



GGGI Technical Report No. 25

Developing Carbon Markets based on Article 6 of the Paris Agreement: Challenges and Opportunities



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List of Acronyms

AFOLU	Agriculture, Forestry and Land Use	IPCC	Intergovernmental Panel on Climate Change
Article 6	Article 6 of the Paris Agreement	ITMO	Internationally Transferred Mitigation Outcome
B-PMI	Business Partnership for Market Implementation	LDC	Least Developed Countries
BAU	Business As Usual	LT-LEDS	Long-term Low Emissions and Development Strategy
BMWK	German Federal Ministry for Economic Affairs and Climate Action	MADD	Mitigation Activity Design Document
C4CA	Catalyst for Climate Action at COP26	MATS	Mobilizing Article 6 Trading Structures
CCC	Climate Change Committee	MOPA	Mitigation Outcome Purchase Agreement
CDM	Clean Development Mechanism	MRV	Monitoring, Reporting and Verification
CER	Certified Emissions Reductions under the CDM	NDC	Nationally Determined Contribution
COP26	26th Session of the Conference of the Parties to the UNFCCC	NMCE	Norwegian Ministry of Climate and Environment
COP27	27th Session of the Conference of the Parties to the UNFCCC	PMI	Partnership for Market Implementation
CPU	Carbon Pricing Unit	PMR	Partnership for Market Readiness
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation	RCC	Regional collaboration centre
CTP	Carbon Transaction Platform	REDD+	Reducing Emissions from Deforestation and Forest Degradation Plus
DAPA	Designing Article 6 Policy Approaches	RMP	Rules, Modalities and Procedures
DNA	Designated National Authority under the CDM	SEA	Swedish Energy Agency
EPR	Environmental Protection Rules	SPAR6C	Supporting Preparedness for Article 6 Cooperation
ESG	Environmental, Social and Governance	UK	United Kingdom
EU	European Union	UNEP-CCC	United Nations Environment Programme Copenhagen Climate Center
GGGI	Global Green Growth Institute	UNFCCC	United Nations Framework Convention on Climate Change
GHG	Greenhouse Gas	VCM	Voluntary Carbon Market
IETA	International Emissions Trading Association	VCMi	Voluntary Carbon Markets Integrity Initiative
IKI	International Climate Initiative		

TABLE OF CONTENTS

Executive Summary	7
1	
Introduction	9
2	
GGGI's carbon market activities	12
3	
Global Survey on Article 6 Readiness	15
4	
Key Article 6 related issues in operationalizing the Paris Agreement	23
5	
The GGGI Carbon Transaction Platform (CTP)	31
6	
Conclusions	40



Executive Summary

International carbon trading under Article 6 of the Paris Agreement offers the opportunity for countries to cooperate for the purpose of reducing greenhouse gas (GHG) emissions in a more cost-efficient manner. Mitigation activities that serve as the basis for trading, including projects, programs, and policies, should both reduce emissions and generate measurable co-benefits to the environment, economy, and social development of host countries. Well-designed mitigation activities represent an important green growth opportunity as they unlock a new revenue stream for mitigation through the sale of carbon credits which is much needed if the world is to achieve its objective of keeping global warming below 1.5C by 2030.

The requirements for trading in the market being established under Article 6 were refined at COP26, with some additional details on rules, modalities, and procedures released at COP27. As higher demand grows from both buyers and sellers to participate in cooperative approaches on Article 6, there is an increasing need for actors in the carbon markets to facilitate a strong pipeline of mitigation activities for buyers. It is also important to ensure the necessary capacity and knowledge of sellers to engage in mutually advantageous transactions, and more generally, to provide a level playing field between buying and selling countries. The Global Green Growth Institute (GGGI) has been an early mover to address these needs.

Since 2019, GGGI has actively developed and implemented a range of technical support activities for its Members through its Carbon Pricing Global Practice. As of 2022, GGGI is supporting 10 countries with technical assistance to build Article 6 carbon trading capacities through earmarked projects funded by the Norwegian Ministry for Environment and Climate (NMCE), the Swedish Energy Agency (SEA) and the German Federal Ministry for Economic Affairs and Climate Action (BMWK) through the International Climate Initiative (IKI). GGGI's role as an embedded trusted advisor to governments coupled with the experience gained in Article 6 implementation to date puts the organization in a unique position to address the barriers to opening the global carbon market in the Paris era. This includes the development of practical strategies and application of tools to enhance the participation of developing and emerging economy seller governments in the Article 6 carbon market.

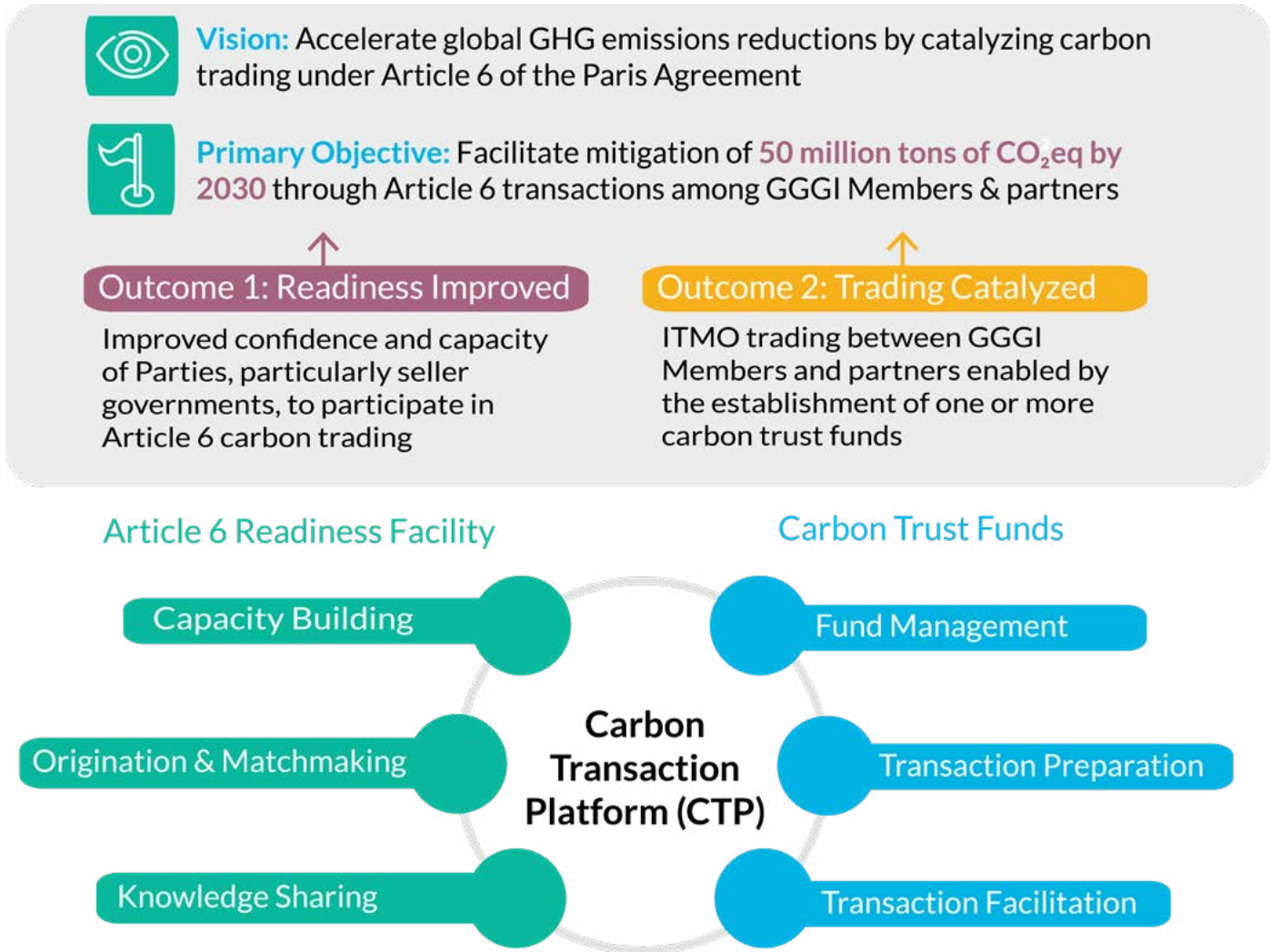
Following the completion of the Article 6 rulebook at COP26, in 2022, GGGI undertook an extensive consultation process in order to: a) identify the needs of interested countries to participate; and b) better understand the potential role GGGI could play in scaling up Article 6 trading readiness across its Members and partner countries. The consultation process was implemented through the following activities:

1. A task force explored the need for a more proactive role for GGGI beyond traditional capacity building and developed the concept for a GGGI Carbon Transaction Platform that would expand capacity building activities into a more comprehensive set of readiness activities. The Carbon Transaction Platform (CTP) would also host carbon trust funds that could proactively support buyers and sellers among GGGI's Member and partner network to complete international cooperative activities under the Paris Agreement, leading to trades. In October 2022, the establishment of a Carbon Transaction Platform was approved by the GGGI Council.

2. GGGI surveyed stakeholders across 29 of its Members and partner countries to better understand the perceptions of potential host countries/sellers on trading Internationally Transferred Mitigation Outcomes (ITMOs) under Article 6.2 and the challenges they face in preparing for engagement. The survey collected first-hand accounts from stakeholders regarding national readiness for Article 6 carbon trading. The questions explored capacity-building needs, concerns, and expectations for engaging in international carbon transactions. The survey provides an important "temperature check" on the readiness of countries to engage in Article 6 carbon trading and provides a wealth of insight to inform GGGI's future support activities, and potentially, the activities of other global partners.

3. In October, at GGGI's Global Green Growth Week 2022, GGGI with its partners co-organized five sessions on key issues related to operationalizing the carbon market under the Paris Agreement. The event served as an important pre-COP27 knowledge sharing forum on carbon markets. This Technical Report brings together the results of all three activities outlined above. Its purpose is to: a) present the needs of countries wanting to participate in carbon markets, b) reflect on some of the current issues being debated along with how GGGI is currently addressing, and plans to address, the needs identified and enable a wider group of stakeholders to contribute equitably to issues being debated. It consists of short summaries of the five sessions on Article 6 related issues at the Global Green Growth Week 2022; the results of the "Global Survey on Article 6 Readiness"; an outline of GGGI's Article 6 related work to date; and finally, a description of the new GGGI Carbon Transaction Platform to be set up and operationalized in 2023. GGGI's new vision, primary objective, and role are shown in the figure 1 below and elaborated in detail in this paper.

Figure 1: Overview of the GGGI Carbon Transaction Platform



There is substantial potential for scaling up Article 6 carbon trading through the CTP. While efforts would initially focus on piloting bilateral trades that involve a single seller and buyer among GGGI Members, carbon trust funds could be developed and evolved to include multiple buyers or sellers. The trust fund structure, if fully operationalized, could lead to global GHG emissions reductions. It could also allow GGGI to play a more meaningful role in the global rollout of Article 6 trading, including through hosting one or more “carbon clubs”ⁱ or clusters of GGGI Members who trade amongst each other, or through other innovations.

ⁱ A carbon club here is defined as a group of buyers and sellers that agree to trade under shared conditions.



