf

Government of Thailand. (2022). Thailand's Long-term Low Greenhouse Gas Emissions Development Strategy (LT-LEDS). Available at: https://unfccc.int/sites/default/files/resource/Thailand%20LT-LEDS%20%28Revised%20Version%29_08Nov2022.pdf



NOTES

Thailand: Article 6 Participation and Initial Report Requirements

Countries that participate in cooperative approaches under Article 6 must ensure that their participation is consistent with Article 6.2 guidance. This includes:



Meeting the participation requirements listed in paragraph 4 of the Article 6 guidance.



Submitting an initial report no later than the authorization of ITMOs (or where practical), which requires countries to communicate specific decisions including the choice of ITMO metrics and an accounting approach for applying corresponding adjustments.



Participation Requirements				
It is a party to the Paris Agreement	Yes	Thailand ratified the Paris Agreement on 21 September 2016		
It has prepared, communicated, and is maintaining an NDC	Yes	Thailand has submitted its 2 nd updated NDC in November 2022		
It has arrangements in place for authorizing the use of ITMOs	In progress	Thailand has issued Guidelines and Mechanisms for Carbon Credits Management		
towards achievement of NDCs		However, specific approval criteria for project activities and ITMOs that can strategically manage risk of overselling aren't fully elaborated		
It has arrangements and infrastructure in place for tracking ITMOs	In progress	TGO has a registry to keep track of all project activities and carbon credits issued and retired. However, the functionality and quality of the registry do not yet fully meet international standards. TGO is in the process of upgrading its registry		
It has provided the most recent national inventory report	Yes	Thailand has submitted the BUR4 and NC4 in December 2022		
Its participation contributes to the implementation of its NDC LT-LEDS, if it has submitted one, and the long-term goals of the Paris Agreement	Yes	Thailand submitted the LT-LEDS twice		



Initial Report				
Choose an ITMO metric and methodology	Yes	CO ₂ e is the metric indicated in the NDC		
Choose the method for applying corresponding adjustments (Define accounting approach for single- and multi-year targets)	Yes	Thailand will apply corresponding adjustments by using the averaging methods specified in Decision2/CMA3, annex, paragraph 7 (a)(ii)		
Describe and quantify the NDC	Yes	Quantitative targets set in NDC		



State of Institutional and Legal Arrangements: Key Gaps Identified and Actions Proposed



Overarching Climate Change Mitigation Policies

Thailand has developed the Climate Change Master Plan (CCMP) 2015-2050 to serve as a long-term policy framework specifying measures to a set of mitigation, adaptation and capacity building targets to be achieved in short-, medium- and long-term timeframes. In 2017, the NDC Roadmap and Action Plan was formulated to establish a framework for mitigation measures in Energy, Transport, IPPU and Waste sectors. The Roadmap took into consideration the following policies and plans:



12th National Economic and Social Development Plan 2017-2021 (extended to 2022);



Climate Change Master Plan 2015-2050;



Power Development Plan 2015-2036;



Thailand Smart Grid Development Master Plan 2015-2036;



Energy Efficiency Plan 2015-2036;



Environmentally Sustainable Transport System Plan 2013-2030;



National Industrial Development Master Plan 2012-2031;



Waste Management Roadmap.

With the updated NDC targets to 30-40% which Thailand announced at COP26, the country is in the process of revising its relevant plans and policies to align with the new targets.







Legal and Regulatory Assessment

The CCMGM outlines the types of eligible projects, the procedure for project authorization, project registration, issuance of carbon credits and their international transfers. While the CCMGM provides a broad structure for the implementation of Article 6. Additionally, Thailand is in the process of formulating the draft Climate Change Act which will provide more clarity on and a legal basis for a more detailed governance framework to support the Article 6 design and implementation, providing authorization to relevant entities and interactions between different carbon pricing instruments.

The experiences that could strengthen Thailand's A6 readiness include:



Setting up procedures & criteria for project registration and approval.



Setting up a baseline and additionality methodology.



Setting up a database and tracking tool for registered project activities.



Proposed Actions



Develop a comprehensive legal and regulatory framework to govern the design, implementation and monitoring of Article 6 mechanisms. Provisions related to the governance and implementation of Article 6 along with roles and responsibilities of relevant stakeholders should be incorporated in the upcoming Climate Change Act.