1. Introduction

1.1 Background

A growing body of scientific literature on climate continues to reveal that the world is off-track to meet the core objective of the 2015 Paris Agreement: avoiding the impacts of global warming of more than 1.5 degrees Celsius above pre-industrial levels. Enhanced global action to mitigate GHG emissions is needed. However, as the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) concluded, investment in low-carbon development must increase by between three and six times. In addition, cooperation between developed and developing economies – through, for example, technology transfer, capacity building and knowledge exchange and market creation – must be scaled up to keep global warming at or below 2.0 degrees Celsius.ⁱⁱ

International carbon trading under Article 6 of the Paris Agreement is one mechanism that countries can leverage to meet global climate objectives. Article 6 trading can potentially lower the cost of mitigation and deliver substantially enhanced ambition if these cost savings are reinvested in further mitigation activities.

ii https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_SPM.pdf

According to an analysis carried out by the International Emissions Trading Association (IETA) and the University of Maryland, implementing Nationally Determined Contributions (NDCs) cooperatively through Article 6 rather than independently could save governments more than US\$300 billion per year by 2030.ⁱⁱⁱ

Carbon finance – the revenue from the sale of carbon emission reduction linked with mitigation activities – is a green growth opportunity for many developing and emerging economy countries. It is, therefore, no surprise that the UNFCCC Secretariat reported that the share of parties indicating planned or possible use of cooperative mechanisms under Article 6 in the new or updated NDC submissions nearly doubled, from 44% to 87%.^{iv} Almost half of the NDCs mentioning Article 6 are from countries in sub-Saharan Africa and Latin America. In addition, Article 6 is recognized by many low-income countries as a tool to mobilize finance for development.^v

In 2021, at COP26, six years after the signing of the Paris Agreement, nations agreed on the rules for trading under

iii James Edmonds, Sha Yu and Ieva Steponavičiute, "Article Six: Maximising Climate Ambitions," in **2021 Greenhouse Gas Market Report: The Anatomy of the Carbon Market** (IETA, 2021), https://www.ieta.org/resources/Resources/GHG_Report/2021/IETA-2021-GHG-Report.pdf.

iv UNFCCC, "Nationally determined contributions under the Paris Agreement: Synthesis report by the secretariat," FCCC/PA/CMA/2021/8, September 17, 2021, https://unfccc.int/sites/default/files/resource/cma2021_08_adv_1.pdf.

v https://www.perspectives.cc/public/fileadmin/user_upload/PCG-CF_Art6_Readiness-NDCs_27.10.21.pdf

Article 6. The rulebook represents a major milestone, setting a framework for global cooperation to meet NDC commitments and raise climate ambition. As the rules become clearer and the needs become more urgent, countries are more interested in cooperating under Article 6. Given that the Article 6 rules clarifications from COP27 also permit countries to not only authorize ITMOs for use against NDCs but also now allow for non-authorized units as ‘mitigation contributions’ for potential use in voluntary carbon markets. Furthermore, private players are also becoming more engaged in Article 6 activities.

However, the operationalization of Article 6 is highly dependent on the readiness of participants, particularly since Article 6 necessitates participating countries to have institutional frameworks in place to authorize and transfer ITMOs. This is to ensure robust reporting and accounting, and to meet other requirements. At COP26, there was clear agreement among Parties and other institutions that additional capacity building and technical support was required for potential host countries to be able to engage in trades. Under the leadership of the UK COP26 presidency, a collection of international partners, including GGGI, participated in the Catalyst for Climate Action (C4CA), which made the following capacity building recommendations^{vi}:

1. Raise awareness of the opportunities and benefits of engaging in trading to drive political will
2. Build and strengthen institutions required to regulate and establish governance frameworks
3. Delivery capacity building through a pragmatic, learning by doing approach
4. Improve knowledge management through broadly accessible knowledge products and trainings, combined with tailored technical assistance
5. Ensure that capacity building is integrated into a comprehensive “toolbox”
6. Strengthen human capacity across many stakeholder types, and focus on building local and regional carbon market expertise for long-term market sustainability

As the Article 6 rulebook was being finalized, GGGI had already begun developing capacity building and technical assistance support programs for Article 6 carbon market participation, working since 2019 to help meet the increasing demand from its Members. GGGI is considered a leading global service provider of this support, working in 10 countries through three main programs. Chapter 2 expands on GGGI’s carbon market support activities between 2019 and 2022.

1.2 Challenges and Opportunities for Developing an International Carbon Market under Article 6

In late 2021, GGGI endeavored to establish a new mechanism, the Carbon Transaction Platform (CTP), to scale up readiness and facilitate trans-actions under Article 6. Several actions were taken in 2022 to develop the proposal for the CTP. These included:

- Establishing the CTP Task Force. The idea for the CTP was shared with the GGGI Council in October 2021 for feedback and agreement as to whether to investigate the need further and to propose a design, with the initiative ultimately, receiving positive feedback and approval to bring together the CTP Task Force to implement the process of design and consultation.
- Conducting the “Global Survey on Article 6 Readiness”. This survey of 29 GGGI Members and partners helped to better understand seller country sentiment on market participation and needs beyond the current programs being implemented. From the survey, the full extent of seller country needs was identified. Findings include a clear need not only for capacity building, but also decision support and the creation of equal opportunity for seller countries in transactions. More information about the survey can be found in Chapter 3.
- Facilitating global knowledge exchange on Article 6 implementation. GGGI’s breadth of experience on Article 6 positions it as a global convener on a broad range of issues related to implementation of Article 6. During its 2022 Global Green Growth Week, GGGI co-hosted five sessions on Article 6 related issues together with some of the leading public and private stakeholders from across the globe to explore ideas, share lessons and good practices. Detailed summaries of the sessions are available in Chapter 4 focused on the following topics:
 1. The state of carbon markets and carbon pricing instruments
 2. Article 6 as a tool to raise climate ambition
 3. Developing an Article 6 host country strategy
 4. Aligning voluntary carbon markets and Article 6
 5. Making Clean Development Mechanism (CDM) methodologies fit for Article 6 operationalization

The CTP will be an important mechanism to enable GGGI to bring its Members and partners to the table in an equitable fashion to develop and transact ITMOs through cooperative approaches as outlined in Article 6. GGGI believes such a mechanism, built around ‘learning by doing’ and the sharing of knowledge, is

vi <https://ercst.org/wp-content/uploads/2022/06/Carbon-Markets-LFR.pdf>

essential in these early days of the Article 6 market. To ensure an agile approach, the CTP will be executed through two key pillars: a Readiness Facility and a number of carbon trust funds.

The CTP consultation process concluded in June 2022 with a series of regional webinars and a global event organized from 7-9 June, and the final draft CTP paper was again discussed with MPSC for comments and subsequently submitted to the GGGI Council for approval. During its October 2022 meeting, the GGGI Council approved the establishment of the CTP, including an expansion of GGGI's Article 6 related activities to include carbon trust funds. The design and expected development and operation of the CTP is detailed in Chapter 5 of this report.





2. GGGI's carbon market activities^{vii}

Countries are showing growing interest to participate in cooperative approaches under Article 6. This is particularly true for potential seller countries who view ITMO transfers as a tool to mobilize critical resources for implementing their NDC targets.^{viii} However, significant readiness gaps remain despite the strong interest.

GGGI is in a unique position to help facilitate cooperation under Article 6, working closely with both buyer and seller governments

vii This chapter is updated from an article published in the Winter 2021 edition of Carbon Mechanisms Review, which can be accessed here: <https://www.carbon-mechanisms.de/fileadmin/media/dokumente/Publikationen/CMR/CMR-4-2021-final-web.pdf>

viii Michaelowa, A., et al. 2021. Article 6 readiness in updated and second NDCs. Perspectives Climate Group and Climate Focus. https://www.perspectives.cc/public/fileadmin/user_upload/PCG-CF_Art6_Readiness-NDCs_27.10.21.pdf

to facilitate ambitious, sustainable mitigation action. Since 2012, GGGI has supported green growth interventions across the world in the areas of green growth planning, project development, and technical assistance across a wide variety of sectors. GGGI has activities in more than 40 countries serving as trusted advisors embedded in government institutions responsible for the environment, economy, energy, municipal development, and more. GGGI's in-country experts have a deep and intimate view of national needs and priorities, as well as a uniquely sharp understanding of the local context and the dynamics of cross-ministerial relationships. They are backed by a cadre of global experts in development finance, carbon pricing, and other technical areas of critical importance to climate change mitigation and adaptation. This setup places GGGI at the center of a productive feedback loop, which enables the organization to convene potential buyers and sellers to facilitate pilot carbon transactions in the short term, while enhancing cross-ministerial capacity and sharing knowledge around carbon pricing to improve global Article 6 engagement in the long term.

GGGI's Article 6 programs aim to provide potential seller country governments with the technical assistance required to undertake a transaction and the knowledge required to confidently navigate the carbon market. This means preparing the enabling environment for host countries to participate and building the institutional capabilities and frameworks required to authorize ITMO transactions, execute transfers, complete corresponding adjustments, and meet Paris Agreement transparency and reporting requirements. This also means building knowledge among its government partners on how to get the most benefit from carbon markets to support and reach beyond their national

Box 1: GGGI's Article 6 Readiness Support Programs

Mobilizing Article 6 Trading Structures (MATS). The MATS Program is funded by the Swedish Energy Agency and aims to pilot Article 6 transactions between Sweden and host countries. Currently providing support to the governments of Nepal and Cambodia, MATS includes capacity building for Article 6 trading; support to host country governments for putting in place institutional frameworks for ITMO authorization, transfer and reporting to UNFCCC; assisting private and public sector project developers in developing Article 6-aligned mitigation activities; and facilitating the negotiation of key agreements, including Mitigation Outcome Purchase Agreements (MOPAs) a contractual arrangement for the transfer of ITMOs.

Designing Article 6 Policy Approaches (DAPA). The DAPA Program is funded by the Norwegian Ministry of Climate and Environment to design and implement policy-based crediting approaches - an innovative form of scaled-up Article 6 mitigation activities in Indonesia, Morocco, Senegal and Vietnam, and use these as the basis of pilot ITMO transactions with Norway. The program includes host country support in identifying suitable policy approaches and designing the mitigation activity. The program supports the technical design until a validation stage, including developing a monitoring, reporting and verification (MRV) system, designing the institutional arrangements and governance framework for Article 6 implementation, and strengthening knowledge of stakeholders in MOPA negotiations.

Supporting Preparedness for Article 6 Cooperation (SPAR6C). The SPAR6C Program is funded by the International Climate Initiative (IKI) of the German government to increase climate ambition by enhancing the Article 6 readiness of Colombia, Pakistan, Thailand and Zambia, and developing eight Article 6-aligned mitigation activities. The program assists these countries in developing the policy and regulatory frameworks needed to participate in the global carbon market, along with increasing private sector engagement. In addition to country-level support, the program will develop global best practice tools and approaches for Article 6 engagement, which will be underpinned by a community of practice convening international experts and practitioners to inform market development. The program is supported by a consortium of partners consisting of Carbon Limits, GFA Consulting Group, Kommunalkredit Public Consulting and UNEP Copenhagen Climate Center (UNEP-CCC), with GGGI serving as consortium lead.

targets, as well as building confidence in a wide range of stakeholders to ensure local ownership of projects and policies. GGGI is currently implementing three Article 6 programs. The first two started in 2019-20 and the third in 2022 (see Table 1 below).

Table 1: GGGI's Article 6 programs

Program Name	Resource Partner	Host countries	GGGI role
Designing Article 6 Policy Approaches (DAPA)	Norwegian Ministry of Climate and Environment	Indonesia, Morocco, Senegal, Viet Nam	Sole Program Implementer
Mobilizing Article 6 Trading Structures (MATS)	Swedish Energy Agency	Cambodia, Nepal	Sole Program Implementer
Supporting Preparedness for Article 6 Cooperation (SPAR6C)	German Federal Ministry for Economic Affairs and Climate Action via the International Climate Initiative (IKI)	Colombia, Pakistan, Thailand, Zambia	Program Lead. In partnership with UNEP-CCC, GFA Consulting Group, Kommunalkredit Public Consulting and Carbon Limits

2.1 Tailoring Institutional Arrangements to National Needs

GGGI's programs have taken different approaches to institutional setup for Article 6, related to the type of cooperation envisaged and needs of host governments. As a rule of engagement, GGGI aims to align existing institutional arrangements for decision-making,

administrative, and technical support functions with those required under Article 6. These institutional arrangements are not intended to be temporary for pilot activities, but permanent frameworks for the future authorization of transfers and related corresponding adjustments, where relevant, to ensure the continuous flow of carbon finance.

Some host countries are looking to use existing frameworks related to carbon mechanisms. In Nepal, for example, it is being determined whether the Steering Committee established by the Environmental Protection Rules (EPR) in 2020 can make decisions related to Article 6, such as approving criteria for ITMO authorization, or whether the regulation needs to be adjusted. In Cambodia, the pending Sub-decree on rules and procedures for GHG emission reduction mechanisms will allocate key roles and responsibilities related to Article 6 governance and implementation (as well as other carbon trading mechanisms).

“The EPR has already set up multi-ministerial committees to govern carbon trading, which we hope can be applied to Article 6. The main challenge for us will be to adapt our capabilities and processes to meet the Article 6 requirements, particularly in regard to registry management and UNFCCC reporting.” Dr. Radha Wagle, Joint Secretary of Nepal’s Ministry of Forests and Environment, joint stakeholders into the decision-making process allows governments to mitigate the risk of losing continuity through administration changes. In some cases, such as in Senegal and Ethiopia, governments may prefer to engage an even wider audience, allowing the private sector, other donors, and NGOs to take part in the most relevant Article 6 discussions. Stakeholder engagement is a continuous activity that must be supported by capacity building to strengthen existing knowledge in host countries and build local experience in managing this new market instrument.

2.2 Relationships at the Center of Capacity Building Efforts

Through its initial work with developing country governments, GGGI noted several barriers when it comes to engaging in ITMO transactions. These relate to technical challenges of formulating mitigation actions, fear of overselling mitigation outcomes (risking their own NDC compliance), the lack of experience in negotiating carbon trades, and the difficulty of tracking trades and robust accounting of units. Some potential host country governments may also fear spending substantial time and resources on arrangements that may not be recognized by the international community because of potential non-compliance with the forthcoming Paris Agreement rules. Furthermore, as market participation is completely new to many government stakeholders, the fear of the unknown is often a present and a strong force.

To address this, GGGI’s capacity building goes beyond delivering technical trainings and workshops. GGGI uses every interaction opportunity to both strengthen relationships and hold collaborative knowledge exchange sessions with counterparts. Often, the stakeholders involved in Article 6 are government

representatives with vast experience in climate change and international negotiations, including regional leaders and renowned international experts. However, even experienced public servants benefit from discussing theoretical concepts around the Paris Agreement and Article 6 in an informal and trustworthy environment before facing formal interactions in international events. GGGI teams embedded in government ministry offices act as a confidant, always open to listen and discuss questions and concerns, as well as to share information about the progress in other countries or the latest updates and studies. The long-lasting agnostic relationship makes this possible even when Covid-19 restrictions have limited opportunities for face-to-face contact. Some countries (e.g., Senegal) have expressed the desire of learning not only from experienced countries but also from peers about developing NDC compliance strategies and plans for enhancing ambition. GGGI is taking this request as the next capacity building challenge, to arrange exchange sessions among Article 6 pioneers.

2.3 Lingerin g Practical Challenges

GGGI’s work to date has identified some key practical challenges in host country engagement with Article 6. This includes uncertainty about when and what will be provided by the UNFCCC to support the market. For example, the draft Article 6.2 guidance states that the UNFCCC will provide some type of international registry, which would have clear benefits in terms of standardization, cost, and effort for many developing country governments who don’t have comprehensive national registries. However, it is unclear what functions of the UNFCCC registry will be available. Will it be able to (i) act as a project register; (ii) enable transfers; (iii) support corresponding adjustments accounting; and/or (iv) link to crediting program registries if mitigation outcomes are issued from such programs? This uncertainty makes it difficult for host countries to make decisions on how to put in place the required infrastructure for Article 6.

Another challenge relates to the standards under which mitigation outcomes will be generated. Article 6.4 will provide a common understanding of principles and procedures for certifying a mitigation outcome, resulting in better-informed future bilateral agreements. However, as Article 6.4 is being developed, early movers under Article 6.2 will need to decide and agree beforehand on the best protocols to follow. While environmental integrity is the main feature to seek in a standard agreement, countries are also looking for reasonable costs and simple procedures, as well as trustable, comprehensive, and accessible tracking platforms. For GGGI’s DAPA Program, which focuses on mitigation outcomes from policy approaches, there are no existing crediting standards available.

Therefore, principles and methodologies will inevitably need to be agreed upon between the cooperating parties. Bilaterally developing standards is technically challenging and resource-intensive. For policy approaches, this effort is envisaged to be justifiable by the scale and transformative impact of policy-based crediting.



3. Global Survey on Article 6 Readiness

One of the key outcomes of COP26 was the clearly identified need for increased capacity building for potential seller countries. However, few comprehensive analyses have examined in-depth the needs from the perspective of the stakeholders in-country. The “Global Survey on Article 6 Readiness” allows GGGI to better understand the state of affairs and perceptions of potential participants in the Article 6 market, particularly those of its Member and partner governments. This survey provides a temperature check on seller/host country practitioners’ views on national readiness for Article 6 carbon trading – including insights into public and private sector actors – and reveals concerns and expectations around engaging in international carbon transactions.

Despite increasing clarity around the design and functions of Article 6 from the adoption of the Article 6 rulebook at COP26, activity in the market has been relatively slow to commence. In its position as trusted adviser to more than 10 seller governments, GGGI has taken note of three key challenges to market development.

1. For developing and emerging economies, likely to be the primary group of potential sellers, there is a significant capacity gap in knowledge, skills, and experience related to carbon trading. The burden on governments considering participation as seller countries under Article 6 is higher than that required under the CDM. While experience with the CDM has provided some capacity or general awareness among key stakeholders, given the NDC targets and transparency requirements, there is a steep learning curve that these countries must climb to participate on a level playing field in the international carbon market.
2. The rules of market activity are not well defined in this stage of the market, leading to uncertainty and hesitancy to participate. Furthermore, the full set of rules, modalities, and procedures to be managed by the UNFCCC Supervisory Body under Article 6.4 are still being developed and decentralized cooperative approaches under Article 6.2, while allowing even more flexibility, require bespoke, innovative collaboration agreements among Parties. Under these conditions, uncertainty exists over what and how much to sell and buy.

3. There is a substantial untapped opportunity within and among developing countries and emerging economies for mutual learning and knowledge exchange. Many governments have interacted with other potential market participants through forums, workshops, knowledge-sharing events, and the UNFCCC negotiations. However, there is scope for more learning by and among governments, as well as between and among different stakeholder such as project developers, investors and financial institutions, civil society, and others.

3.1 The Survey

The survey consisted of 23 multiple choice questions, most with prompts for respondents to elaborate on their answers which provide a wealth of insight into their perceptions and level of understanding of key concepts and issues related to Article 6 and international carbon markets. The questions were either “exploratory” (aiming to better understand perceptions of interviewees) or “descriptive” in nature (aiming to understand the state of affairs around carbon transaction readiness), and covered five broad areas:

1. General Perceptions on Article 6
2. Perceptions on Government Readiness for Participation in the market
3. State of Article 6 Mitigation Activities
4. Government Perceptions on Private Sector Readiness for Market Participation
5. Priorities and Needs with regard to Article 6 Carbon Trading

To conduct the survey, GGGI leveraged the benefit of its embeddedness, whereby most staff manage programs from inside partner government institutions. Training was provided in advance of administering the survey to GGGI’s country teams on key concepts and processes related to Article 6. Surveys were then administered by focal points through one-on-one interviews and/or focus group discussions to a total of 77 individuals across 29 countries. Most respondents participated in interviews voluntarily in their personal capacity rather than in an official government capacity.

Responses were collected through the interviews in English and/or local languages, and later transposed in English to a Microsoft Forms tool for quantitative and qualitative analysis. Where there were multiple responses collected for a particular country, the individual responses were compared and compressed into a single harmonized country-level response using averaging. As survey

responses from individuals in most cases do not represent official governmental positions, measures were taken to confirm and validate “country-level” responses using the open-ended responses which provided clarity in most cases. All efforts were taken to clarify contradicting or unclear statements with leading experts.

The purpose of this survey was to take a quick temperature check on the Article 6 readiness situation in GGGI Members and partner countries. However, there were three main limitations to the survey. The first was the broad focus of the questionnaire, including the number of qualitative and quantitative questions, particularly given the time allotted for interviews (usually around busy interviewee schedules).

As a result, information was abundant in some areas, while lacking in others, which sometimes made it difficult to draw firm conclusions. Second, there was a knowledge differential between the survey participants and interviewers.

Not all interviewers were subject matter experts, nor were many of the participants. In some cases, the views of a single national expert or focal point were given stronger emphasis in formulating the harmonized or compressed response. Finally, there was a short timeline of implementing the survey, lasting no longer than 8 weeks. Future exercises may take additional time to ensure more targeted participation.

3.2 Profile of Respondents

Participation in the survey was first requested of GGGI country teams from government units that are currently or will likely be responsible for decision-making around engagement in Article 6. To the extent possible, representatives from environment ministries (such as climate change department heads), UNFCCC Focal Points, and Designated National Authorities (DNA) under the Kyoto Protocol’s CDM, were included. Other stakeholders with insight into the country’s carbon market activities from sectoral ministries, ministries of finance, economy, or planning were also invited.

Most participants identified themselves as being from seller countries (76%), while 14% identified as “neither buyer nor seller.” 7% of countries indicated they were “both buyer and seller” (Figure 2). Of the 77 individual respondents interviewed, 32 were women, and 45 were men (Figure 3).

Figure 2: Breakdown of Survey Participants by Perceived Market Role (Buyer or Seller)

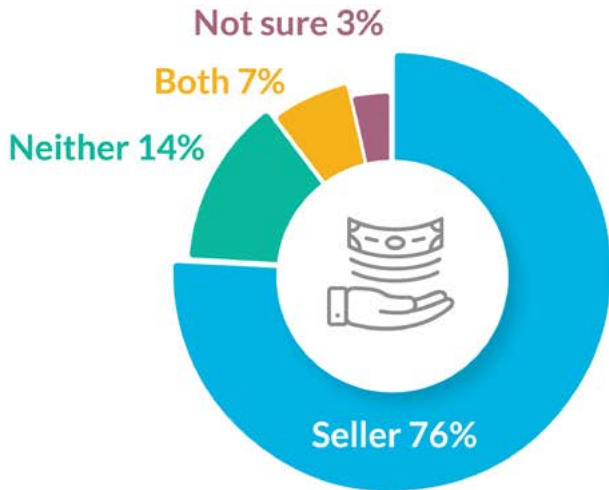
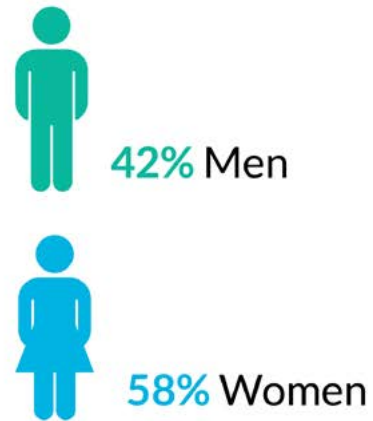


Figure 3: Breakdown by Gender of Survey Participant



Responses were received from one or more respondents in the following 29 countries:

Figure 4: Map of surveyed countries



3.3 Article 6 General Perceptions

There is considerable interest from GGGI Members and partner countries to participate in international carbon trading under Article 6. While not every country surveyed has fully considered their approach to participation, 27 of 29 countries indicated some level of consideration, and 27 acknowledged the potential benefits of international carbon trading under Article 6. There are many different reasons why countries are interested. In some cases, “low performance” in the CDM – where some countries felt they were not able to capture the benefits of carbon finance – was perceived as a lost development opportunity. International carbon markets under Article 6 were seen to represent a new chance to access finance that can help countries meet their sustainable development priorities while accelerating the achievement of their climate targets. Specific benefits noted from participants included:

- Creating additional revenue streams to help countries meet their targets
- Ability to increase ambition in mitigation targets
- Developing and advancing partnerships
- Helping to develop a dynamic private sector that can assist in the low-carbon transition
- Achieving the country’s sustainable development priorities and NDC targets
- Promoting low-emissions development
- Building capacity and accessing new technologies

Interest in market participation is tempered by uncertainties and perceived risks regarding the operational features of the Article 6 markets. 86% of countries noted concern about risks associated with international carbon trading. While the adoption of the Paris Rulebook brought some insight into the likely future structure of the carbon markets, more clarity is needed to encourage participation. More broadly, perceived risks fell into three categories: regulatory, market dynamics (related to pricing and stability of the market), and environmental integrity.

- Regulatory risks were linked to lack of clarity on the Paris Rulebook and the need for robust national frameworks. Perceived lack of clarity on the operating rules around Article 6 as well as the increased need for tracking infrastructure tempered the expectation of benefits from Article 6 trading. Rules, modalities, and procedures for project-based trading were also mentioned as a concern, along with how countries account for project-based credits when different types of

NDC targets are involved. Without clarity in the form of UNFCCC guidance or better national understanding of the processes, countries are unsure if they will be able to participate.

- Lack of clear understanding of market dynamics was raised frequently as a source of perceived risk of participation in Article 6. Some respondents noted price volatility and inequity in the market between buyers and sellers as market dynamics that might impede participation. 9 out of 25 risk-concerned responses noted the potential for buyers to benefit more than sellers as a key concern. As noted in one response, “There is a lack of capacity on how to participate in the market: the government is uncertain of how to negotiate contracts, avoid overselling and get the maximum benefit from Article 6 participation.” Others raised concerns about an oversupply of credits in the market, given previous experience in CDM. Some responses indicated the transition from the CDM to Article 6 as an area of concern as well as how Article 6 may influence the VCM. These concerns are not surprising given the fact that market rules are relatively new and only partially complete, and since many countries are working on building their national systems.
- Environmental integrity was noted as an important risk to address. Survey participants frequently mentioned the need to avoid double counting (a situation where emissions reductions or removals are counted more than once to achieve climate mitigation targets). The lack of methodologies, lack of experience in government and private sector, as well as lack of focus on transparency processes (such as verification regimes) were all perceived as risks that should be addressed. On the plus side, the emphasis on the need to address this risk is promising for the overall integrity of the future market.