Establish formal inter-agency coordination mechanism to facilitate communication and cooperation among all relevant government agencies.



Develop capacity building program and knowledge-sharing platforms to ensure that all government agencies and personnel involved in Article 6 implementation have the necessary expertise and capacity to design, oversee, and manage the mechanisms effectively.



Create channels for meaningful engagement of the private sector and other non-governmental stakeholders in the decision-making process and Article 6 activities.



Institutional Setup and Capacity

As the main decision-making body for climate change management in Thailand, the National Committee on Climate Change Policy (NCCC) is at the core of the institutional framework for climate governance. NCCC is responsible for reviewing and approving national climate policies as well as establishing guidelines and mechanisms for international collaboration in response to conventions and protocols on climate change. Two other key actors are the recently established Department of Climate Change and Environment (DCCE)6 and Thailand Greenhouse Gas Management Organization (TGO). While DCCE serves as the operational unit and key coordinating body of climate governance in Thailand, TGO provides technical expertise and supports international negotiations and technical cooperation to DCCE. Other vital institutions include GHG inventory Subdivision and Mitigation Tracking and Monitoring Subdivision under GHG Mitigation Division of DCCE which are responsible for the national GHG inventory and for domestic MRV system.

For carbon markets in particular, the primary institutions responsible for decision making and implementation are TGO and DCCE which currently oversee the implementation of the Carbon Credit Management Guideline and Mechanism (CCMGM). The roles and responsibilities of various entities involved in carbon credit management are as follows:



The Subcommittee on Climate Change Policy and Planning Integration under NCCC is responsible for overseeing direction and policy in the implementation of Article 6.



Letter of Authorization (LoA) is to be issued by DCCE upon Cabinet approval.



Article 6 project registration, monitoring and verification is managed by TGO.



DCCE and TGO are responsible for communication to UNFCCC on initial report.



TGO is responsible for updating annual information on transactions.



DCCE is responsible for conducting the corresponding adjustment.

 As of 15th August 2023, DCCE has been transferred all policy-related responsibilities concerning climate change from the previous Office of Natural Resources and Environmental Policy and Planning (ONEP).

12

SPAR₆C

Mitigation Priorities⁷

Thailand has outlined specific actions within various sectors to work toward achieving its climate change mitigation goals. However, it has not clearly specified which activities or sectors will utilize international carbon market mechanisms to reduce greenhouse gas emissions. Nevertheless, Thailand, as noted in its 2nd undated NDC, "welcomes discussion to explore international market-based cooperation in the context of Article 6 of the Paris Agreement, that promotes development and transfer of advanced technologies and innovation and provides access to financial resources that support Thailand's achievement of NDC and LT-LEDS"⁸.







The agriculture sector contributes to 15% of Thailand's emissions. Rice cultivation was the main GHG contributor in the agriculture sector, and adaptation measures in this area can contribute to lower emissions.

Waste Management

The waste sector contributes to about 5% of Thailand's emissions. These emissions could be addressed through waste reduction, landfill gas and waste to energy projects, semi aerobic landfills, composting, anaerobic digestion and mechanical biological treatment.



3

Energy Sector

The energy sector is the largest contributor to Thailand's greenhouse gas (GHG) emissions, accounting for 72% of the total (including transport). In electricity generation, a shift towards natural gas and coal-fired power plants with CCS is planned, with a 33% share of renewable electricity by 2050. The manufacturing sector targets energy efficiency improvements and increased use of renewables, with a role for CCS, which is projected to capture 18 MtCO₂e in 2050. The residential sector focuses on improving the efficiency of energy appliances and increasing the use of renewable energy to 29% by 2050. For commercial buildings, the target is a 33% improvement in energy equipment efficiency and a 5% share of solar water heating by 2050. Overall, GHG emissions in the energy sector are projected to be around 220.0 MtCO₂e in 2050.







In the transport sector, energy efficiency is targeted through behavioral changes and vehicle improvements, by increasing the share of efficient vehicles as well as the use of liquid biofuels. For vehicle improvements, the electrification of aviation and maritime transport aims to cut emissions by adopting electric or hybrid-electric propulsion systems for planes and ships. Combining autonomous driving tech with electric vehicles enhances transportation efficiency and lowers emissions, and sustainable aviation fuels like bio-jet fuel or synthetic alternatives from renewable sources are being developed to reduce emissions in the aviation sector.