3.4 Readiness for Article 6 Participation

To be considered “ready” for participation, potential seller countries need both capacity and confidence to be fully engaged. The risks associated with market participation, described in the previous section, were strongly underpinned by a general perception of lack of readiness to engage in terms of both capacity and confidence.

59% of countries were characterized as either less than “ready to engage” in the Article 6 market or lacking a “strong understanding of Article 6” participation requirements. Weaknesses were noted in terms of national governance frameworks, project/program development experience (in both public and private sectors),

experience with negotiating purchase agreements (commercial contracts for carbon credits), and other risks such as political stability.

On the other hand, 41% of countries were characterized as both ready to engage and having a strong understanding of Article 6 participation requirements, another factor in determining a country's capacity for engagement. Affirmative responses were more likely to come from countries with CDM experience or active participation in the voluntary markets, along with those on the forefront of developing national governance frameworks for Article 6.^{ix}

The relatively positive perception of readiness (41% of countries) appears at first to contradict the overwhelming acknowledgement of risk resulting from lack of capacity. However, this could also suggest that at this early stage of the market, countries are confident that such risks can be managed. Given the growing availability of technical assistance and capacity building resources for Article 6 participation, countries are increasingly willing to continue to explore engaging in the market (accessing the perceived benefits of carbon finance), even though more objective measures of readiness and clear understanding of the rules are still lacking. The survey delved into these more objective elements of readiness to get a better sense of where countries stand in terms of their capacity measured by 1) the state of governance frameworks, 2) the state of capacity building support, and 3) perceptions on private sector experience as well as their confidence in the market.

3.5 Governance Framework Readiness

Government policies to guide and enable participation are needed for countries to be able to meet the requirements of the Paris Rulebook. Additionally, a strategic approach to participation is key to ensuring seller countries maximize the potential benefits of Article 6 without overselling emissions. Government policies and strategies, as well as processes and technical infrastructure, commonly referred to as “governance frameworks” or “national frameworks” are important tools for government decision making and can both provide signals to and reduce risk perception for potential buyers. The survey examined three governance framework-based dimensions of readiness, including the existence of Article 6 regulations, Article 6 strategies, and/or general carbon pricing policies.

^{ix} Previous experience with the CDM was not directly measured through this survey, nor was participation in the voluntary carbon market (VCM). Responses to open-ended questions, however, indicate that CDM experience influenced the country's approach to Article 6 and that the VCM engagement occurs in many countries.

Countries are overwhelmingly convinced of the need to develop Article 6-related policies. 24 of 29 countries noted their intention to establish regulations to govern their Article 6 carbon trading, with only one country noting that regulations were already in place. Similarly, 21 of 29 countries noted their intention to establish an Article 6 strategy. Several responses identified existing policies, such as a Low Emissions Development Strategy (LEDS), or knowledge activities or engagements (roundtable discussions and participation in a regional carbon market alliance) as the catalyst for their interest in strategy development.

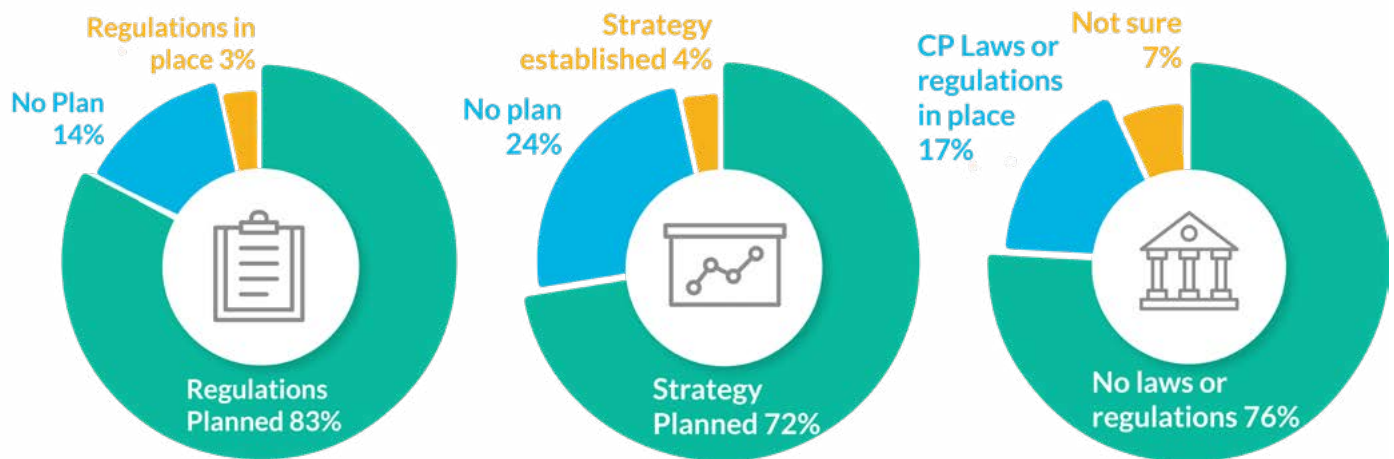
24% of countries indicated there was “no strategy planned,” though, of these responses, some explained that a strategy was a good idea (1 country) or that they were looking for an organization to provide support in developing a strategy (4 countries). Still, there appears to be a persistent need to communicate to potential sellers the importance and role of a strategy, which provides a key outlook into the type of mitigation activities the government is willing to approve, the approach to avoiding overselling, and many other insights. Many respondents were familiar with international organizations that are able to provide technical assistance to support the development of their governance framework, including but not limited to GGGI.

Many countries have undertaken efforts to build domestic carbon pricing instruments, often with the support of programs such as the World Bank's Partnership for Market Readiness (PMR)/ Partnership for Market Implementation (PMI) projects. As of 2022, there are more than 68 carbon pricing instruments in operation, including carbon taxes and emissions trading systems, covering approximately 23% of global GHG emissions.^x These programs frequently require the development of their own governance frameworks such as a national framework law or regulation on carbon pricing. Likely because of these global efforts, this survey found a percentage of countries with general carbon pricing regulations in place was much higher than for Article 6 policies (17% of countries compared to 3-4% for Article 6 policies).

The introduction of carbon pricing regulations for domestic instruments can create an enabling environment for Article 6 trading. However, the state of carbon pricing policies globally is still underdeveloped, suggesting that there is great need for targeted support for countries to participate in international markets.

^x World Bank 2022. State and Trends of Carbon Pricing 2022. <https://openknowledge.worldbank.org/handle/10986/37455>

Figure 5: Existence of Article 6 Regulations, Article 6 Strategies and Carbon Pricing Framework Laws as of June 2022



3.6 Capacity Building Support

Capacity building and awareness raising activities for Article 6 can play an important role in ensuring governments and private sector developers are ready to engage in the market both in the short and long term. During this early stage of the market, participants are still digesting basic concepts around carbon trading and market dynamics, as well as information about the participation requirements in the Paris Rulebook. Development partners play a key role in providing this support through training or establishing knowledge exchange and promoting cross-learning between market participants. The survey responses indicate that, while some capacity building and knowledge exchange has taken place, much more is needed. Respondents in 69% of countries indicated that their governments had received training or capacity building on Article 6 and/or international carbon markets. Regarding participation in forums, discussions, or knowledge exchange events, 62% noted that they had the opportunity to learn from others at UNFCCC negotiations, COP side events, regional workshops, and bilateral discussions (including with buyers). Some also noted their previous experience in exchange in the context of the CDM or REDD+ mechanisms.

Despite these initial capacity building and knowledge exchange activities, as previously described, respondents in only 41% of countries – many of whom are national focal points for the UNFCCC or individuals in charge of Article 6 decision making – were confident in their understanding of the Paris Rulebook. An overwhelming interest in more support was expressed during all interviews, and every respondent to the survey (100%) acknowledged that they would benefit from more knowledge exchange. More detail on the priorities and needs for readiness support are described in Chapter 5.

3.7 Private Sector Experience and Sectoral Expertise

Private sector entities will be crucial to enabling countries to meet their NDC targets as they invest in implementing mitigation activities. A fully engaged private sector can help mobilize additional finances and support for innovative approaches which is critical to Article 6 engagement. In 66% of countries, investors, developers, or other private sector actors (primarily in the energy/oil and gas, AFOLU, and waste management sectors) had already enquired to their respective governments about procedures to approve of Article 6 mitigation activities, which is expected given the high rates of activity in the voluntary carbon market and the increasing interest in high-quality (including Article 6-authorized) credits.^{xi}

While government must focus attention on developing enabling policies for investment in its governance framework, private sector actors should be equally well-informed about the structure and rules of the Article 6 market and the risk and opportunities of engaging in ITMO transactions. The survey aimed to gauge the level of private sector interest within countries as well as the perceived level of readiness from the perspective of (mostly public sector) participants in the survey. Participants were asked to gauge the level of potential for their private sector to develop ambitious mitigation activities. 64% felt that their private sector was at either a medium or high state of potential, with only 17% feeling the private sector was relatively unprepared.

In terms of sectoral expertise and experience for carbon project implementation, many GGGI Members and partner countries felt they have best practices to share. Although this varies substantially

xi World Bank (2022), *State and Trends of Carbon Pricing 2022*; IETA (2022), *GHG Market Sentiment Survey 2022*;

Ecosystem Marketplace (2022), *State of the Voluntary Carbon Markets 2022 Q3*.

by sector, it may help to explain where early market activities are most likely to be identified. For example, considering IPCC sectors, 24 out of 29 countries felt they had particularly strong experience in implementing energy sector projects. 13 felt the same in the land-use change and forestry sector, and 9 in the waste sector.

Only 5 countries felt they had experience in the area of agriculture or industrial processes.

3.8 Confidence in the Market

For potential sellers in the market, readiness is not only a matter of capacity to engage but also confidence that they will get equitable treatment and payment in their transactions. Beyond assessing the functional ability to participate in the market (i.e. “capacity”), the survey examined how potential seller governments felt about their position in the market and the “confidence” that it is worth their effort to participate and that the risks they perceive can be managed. The responses revealed an overall lack of confidence of potential sellers linked to both perceived gaps in their own capacity, but also a sense of inequity in the market.

Survey participants were asked if they felt there was “equal opportunity for sellers and buyers to benefit from carbon trading under current market conditions.” In 86% of countries (21 out of 29 surveyed) respondents concluded that they did not believe that buyers and sellers had an equal opportunity to benefit from the market under current conditions. Nearly 50% of surveyed countries felt they were not able to equitably participate in the market and that they may be at risk of being taken advantage of by buyers. Specific comments received directly from survey respondents (paraphrased from interviews to maintain anonymity) are presented below:

- Current market conditions disproportionately favor the needs and requirements of buyers over sellers.
- Countries are at different stages of readiness and have different market entry levels, which may lead to the inability to compete on an equal footing. Developing country buyers, for example, will have a capacity gap compared to developed country buyers. For example, most LDCs don’t have the legal and institutional frameworks, or the capabilities needed to actively engage.
- Currently, carbon pricing is formulated in the absence of national emissions trading schemes or carbon pricing regulations, which leads buyers to offer very low prices
- Sellers could be taken advantage of, especially if they don’t know how prices in the market are moving.
- Buyers control the price of carbon. There is a need for equity on all sides, particularly the communities (and sellers) where the projects are located.

- There are different policies for each country and different political power in negotiations. Price setting is not well balanced. For example, a developed country might need to spend USD 100 to reduce 1 ton of CO₂e in their own country, but they are only willing to pay USD 20 to purchase 1 ton of CO₂e from a developing country.

As with capacity gaps, lack of confidence creates a sense of caution that could diminish the drive to cooperate among countries and could leave some hesitant to engage in Article 6 trading.

3.9 Article 6 Mitigation Activities

Some host/seller countries are moving quickly to prepare mitigation activities that could generate ITMOs for trading under Article 6. These early movers are working with investors, ITMO-purchasing entities, and other international partners through a “learning by doing” approach. Others are considering how to transfer CDM activities to meet the requirements of the Paris Agreement so the generated credits can be traded in the Article 6 market.

More than two-thirds of countries at the time of survey had been approached by potential buyer governments (Figure 6). These potential buyers expressed interest in both boosting the general readiness of the seller to engage in Article 6 transactions (through capacity building and technical assistance), as well as developing ITMO-generating mitigation activities. Countries identified as potential buyers by survey respondents included Switzerland, Japan, Sweden, South Korea, Australia, Norway, and Germany. In 90% of the cases where buyer and seller government entities had communicated regarding potential ITMO transactions, the issue of avoiding double-counting through conducting corresponding adjustments was emphasized early on. Twelve countries indicated they were designing or implementing pilot activities under Article 6.

Some countries had also been contacted directly by private sector buyers wishing to engage in voluntary market transactions or entities interested in filling needs under the Carbon Offsetting and Reduction Scheme for International Aviation (CORSA).

Figure 6: Percentage of respondents approached by potential buyers?



Piloting transactions will play a critical role in the overall development of the Article 6 market. Not only does piloting help potential seller countries become ready for long-term market engagement, but it also reveals challenges to market participation for others and triggers innovative solutions that can be shared and tested globally. Piloting transactions in this stage of the market can be confusing, take a long time, and entail costs that some potential seller countries are not willing or able to bear. The survey revealed a range of reasons that some potential seller countries had not yet engaged in designing or implementing a pilot mitigation activity under Article 6 (Table 2). The top three reasons cited were:

1. The need to ensure that emissions reductions needed to achieve targets would not be sold,
2. A preference for preparing national rules and procedures before piloting a project, and
3. Wanting to better understand the benefits and consequences

Table 2: Reasons for not engaging in an Article 6 pilot activity

Main reason for not engaging in a pilot activity	Total
We want to ensure we are not selling emissions reductions that will be needed to achieve targets	11
We would prefer to prepare our own rules and procedures first before piloting	8
We want to better understand the benefits and consequences	7
We are waiting for the market to be more mature before engaging	5
No one has approached us yet	4
We are not interesting participating in international markets	0
Other	2

These findings suggest that the “learning by doing” approach may not be the preferred approach for all potential sellers. Some countries will prefer technical assistance and capacity building to understand the benefits and risks of participation and to develop national strategies and policies to avoid overselling before engaging in discussions on specific mitigation activities with potential buyers. More details about priorities and needs are described in Chapter 5.

3.10 Article 6 Seller Country Priorities and Needs

Closing the capacity gaps highlighted by participants is critical to the development of a well-functioning carbon market, as

the burden on potential seller governments under Article 6 is substantial. The survey attempted to collect feedback directly from potential seller countries on their priorities and needs for readiness support. It is unclear whether survey participants believe there is an optimal way or method to build capacity. Respondents were asked to select their country’s top 3 priority areas for support for improving Article 6 readiness. Based on the responses, the top three areas selected by participants were:

1. Putting in place legislation and regulations for engaging with international carbon markets,
2. Capacity building/training for the government stakeholders, and
3. Develop a national registry or tracking tool

Table 3: Priority Areas for Article 6 Readiness Support as Ranked by Participants

Area of Article 6 Readiness Support	Total
Putting in place legislation and regulations for engaging with international carbon markets	20
Capacity building/training for the government stakeholders	18
Develop a national registry or tracking tool	12
Defining national rules to select and approve carbon market projects	10
Preparing a strategy to comply with my unconditional target	9
Defining a governance framework for international carbon trading	8
Establishing systems and procedures for MRV	6
Capacity building for private sector project developers	6
Identifying a pipeline of potential projects and programs suitable for carbon trading	6
Other	4

In terms of the type of assistance preferred, countries showed relatively equal interest in all types, with a high priority for financial assistance to build technical infrastructure such as registries, tracking tools, and data management systems for carbon accounting. There was also a high priority given to pilot projects, capacity building to understand markets, and technical assistance to assess and prioritize potential mitigation activities for trading.



4. Key Article 6 related issues in operationalizing the Paris Agreement

GGGI's close relationship with government stakeholders in seller countries and team of experts in the Carbon Pricing Global Practice allows for the efficient sharing of information and best practice between countries, which is increasingly valuable to the growing number of countries interested in Article 6 cooperation. To compliment the results of the survey presented in Chapter 3, GGGI invited representatives from other key institutions involved in Article 6 and carbon markets to discuss lessons learned and best practices at the 2022. Summaries of the five sessions held as part of our Global Green Growth Week in October 2022 are provided in this chapter.

4.1 State of Carbon Markets and Carbon Pricing Instruments

This session was held on the 24th of October 2022 and co-organized by the International Emissions Trading Association (IETA). Speakers included:

- Nacif Safouane, Morocco DAPA Program Lead, GGGI
- Andrea Bonzanni, International Policy Director, IETA
- Mireia Vilaplana, Director, Climate Policy, Finance and Carbon Markets, South Pole
- Malek Al-Chalabi, Senior Carbon Pricing Advisor, Climate and Carbon Policy and Advocacy, Shell
- Abdelrhani Boucham, Head of Department and Administrator of Climate Change at the Ministry of Energy Transition and Sustainable Development, Morocco
- Ousmane Fall Farr, Coordinator, West African Alliance on Carbon Markets and Climate FinanceMs. Madeleine Diouf Sarr, Head of Climate Change Department and LDC Chair
- Moderated by Ms. Lisa DeMarco, CEO, Resilient LLP & Chair, IETA

By putting a price on GHG emissions, carbon markets incentivize climate action and enabling parties to trade carbon credits generated by the reduction or removal of GHG emissions from the atmosphere such as by switching from fossil fuels to renewable energy or enhancing or conserving carbon stocks in ecosystems such as a forest.

As of November 2022, 70 carbon pricing instruments (including carbon taxes and emissions trading systems) are operating worldwide.^{xii} The World Bank reported that in 2021, higher carbon prices, revenue from new instruments, and increased auctioning in emissions trading systems resulted in a record US\$84 billion of global carbon pricing revenue – around 60% higher than in 2020.^{xiii} Yet, the carbon pricing instruments in operation cover only a quarter of global GHG emissions and the price in most jurisdictions remains well below the levels required to deliver on the Paris Agreement goals.^{xiv}

The Article 6 rulebook and the recent growth of the voluntary carbon market are leading to a renewed focus on international cooperation. The international carbon market can potentially drive financial flows to climate solutions in developing countries, mobilize the financial investments required, and reduce costs for countries and companies in their low-carbon transition. The efforts to operationalize Article 6 can catalyze the spread of carbon markets and carbon pricing, especially within developing countries to unlock access to climate finance.

With the Article 6 rulebook adopted in 2021, the focus since then has been on operationalizing Article 6. The Article 6 landscape is currently dominated by early movers in the public sector in countries like Singapore, Sweden, and Switzerland. Bilateral agreements between countries to pilot Article 6-aligned mitigation activities have grown steadily. Switzerland is progressing bilateral agreements with 11 countries, Singapore with 4 countries, and Sweden with 3 countries.

An example is the Swiss-Thai Article 6 SHIFT Project to promote mutual cooperation. Thailand intends to use market mechanisms like Article 6 to access carbon finance and Switzerland intends to use Article 6 to purchase ITMOs to help meet its NDC. The project aims to create readiness for the implementation of an NDC-linked pilot purchase facility for Thailand to facilitate the accelerated deployment of fleet-operated electric vehicles in Thailand via Article 6. Through implementation of the bilateral agreement, the project is expected to deliver mitigation outcomes beyond Thailand's unconditional NDCs.

Early movers that are piloting Article 6 implementation find Article 6 a fast-changing landscape that requires an agile and structured response. Governments that plan to enter in such cooperation should announce their intent and provide a clear strategy on which sectors and projects will be eligible and how they relate to the

NDCs. Governments need to communicate clear signals on what they want to achieve from Article 6 and who they will engage with, including the role that the private sector will play. Governments should also develop plans, processes, and instruments for Article 6 authorization to attract investment. Governance is crucial to get all decision processes and rules in place and be ready to enable and guide the different actors. Having the appropriate infrastructure (MRV systems, registries, etc.) is key to be prepared for cooperation.

Despite the urgency of the climate crisis, putting in place structures and systems, capacity building, and agreement negotiations all take a substantial amount of time – at least 1-2 years. The process of developing a bilateral agreement between Morocco and Switzerland, for example, includes Morocco's submission of a letter of interest to Switzerland, the preparation and validation of the Mitigation Activity Design Document (MADD), and the negotiation and development of MOPA.

For developing and emerging economies, likely to be the primary group of potential sellers, there is a significant gap in knowledge, skills, and experience related to carbon trading. The burden of participation on governments considering participation as seller countries under Article 6 is higher than that required under the CDM. While experience with the CDM has provided some general awareness and capacity among key stakeholders, there is a steep learning curve that these countries must climb to participate on a level playing field in the international carbon market, given the additional and more stringent requirements under Article 6.

According to the West African Alliance on Carbon Markets and Climate Finance, their 16 members have growing interest to participate in carbon markets, including the use of Article 6. The Alliance's main focus is on Article 6 awareness raising and capacity building, not only for relevant government agencies, but also for the private sector and civil society, including local project developers, on the benefits of leveraging Article 6 mechanisms and developing a better understanding about additionalities, baseline setting, and corresponding adjustments. The Alliance is supporting the pilot of Article 6 projects, is facilitating peer-to-peer learning within the region, and has published a Blueprint for Article 6 Readiness in Member Countries of the West African Alliance^{xv} to support the awareness raising and capacity building process.

A fully engaged private sector can help mobilize additional finances and support for innovative approaches, which is critical to Article 6 engagement. Private sector and civil society actors should be equally well-informed about the structure and rules of the Article 6 market and the risk and opportunities of engaging in ITMO transactions. There is also the need to engage with a broader group of stakeholders, such as the environmental, social and governance (ESG) community that are pressuring the private sector to incorporate ESG, to raise their awareness about the benefits of Article 6.

xii World Bank, "Carbon Pricing Dashboard," accessed November 21, 2022, <https://carbonpricingdashboard.worldbank.org>.

xiii World Bank, State and Trends of Carbon Pricing 2022 (Washington, DC, 2022), <https://openknowledge.worldbank.org/handle/10986/37455>.

xiv Ibid.

xv West African Alliance on Carbon Markets and Climate Finance, "Blueprint for A6 Readiness in Member Countries of the West African Alliance," June 2022, https://westafricaclimatealliance.org/wp-content/uploads/2020/11/Blueprint_07-06-2022_EN_with-BMWK-logo.pdf.

IETA's Business Partnership for Market Implementation (B-PMI) initiative is focused on business-to-business engagement and promoting dialogue between diverse businesses involved with carbon markets to identify opportunities created by the compliance and voluntary markets as well as the operationalization of Article 6. This initiative complements the World Bank's PMI program, a grant-based, capacity building trust fund that provides funding and technical assistance for supporting 30 countries and jurisdictions in the development and implementation of carbon pricing instruments to meet their NDC targets and long-term decarbonization strategies.

4.2 Raising Climate Ambition: How Can Article 6 Play a Role?

This session was held on the 24th of October and co-organized by KliK Foundation and Wuppertal Institute for Climate. Speakers included:

- Malin Meyer, Ministry of Climate and Environment, Kingdom of Norway
- Chris Shipley, Head of Global Carbon Markets at Department for Business, Energy and Industrial Strategy (BEIS), United Kingdom
- Dida Gardera, Coordinating Ministry of Economic Affairs, Republic of Indonesia
- Kus Prisetiahi, Coordinating Ministry of Maritime Affairs and Investment, Republic of Indonesia

The latest report of the Intergovernmental Panel on Climate Change (IPCC) paints a stark picture of the impacts already being felt, including loss of life, humanitarian crises, and irreversible damage to ecosystems.^{xvi} According to the IPCC, global emissions would need to fall by 43% by 2030 in order to limit temperatures rising to 1.5°C.^{xvii} Yet, the combined NDCs impact as they stand today would, if fully implemented, still lead to 2.4°C of warming.^{xviii} Taking more ambitious climate actions is urgently needed and is of utmost importance for getting the world on track to meeting the Paris Agreement.

xvi IPCC, "Summary for Policymakers," in *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge, UK and New York, USA: Cambridge University Press, 2021), 3-32, https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf.

xvii United Nations, "Countries' climate promises still not enough to avoid catastrophic global warming: UN Report," October 26, 2022, <https://news.un.org/en/story/2022/10/1129892>.

xviii Climate Action Tracker, "CAT Climate Target Update Tracker," accessed November 21, 2022, <https://climateactiontracker.org/climate-target-update-tracker-2022/>.

Several provisions of the Paris Agreement stress the importance of progressively raising ambitions, with Article 6 recognized as a tool to increase ambition among cooperating countries. Article 6.1 states that: "Parties choose to pursue voluntary cooperation in the implementation of their NDC to allow for higher ambition..." Ambition raising refers to countries increasing their emissions reduction targets both in terms of the deviation from business-as-usual levels as well as the expansion of the NDC's coverage of sectors and activities.