Industrial Process and Product Use (IPPU)

IPPU contributes to 9% of total emissions in Thailand. Mitigation measures in this sector consist of the modification of industrial production processes including clinker substitution, substitution of refrigerant and industrial wastewater management, and increasing biogas production from industrial wastewater by recycling methane gas.



6

LULUCF

The LULUCF sector is estimated to be a net carbon sink. The carbon storage capacity of the LULUCF sector can be enhanced by increasing and remaining primary forest and regenerated natural forest area, increasing economic forest area, increasing and remaining cropland, and reducing biomass burning.

 $\begin{bmatrix} 14 \end{bmatrix}$

^{7.} Government of Thailand. (2022). Thailand's Long-term Low Greenhouse Gas Emissions Development Strategy (LT-LEDS). Available at: https://unfccc.int/sites/default/files/resource/Thailand%20LT-LEDS%20%28Revised%20Version%29 08Nov2022.pdf

^{8.} Government of Thailand. (2022). Thailand's 2nd Updated Nationally Determined Contribution. Available at: https://unfccc.int/sites/default/files/NDC/2022-11/Thailand%202nd%20Updated%20NDC.pdf

Thailand's Article 6 **Pilot Program**



with be replaced by e-buses on routes that provide a regular, scheduled service within the Bangkok Metropolitan area. In addition to reducing GHG emissions, the project will improve service quality, reduce commuting

times, local air and noise pollution while maintaining bus ticket prices¹⁰. The mitigation outcome units from this project are within Thailand's NDC and surplus to its unconditional NDC. The program duration is from 2022-2030 and is expected to involve the transfer of up to 500,000 mitigation

outcome units over its lifetime.

Protection and Carbon Offset (KliK 9. South Pole. (2023). Bangkok E-Bus Programme authorised by Switzerland and Thailand. Available at: https://www.southpole.com/news/ bangkok-ebus-programme-authorised-by-switzerland-and-thailand. 10. Office of Natural Resources and Environmental Policy and Planning (ONEP). (2023). MADD for the "Bangkok e-bus Program". Available at:

The program is owned by Energy Absolute Public Company Limited and supported by Switzerland's Foundation for Climate Foundation) through the purchase of Internationally Transferred Mitigation Outcomes (ITMOs) resulting from the

project. The bilateral agreement serves to regulate the cooperation between Thailand and Switzerland while establishing the legal framework for the implementation of climate protection activities by the KliK Foundation. The ITMOs achieved from the program will be transferred to the Klik Foundation in accordance with the bilateral agreement and to be used towards the achievement of Switzerland's NDC target.



https://www.onep.go.th/wp-content/uploads/2023/02/e-bus-program.pdf





SPAR₆C

SPAR6C Interventions in Thailand



Article 6 Strategy

To support the development of a comprehensive national Article 6 strategy. SPAR6C will conduct a series of studies to support government decision-making and provide clarity on the viability of various potential mitigation types for Article 6 implementation. The studies will inform the appropriateness of difference tools that Thailand can employ to mitigate overselling risks while still enabling the country to benefit from carbon finance to reach its sustainable development and green growth objectives. Additionally, considering the pivotal role of the private sector in driving Article 6 activities, two studies are being carried out to inform the national Article 6 strategy. The Assessment on green innovation drivers, opportunities and challenges aims to explore potential green innovative business cases suitable for Article 6 whereas the Theoretical study on the bundling of Article 6 projects will explore opportunities and potential of programmatic or bundling approaches for Article 6, focusing on creating opportunities for small and medium enterprises (SMEs) and municipalities.





Article 6 Institutional Framework

SPAR6C will support the development of an Article 6 Operation Manual to enhance efficiency and transparency in Article 6 governance in Thailand. Building on the procedures established in the CCMGM and the gaps and needs identified in the Governance Framework Report conducted under SPAR6C, the Article 6 Operation Manual will serve as the reference point for mandated entities within the government as well as for private sector project developers by outlining specific steps in the activity cycle from ideation, review and approval, project registration, validation, verification to issuance of credits.