In particular, Article 6.2 can be regarded as an open framework that allows not only for increased cooperation to reduce more emissions, but to fulfill other development targets. This includes targeted investments that bring co-benefits such as better air quality, improved waste management, increased biodiversity, reduced electricity prices, less dependence on fossil fuels, green technology transfers, and green jobs creation.

A research study was conducted by Wuppertal Institute to assess the potential of compliance and voluntary markets to contribute to ambition raising and sustainable development while upholding environmental integrity in Germany. The study found that Article 6 used for compliance purposes is challenged by the binding NDC target of the European Union (EU) that calls for a net domestic reduction in GHG emissions and currently excludes ITMO use, while the option of voluntary use shows greater potential for ambition raising in the country. The study includes an assessment of using ITMOs to increase ambition of Germany's national long-term targets, which found that GHG neutrality could be achieved earlier – by 2040 instead of 2045. However, the impact on climate politics is uncertain as the use of ITMOs could potentially rely on cheaper reductions from abroad rather than pursue the necessary, but more costly, domestic transformation and delay decarbonization within Germany.

The Swiss government, on the other hand, is proactively using ITMOs to fulfil its NDC targets and has approved or signed 11 bilateral agreements with host countries. The KliK Foundation is acting on behalf of Swiss motor fuel importers who are obliged by Swiss law to purchase 20-40 million ITMOs (tCO₂e until 2030, 3-5 million in each host country). The KliK Foundation is providing financial support for the development of about 20 Article 6.2 programs, which include working with host countries to raise their climate ambition. This is achieved using several strategies, by:

- Ensuring that program activities are within the scope of the NDC but outside the unconditional target (to avoid competing with domestic climate action).
- Aligning activities with unconditional NDC targets and supporting the implementation of domestic action.
- Building capacity and transferring knowledge to spur further action.
- De-risking technology access to market.

- Supporting the development of MRV systems that generate data for subsequent action.
- Bringing green growth on the political agenda.
- Promoting leadership of involved parties.

In a similar fashion to the German case, Norway is looking to raise climate ambition in terms of national and international commitments outside the EU since their national NDC targets are to be fulfilled jointly with the EU. Article 6 becomes relevant, particularly in meeting Norway's 2030 climate neutrality targets. Additionality, environmental integrity, MRV, and stringent baseline development are elements Norway focuses on. Fair compensation and pricing for corresponding adjustments are equally important, although balancing market dynamics and fair compensation is a challenge. As a buyer country, Norway is committed to ensuring mutual benefits for both buyer and seller countries and promoting ongoing discussion on ambition raising between governments. In particular, Norway ensures that the price for corresponding adjustments is high enough to justify transferring credits out of host countries, and the price enables countries to implement additional measures.

Another comparable model is described by the Climate Change Committee (CCC) of the United Kingdom (UK), an independent body that provides science-based advice to government on the UK's climate targets and ambition. CCC's recommendations to accelerate the use of Article 6 include: (1) reinvestment of cost savings from markets into additional abatement. Research shows that if the market is used as a means to achieve targets more cost effectively and those savings are reinvested, the potential benefits are large; (2) bigger markets enable more ambition, better price discovery and protection against leakage. Bigger markets allow those who want to participate to do so; and (3) environmental integrity is important, ensuring additionality, robust baseline, avoidance of double counting and promotion of sustainable development.

In order to align with Article 6 and increase NDC target ambitions, host countries need to understand and quantify their NDC targets, including potentially analyzing what the overall target means for (sub)sectoral targets and action plans. This will help countries to assess how using Article 6 to trade in ITMOs may be a steppingstone for increasing their ambitions in future. In this instance, Indonesia as a host country has taken the lead in pledging more ambitious carbon emissions cut, setting an example for other countries to follow suit. In the updated NDC, the Indonesian government has set a new target to cut emissions by 32% by 2030 (instead of its previous target of 29%).

Article 6 has been negotiated with countries over a long period of time, its benefits include higher flexibility to accommodate national contexts. All the additional measures of integrity and security for mitigation outcomes, build over the best practice of the market and support ambition and cooperation. Article 6 can be used for

a wide range of purposes, not just to achieve NDC targets, but to strengthen sustainable development and explore and scale green technologies. An example is providing private sector companies with access to Article 6 tools for performing corresponding adjustments, and even widening transparency requirements so their access to carbon units can be based on conditions that they disclose emissions data. The key is cooperation. Most countries are going to fulfil a large share of their climate targets domestically, but Article 6 is a powerful tool that can spur an accelerated reduction of global emissions.

4.3 Developing an Article 6 Host Country Strategy

This session was held on the 25th of October and co-organized by Carbon Limits. Speakers included:

- Malin Ahlberg, German Federal Ministry for Economic Affairs and Climate Action (BMWK)
- Marshall Brown, Program Manager, IKI-SPAR6C Program, GGGI
- Randall Spalding-Fecher, Senior Advisor Carbon and Energy, Carbon Limits
- Belal Shaqarin, Director of Climate Change Ministry of Environment, Jordan
- Daniel Tutu Benefoh, Environmental Protection Agency, Ghana
- Aurelius Nkonde, Ministry of Green Economy and Environment, Zambia
- Ruba Ajjour, Royal Scientific Society, Jordan
- Ishmael Edjekumhene, Kumasi Institute of Technology, Energy And Environment, Ghana
- Francis Yamba, Centre for Energy, Environment and Engineering Zambia, Zambia

In addition to setting more ambitious climate targets, countries are already facing difficulties delivering on the commitments they've made, which will require a clear and robust climate strategy, including one that fully leverages Article 6 opportunities. Unlike the CDM, Article 6 requires considerably higher levels of engagement and oversight from participating countries. Countries intending to engage in cooperative activities will need their own robust governance framework at the national level and develop sustainable national capacities to facilitate Article 6 transactions. The operationalization of Article 6 is highly dependent on the readiness of participants, but there is a steep learning curve, particularly for developing and emerging economies looking to become Article 6 host countries.

Most countries are just beginning to understand the depth and scope of effort required to make ITMO transactions work, and many countries are currently in the process of establishing a detailed Article 6 strategy as well as legal and institutional arrangements that will guide their engagement in Article 6 carbon trading in the coming years. Governments need to make decisions on a diverse range of issues such as: (i) the activities, sectors, and technologies the country intends to use to generate ITMOs for transfer; (ii) the price at which the country wishes to sell the ITMOs; (iii) who will be responsible for managing transactions; (iv) measures to enable private sector participation; (v) ways to manage over-selling risk; (vi) sharing benefits within the community; and (vii) leveraging Article 6 to make more ambitious change. An Article 6 strategy to address these issues will help the country identify the mix of mitigation interventions, policies, and measures that could meet its NDC pledge, forming an integral component of the country's overall climate strategy.

Article 6 transactions must be based on strong technical fundamentals to safeguard environmental integrity and meet the other requirements of the Paris Agreement and the Article 6 rulebook, including for ITMO authorizations, transfers, and reporting. Building robust national governance frameworks, strategies, regulations, and institutional arrangements to respond to these requirements are essential to guide decision-making and provide clear signals to private sector investors and market players (both domestic and international) who are interested in engaging with the host country.

Strengthening human resource capacities and technical skills related to Article 6 is high on the political agenda. Stakeholder engagement and capacity building throughout the entire carbon trading ecosystem for government, the private sector, civil society, and project developers are needed to strengthen existing knowledge in host countries and build local experience in managing this new market instrument along with designing and implementing Article 6-aligned projects. Capacity building will improve participation opportunities and create a more level playing field for competition.

Some developing country governments have signaled strong interest in acting as first movers to establish institutional arrangements and pilot activities, but they remain apprehensive about taking on risks they do not fully understand. In early 2022, GGGI conducted a global survey across 29 of its Members and partner countries regarding stakeholders' national readiness for Article 6 carbon trading.^{xix} An overwhelming majority of survey participants (93%) indicated that their countries are considering participating under Article 6. The potential benefits of international trading were well understood by survey participants, but their eagerness to engage in transactions was tempered by their perception of regulatory, market and capacity risks as well as some perceptions of lack of equity in the process of trading in this early phase of the market. These developing country governments will

require significant support to make up for the imbalance in their experience and domestic regulatory capacity. Recognizing this gap, several support programs by Australia, Germany, Japan, Norway, Republic of Korea, Sweden, and Switzerland have been established to provide capacity building and technical assistance, as well as pilot Article 6 activities.

These programs send a positive message underpinned by the spirit of cooperation – that the concerns of host countries must be recognized and addressed as challenges for all market participants.

Findings from the GGGI global survey show that the majority of the countries are in the phase of planning regulations or strategies for international markets and Article 6. 69% of governments interviewed have been approached by a potential buyer and a majority have already discussed undertaking corresponding adjustments for potential ITMOs transfers. Moreover, 41% are engaged in designing pilots but need additional assistance to be fully ready to engage in and benefit from Article 6 trading.

At the same time, however, over half (59%) of the countries surveyed are characterized as either less than “ready to engage” in the Article 6 market or lacking a strong understanding of Article 6 participation requirements. Nine countries reported that they have not received any training in Article 6. Weaknesses are noted in the areas of national governance frameworks, project/program development experience (in both public and private sectors), and MOPA negotiations. Significant capacity gaps remain, and survey respondents identified the following top three priorities for Article 6 readiness support:

1. Putting in place legislation and regulations for engaging with international carbon markets.
2. Building capacity and training for the government stakeholders.
3. Developing a national registry or tracking tool.

Building on existing domestic experience with carbon markets and other mitigation activities will have major benefits, including faster implementation, reduced costs, and greater credibility in new international markets. Many countries have experienced CDM designated national authorities (DNAs) and other related agencies that have worked with carbon markets and the UNFCCC processes. In addition, many countries have already set up institutional structures for NDC development and implementation. Strengthening these arrangements and institutions will strengthen Article 6 governance at the national level. In addition, the capacity building and the structures and systems established to implement Article 6.2 will support Article 6.4 activities in the future. More broadly, political stability is noted as an important prerequisite for Article 6 trading.

Good practices and lessons can be learned from early movers among the host countries, including Ghana, Jordan, and Zambia, which all have already begun work on their Article 6 strategy. Ghana started preparing for Article 6 implementation in 2019

xix GGGI, “Global Survey on Article 6 Readiness Report,” 2022, <https://gggi.org/wp-content/uploads/2022/11/GGGI-Global-Survey-on-Article-6-Readiness-Report.pdf>.

with the development of a clear policy linking the NDC, long-term strategy, and Article 6. For example, Ghana's NDC communicates the amount of carbon credits Ghana intends to transact and the sectors that are eligible for ITMO transactions. Ghana is developing bilateral agreements with the governments of Singapore, Sweden, and Switzerland, and through this process, has realized the need for a standardized cooperative approach to fast track Article 6 implementation and ITMO authorization. In preparing for Article 6 trading, Ghana has adopted a whole-of-government approach to develop a national framework for Article 6. Although such an approach takes a significant up-front time investment to engage a wide range of stakeholders, it is critical for political buy-in and successful implementation. Through this approach, Ghana has been tackling common technical challenges such as the risk of overselling of mitigation outcomes (i.e., risking their own NDC compliance), ensuring environmental integrity, and putting in place procedures and systems for ITMO authorization, tracking, and transfer.

An "Article 6 Office" has been established to coordinate and manage all these activities, and currently, 10 mitigation projects at different stages of development are in the pipeline as activities suitable for carbon trading. However, wider macro-economic challenges need to be tackled, such as those hindering private sector participation in mitigation projects due to the lack of access to affordable financing.

To be Article 6-ready, Jordan prioritized the creation of an MRV system with a database of emissions reduction projects for decision-making on carbon trading in the compliance and voluntary markets. This was followed by the drafting of a legislative framework to enable carbon trading in both Article 6 and voluntary markets. The government recognizes the need for technical assessments and capacity building support to develop sectoral pathways and identify a pipeline of potential programs and projects suitable for carbon trading, as well as create a comprehensive registry for tracking ITMOs. Jordan also recognizes the importance of engaging

With the private sector in Article 6 policy and planning from the start, and the multiple roles that this sector can play in designing and implementing projects, conducting technical assessments, and verifying mitigation outcomes. Learning from the CDM process, the government aims to create a simpler framework and provide clarity on how the private sector can be involved in Article 6, as well as the types of services and projects required.

In Zambia, players from the CDM mechanism are already participating in voluntary carbon markets, and the government has enhanced its policy and institutional frameworks of the CDM to accelerate Article 6 trading. A National Policy on Climate Change that refers to carbon markets is in place, and a Climate Change Bill is being drafted that provides the legal framework for Article 6 transactions. Zambia is also developing a Green Growth Strategy with support from GGGI, and Article 6 implementation is incorporated in this strategy. Negotiations on a bilateral agreement for Article 6 trading have started with the German government.

Moreover, an integrated MRV system that incorporates a GHG inventory, climate finance, mitigation actions, adaptation actions, technology transfer, and capacity building will soon be launched. Key priorities are: (i) to have a clear national registry and tracking method for both the compliance and voluntary markets; (ii) to monitor progress; (iii) to inform policymaking; (iv) to build confidence; and (v) to increase transparency - which is critical for building trust among partners domestically and internationally. The Zambian government has involved stakeholders across different sectors and financial institutions in the development of an Article 6 strategy and design of mitigation activities under Article 6.

In the development of a clear and robust Article 6 strategy and accelerating Article 6 operationalization, the sharing of good practices and lessons learned on platforms like the CTP is critical. This could be achieved using diverse approaches such as workshops and webinars, compilations of best practices and dashboards, and promotion of knowledge exchanges at subregional, regional, and global levels.

4.4 Aligning Voluntary Carbon Markets and Article 6

This session was held on the 24th of October and co-organized by DLA Piper and Climate Impact Partners. Speakers included:

- Philip Mann, Senior Manager, National Programmes, Climate Impact Partners
- Steven Gray, Legal Director, DLA Piper UK LLP
- Mbaye El Hadji Diagne, Advisor to Government of Senegal and Member of Art 6 Supervisory Board
- Pascal Siegwand, VP Carbon Markets and Economy, Total Energies

With the continued momentum of companies adopting voluntary climate commitments, such as carbon neutrality or net-zero targets, there is the general expectation that the demand for offset credits from the voluntary carbon market is set to grow considerably in the future. The voluntary market has largely been operating in parallel to the international compliance carbon market under the UNFCCC in the past, but will probably be impacted by the added flexibility offered under Article 6 and these markets will likely become closer than ever before.

Article 6 does not directly regulate the voluntary carbon market, but it is conducive to increased convergence of the compliance and voluntary markets and a spectrum of approaches is being explored. Article 6.2 guidance establishes a broad reporting and accounting framework that can be used by the voluntary carbon market, while the Article 6.4 mechanism is open to non-compliance use and

might, in the long run, be established as a de-facto standard that private certification standards will be compared with.^{xx}

One of the key features that distinguishes the international compliance market from the voluntary market is the mandatory authorization by the governments in whose jurisdiction the credits are generated and transferred from. Under the Paris Agreement, the sale and purchase of carbon credits require accounting by parties to the Paris Agreement through a corresponding adjustment. While international compliance markets exclusively trade credits that are authorized (i.e., include a commitment for corresponding adjustments), voluntary carbon markets may also trade in credits that are accompanied by such authorization.

It is still early to determine whether corresponding adjustments should be applied to trades under the voluntary market, but it is important to understand the benefits of applying corresponding adjustments to the voluntary market – and that is to avoid double counting. In best practice models, there are two possible streams in the voluntary market: (1) supporting actions within NDCs; and (2) raising ambition and accelerating progress beyond NDCs such as private entities' net-zero goals and carbon footprint commitments. It would therefore be useful for participating governments to define and clarify for the voluntary market how and what they will plan to monitor or be regulating.

Another consideration regarding whether corresponding adjustments should be applied to the voluntary market is related to the use of the carbon credits. If the credits are intended for use as an offset against an emission reduction pledge, then it makes sense to apply corresponding adjustments in line with Article 6. However, if the credits are used to accelerate transfer of climate finance to communities and projects – as a measurement tool for results-based finance – then corresponding adjustments and alignment to Article 6 are less relevant.

In addition to applying corresponding adjustments, it is important to consider other Article 6 principles in the voluntary market such as ensuring environmental integrity, project quality, additionality, and transparency in the disclosure of data related to emissions reduction and other project impact.

Recognizing that Article 6 rules permit countries to authorize ITMOs for use in voluntary carbon markets, independent crediting standards, such as the Gold Standard, Verra and Voluntary Carbon Markets Integrity Initiative (VCMI), are getting more engaged in Article 6 activities. Gold Standard sees a two-stream system coming on board that uses adjusted and non-adjusted credits, Verra is looking to facilitate corresponding adjustments, and VCMI sees the voluntary market playing a vital role in supporting the implementation of the NDCs.

xx Nicolas Kreibich and Victoria Brandemann, "From Glasgow to the future: How does the COP26 outcome shape tomorrow's voluntary carbon market," Carbon Mechanisms Research Policy Paper No. 02/2022, Wuppertal Institute, https://www.carbon-mechanisms.de/fileadmin/media/dokumente/Publikationen/Policy_Paper/VCM-post-Glasgow.pdf.

Independent standards were once associated exclusively with voluntary markets. Now, however, independent standards provide quality assurance and the credits they generate are being accepted for use in multiple markets. The standard is no longer the deciding factor for the type of market, as the application of a corresponding adjustment does this instead. The recent partnership announcement by the Swedish Energy Agency and Gold Standard, under which the Swedish Energy Agency will use adapted Gold Standard rules, framework, and infrastructures to facilitate its Article 6 transactions, is an example of the blurring of lines between the compliance and voluntary markets.^{xxi}

Some may argue that all emissions reductions used for voluntary corporate should be authorized by the host country. In Senegal, for example, the government is considering a centralized framework for both the compliance and voluntary markets, to better understand the overall carbon market, for improved policymaking, planning, and reporting. The Senegalese government is planning a simple registry to keep track of all projects in both the compliance and voluntary markets, and a separate system and process for authorization of carbon transactions and corresponding adjustments.

This is likely to have repercussions on project developers, who may need to secure authorizations from the host country, and affect the scale and impact of mitigation actions financed through the voluntary market.^{xxii} At the same time, it could provide assurance to buyers regarding voluntary corporates' legal ownership or entitlement of reduction rights. In order to ensure that both the compliance and voluntary markets thrive, it is crucial to keep authorization processes simple and consider the co-benefits of the mitigation actions in addition to emissions reduction. Political certainty and stability are also important.

4.5 Making CDM Methodologies Fit for Article 6 Operationalization

This session was held on the 24th of October and co-organized by Perspectives Climate Research. Speakers included:

- Axel Michaelowa, Perspectives Climate Research, (Germany/Switzerland)
- Kentaro Takahashi, Institute for Global Environmental Strategies (IGES), (Japan)
- Martha Ntabadde Kasozi, freelance consultant and member of the CDM methodologies panel, (Uganda)
- Francois Sammut, Carbon Limits, (Norway)
- Stephan Gill, GGGI

xxi World Bank, *State and Trends of Carbon Pricing 2022* (Washington, DC, 2022), <https://openknowledge.worldbank.org/handle/10986/37455>.

xxii ICROA, "Article 6 of the Paris Agreement and Implications for the Voluntary Carbon Market," December 2021, https://www.icroa.org/_files/ugd/653476_4cb8eae730b04813b63180619f16ae5b.pdf.

Since the adoption of the Article 6 rulebook, global efforts to operationalize and utilize Article 6 market mechanisms have ramped up substantially. One of the key challenges is the development of methodologies which align with Article 6 principles such as:

- Encourage increasing ambition in climate commitments over time.
- Align to the long-term temperature goal of the Paris Agreement.
- Contribute to reducing emission levels in the host party and align with its NDC and Long-term Low Emissions and Development Strategy (LT-LEDS), if applicable.
- Baselines that are conservative, below business-as-usual (BAU) or historical emissions and take into account policies and measures.
- Additionality assessments that take into account relevant national policies and legislations, including host countries' climate commitments under the Paris Agreement.
- Promote sustainable development outcomes in host countries.

Global experts on carbon pricing and carbon markets have been creating and updating standards, methodologies, and tools to comply with Article 6 rules in attempts to clarify and simplify processes for the climate change community and accelerate implementation of carbon transactions.

Developing methodologies from scratch would take years and require significant financial and human resources. However, over 250 baseline and monitoring methodologies and 35 related tools have been developed over 15 years and are approved under the CDM, which can potentially be aligned with the Article 6 rulebook. They are also applied in many other carbon crediting mechanisms around the globe and constitute an important body of knowledge for operating programs and projects that generate emissions credits.

The International Initiative for Development of Article 6 Methodology Tools (II-AMT), launched by Perspectives Climate Research in January 2022, brings together a group of international experts to transition this existing body of methodologies and tools for Article 6 implementation.

The II-AMT is developing tools and guidance to tackle four key issues where the approaches under Article 6 have become more stringent than under the CDM, as follows:

1. Tool for demonstration and assessment of additionality
2. Tool for setting robust crediting baseline
3. Tool for MRV of emissions and emissions reductions
4. Guidance for contributions to the host country NDC and LT-LEDS goals

The tools and guidance being developed for these four issues will be sector and technology agnostic and applicable for single and programmatic activities, but not for sectoral and/or policy crediting activities. While these tools and guidance cover broad areas and overarching concepts, they will have to be complemented by further sector specific guidance to be applicable for all activity types.

These tools and guidance have been drafted and made publicly available. II-AMT have published them for public comment, and will be organizing stakeholder consultations, and piloting and validating the tools. Once finalized, the II-AMT products will be available and ready for use by Article 6.2 cooperating parties and may be incorporated by the Article 6.4 Supervisory Body and independent standards.

These tools and guidance can support and accelerate capacity building efforts in understanding and expediting the Article 6 rules, particularly in understanding additionality and setting baselines in the context of the Paris Agreement.

The II-AMT tools work through these new and more complex considerations in a structured way. Moreover, the II-AMT tools offer examples of how the methodologies can be applied to better understand the new concepts and rules, and help countries decide how best to address implementation challenges, such as the balancing of high environmental integrity and low transaction cost, and of conservativeness and accuracy in MRV. Achieving a balance between adopting a stringent approach leading to full compliance and a softer approach to enable first trade is also important.



5. The GGGI Carbon Transaction Platform (CTP)^{xxiii}

Given the knowledge and experience gained by GGGI, there is substantial potential for GGGI to expand and scale up its Article 6 support services – building on its technical assistance, capacity building and pilot transaction development support, and catalyzing

global carbon trading as a facilitator and trustee of carbon trust funds.

GGGI is committed to continue working with its Members and partners to build capacity, enhance ambition, and ensure quality delivery of climate solutions. GGGI will continue to support host countries in setting up a lasting governance structure, institutional arrangements, and the infrastructure needed to fully leverage Article 6 and unlock access to climate finance, while ensuring environmental integrity and transparency.

5.1 Vision for the CTP

GGGI intends to play a key role in accelerating global GHG emissions reductions by becoming a leader in catalyzing carbon trading under Article 6 of the Paris Agreement.