3

Enhancing National Registry for Article 6 Implementation

In close collaboration with TGO, SPAR6C will support the enhancement of Thailand's registry infrastructure to allow for registration, issuance, tracking and transfer of ITMOs in compliance with the modalities, procedures, guidelines of Article 13 of the Paris Agreement. While Thailand has made significant progress in establishing its national voluntary carbon market and the necessary trading and tracking infrastructure including the national registry system, the registry upgrades will allow TGO to align its systems to the guidance provided under the Paris Agreement. The establishment of a fully functioning registry for Article 6 transactions will improve transparency, accuracy and robustness of ITMO tracking.



Capacity building and training

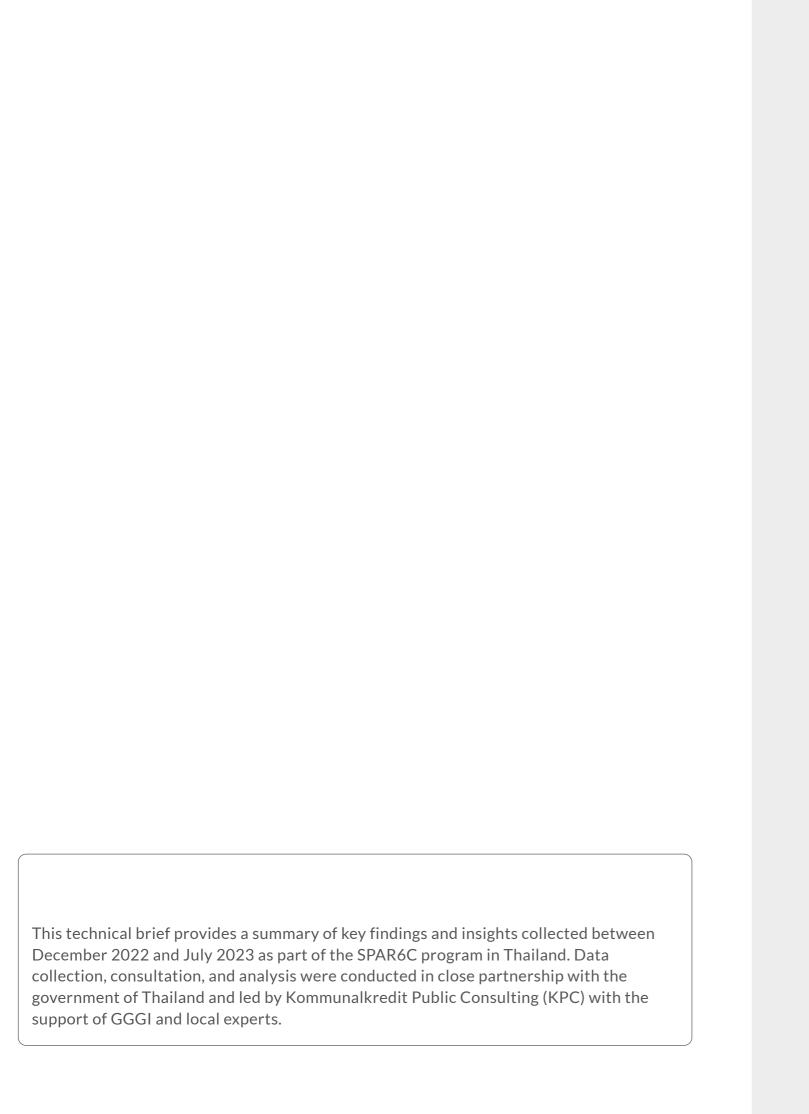
SPAR6C will continue to organize trainings and workshops to equip key stakeholders from both public and private sectors with more in-depth knowledge on the topics ranging from Article 6 basics to more complex issues such as prioritization of sectoral technologies and corresponding adjustments. Capacity building programs will be designed for specific groups of stakeholders including officials in key implementing agencies, line ministries to the private sectors. The program will provide the basis for further Article 6 implementation in the country by ensuring that sufficient knowledge is present in the government around Article 6 activities and their implications.



Community of Practice for Article 6 Implementing Countries (CoP-ASIC)

In conjunction with the technical endeavors, SPAR6C aims to bolster countries' capacity to embrace Article 6 and engage in the international carbon market in the long term. To achieve this, the CoP-ASIC initiative aspires to empower local academic institutions and graduate students in each member country. This involves fostering their keen interest in the subject of carbon markets, enabling them to undertake brief research assignments and internships. Ten students per country will participate in the SPAR6C Research Mentorship Program over the lifetime of the project.







SPAR 6C Supporting Preparedness for

Article 6 Cooperation