GGGI's primary objective in the 2023-2030 period is to open up the Article 6 carbon market, facilitating high-integrity carbon transactions of at least 50 million tons CO₂e between Members and partner countries by 2030. GGGI would do this by aiming for two complimentary outcomes:

^{xxiii} This chapter is largely based on a paper developed by the Carbon Transaction Platform Task Force. The paper was co-authored by Frank Rijsberman, Fenella Aouane, and Marshall Brown and reviewed by all Task Force members (Nishant Bardhwaj, Helena McLeod, Marian Mraz, Lasse Ringius, Kyungnam Shin, Sachin Shukla, Marcel Silviu, and Mahamadou Toukara)

Outcome 1: Improving confidence and capacity of Parties, particularly seller governments, to participate in Article 6 carbon trading, and

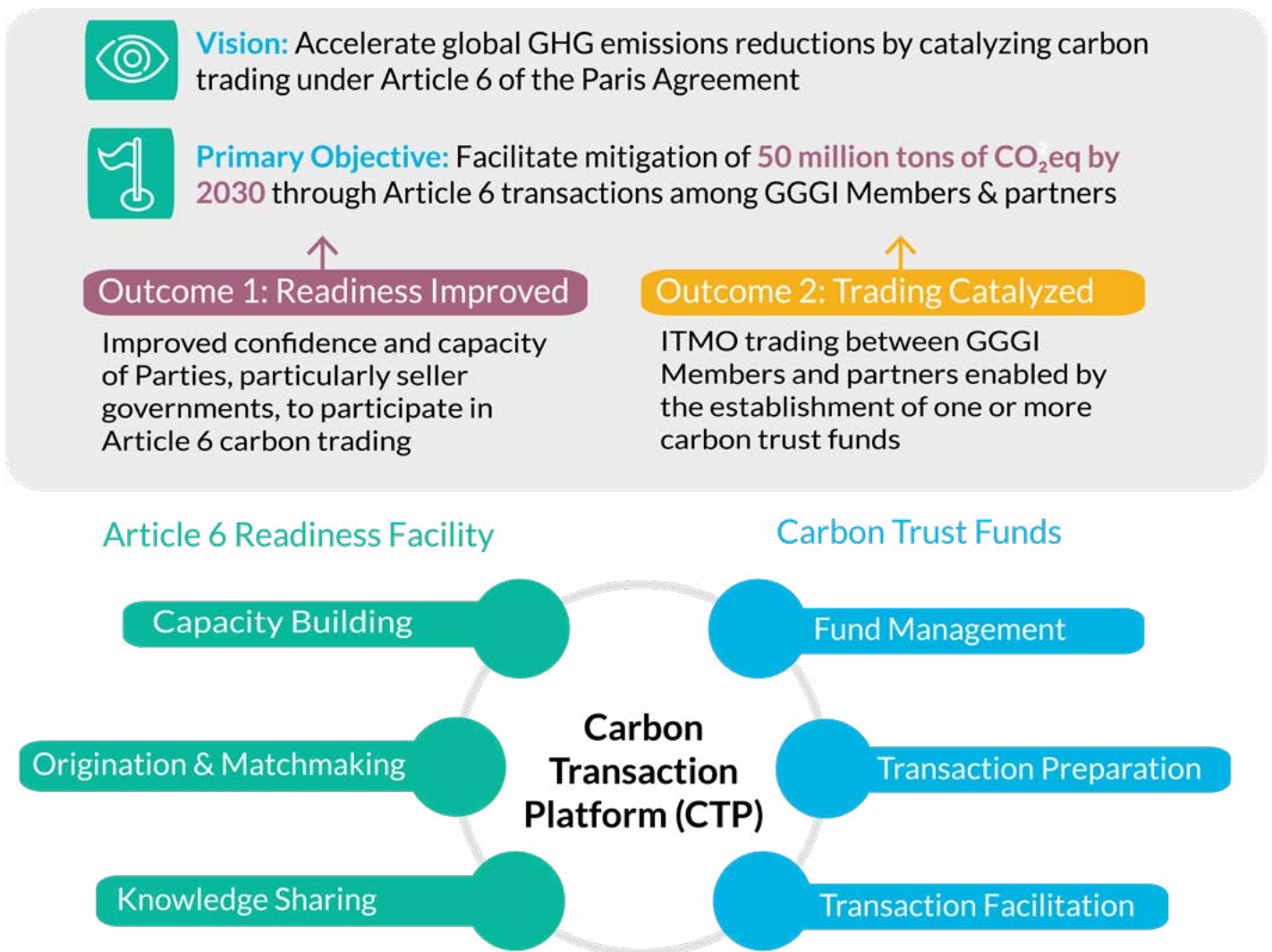
Outcome 2: Introducing mechanisms for originating and enabling Article 6 transactions between its Members and partners.

These outcomes can be accomplished by expanding GGGI's carbon trading service offerings and building on the organization's current carbon pricing, climate action, and green investment activities. The expanded activities, including the management of one or more carbon trust funds, would take place under the umbrella of a new cooperation mechanism hosted by the GGGI Secretariat: the CTP.

5.2 Value Proposition of the CTP

Focus on “cooperative approaches” under Article 6. While there are many potential modalities through which international carbon transactions might take place, the CTP would focus on Article 6 compliant transactions, using the widest array of methodologies, standards, and transaction models possible to ensure the environmental integrity of traded units while opening the market. The lines between what has historically been regarded as the voluntary market and the compliance markets are blurring – for example CORSIA (a compliance market) accepts trades under standards traditionally seen as belonging to the voluntary market. If a voluntary transaction is accompanied by a corresponding adjustment, it can be used by a buying government towards reaching and going beyond their Nationally Determined Contribution (NDC) commitments – potentially the

Figure 7: Overview of the GGGI Carbon Transaction Platform



new 'compliance market'. Being focused on trading under Article 6 would require that any transactions conducted through the CTP comply with Paris Agreement guidance, including environmental integrity provisions that stipulate:

- Avoidance of double counting through robust accounting.
- Transferred units must be permanent and calculated using conservative baselines.

By pioneering bilateral trades, GGGI aims to set the path for others to follow, adding value to global efforts to catalyze trading through cooperative approaches and achieving scale. As GGGI continues to build relationships with buyer and seller governments, its ability to facilitate multi-directional knowledge sharing and exchange will continue to increase, which is critical to overall market development.

Enhance equity in the international carbon trading process.

GGGI's unique delivery model, which is based on close partnerships that focus on the needs and context of governments in developing and emerging economies, would enable the CTP to introduce a higher level of equity between sellers and buyers in the trading process than has been seen in previous iterations of the international carbon market. The CTP could leverage the knowledge and experience gained through GGGI's Article 6 programs and the diversity of GGGI's Membership and its Council – in which buyers (primarily developed/donor countries) and sellers (primarily developing and emerging economies) are equally represented – to create more equitable market conditions and a more level playing field for participants to engage in carbon transactions.

Achieving green investment and green growth objectives.

Mobilizing green investment for countries' green growth objectives is core to GGGI's strategy of promoting "Economic growth that is environmentally sustainable and socially inclusive." Enhanced effort to promote international carbon trading under Article 6 through the CTP would allow GGGI to scale its impact, further enabling flows of finance to developing and emerging economies to implement their green growth objectives.

Continuity in program development and implementation.

As an international organization, embedded within its Member governments, one of the key benefits of GGGI managing a carbon trust fund is that it would ensure continuity in program development and management for carbon transactions that are long-term purchase agreements. The relationships and understandings established between GGGI and the seller countries during the program development phase would then be maintained in the implementation phase, which would be beneficial to both the buyer and seller country.

5.3 CTP's Value with the Article 6 landscape

Following COP26, a multitude of Article 6 related programs has been initiated by development and intergovernmental organizations. Despite this initial offer of support to some countries, potential sellers in the market are still generally underserved and the demand for more capacity building support is growing. While the current focus of Article 6 efforts is on capacity building, in time it will move toward more targeted technical assistance that aims to ensure the governance frameworks required for Article 6 trading - such as institutional processes and accounting infrastructure - are in place to facilitate ITMO trading (see Figure 8).

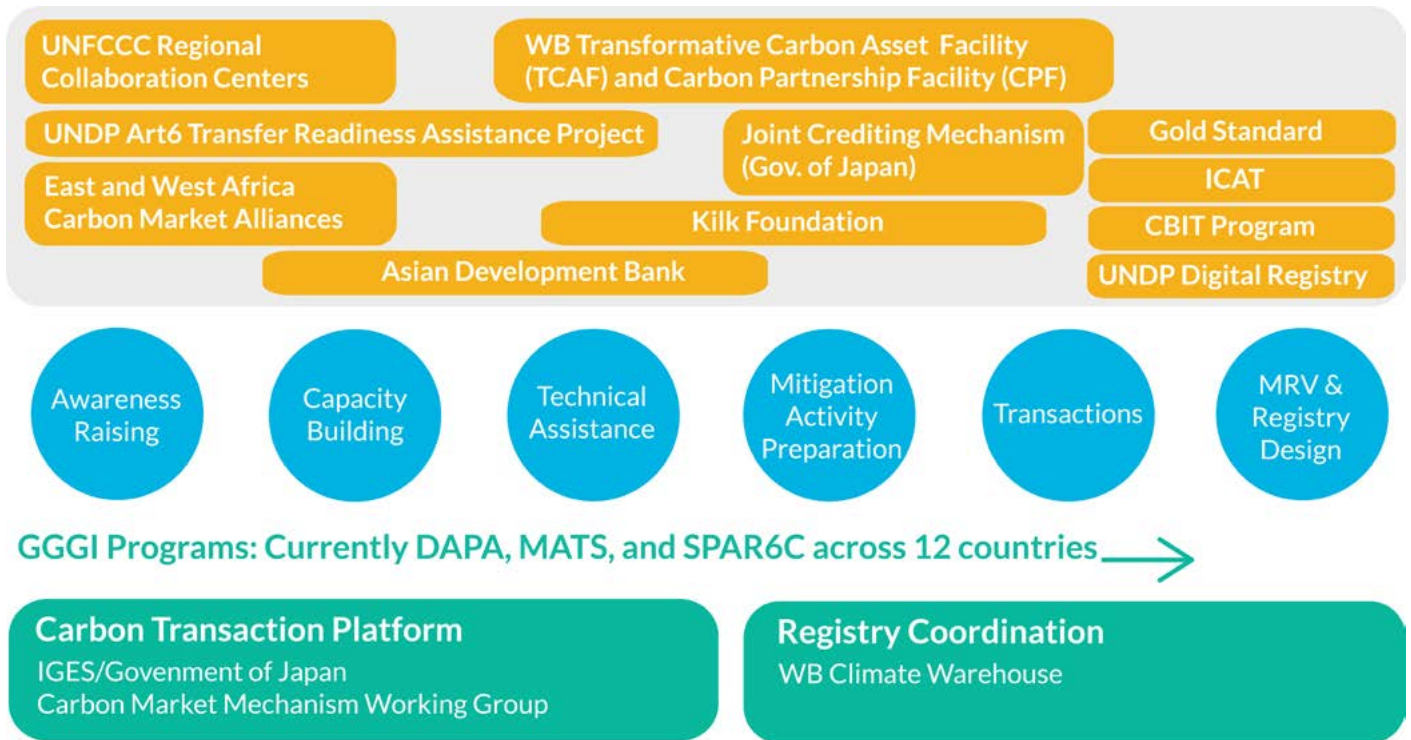
GGGI has the advantage of being a step ahead thanks to the multiple Article 6 programs it has already established, including the Mobilizing Article 6 Trading Structures (MATS) program, which has been running since 2020, and the Designing Article 6 Policy Approaches (DAPA) program, in place since 2019. In addition, extensive preparation work has been conducted for the recently agreed Supporting Preparedness for Article 6 Cooperation (SPAR6C) program. Lessons from these programs have already proven useful when shared for the benefit of the countries GGGI supports, with in-country counterparts learning about topics such as approaches to establishing governance frameworks and the origination and preparation of mitigation activities.

As GGGI expands its activities through the CTP, it will be able to provide high-quality services based on a wider range of experiences that cover the full mitigation activity transaction cycle, with its Readiness Facility activities informed by lessons learned during transaction facilitation. This feedback loop will benefit all sellers and buyers in the market.

At the same time, GGGI's unique approach to in-country delivery compared to many other development organizations gives it a competitive advantage in the following ways:

- GGGI's position as a trusted advisor embedded in countries allows for a continuous communication flow with government counterparts, helping to coordinate learning activities within and between its Members.
- Although ITMO trades have not yet taken place, GGGI has already generated a wealth of Article 6-related knowledge that can be shared with others through the CTP.
- GGGI support is country-led, which is vital for ensuring that a seller country can exercise control and ownership over the design and implementation of Article 6 activities.
- As both a readiness support service provider and a carbon trust fund manager, lessons learned from engaging buyers in the market can be more readily integrated into GGGI's support to sellers, which can be beneficial to market development.

Figure 8. Existing Article 6 Market Preparation Activities and Service Providers.



Source: Adapted from "Capacity building for Article 6 cooperation: The way forward", Carbon Market Mechanisms Working Group / Perspectives Climate Research gGmbH, April 2022

In terms of its global reach, GGGI’s diverse and growing Membership provides a unique opportunity to promote mutual learning and market participation. As of writing, GGGI counts 43 Members, with more than 20 countries on the road to ratification of the GGGI Establishment Agreement (i.e., Membership). By the end of 2022, GGGI expects to be implementing Article 6 readiness support activities in more than 10 of these countries, putting the organization at the cutting edge of Article 6 implementation globally. This context would allow GGGI to serve as a leading facilitator of mutual learning between potential buyers and sellers.

As in all of its work, GGGI prioritizes coordination with other development partners and avoidance of duplication of efforts in the Article 6 space. In this stage of market development, it is critical for all implementing agencies and donors to coordinate efforts and share and apply lessons learned to scale efforts. For example, coordination between UNDP, the KiliK Foundation, and GGGI through its DAPA program in Senegal ensures maximum impact in the country, with complimentary efforts across the market preparation spectrum shown in Figure 8.

5.4 Design of the Carbon Transaction Platform

5.4.1 Overall Structure of the CTP

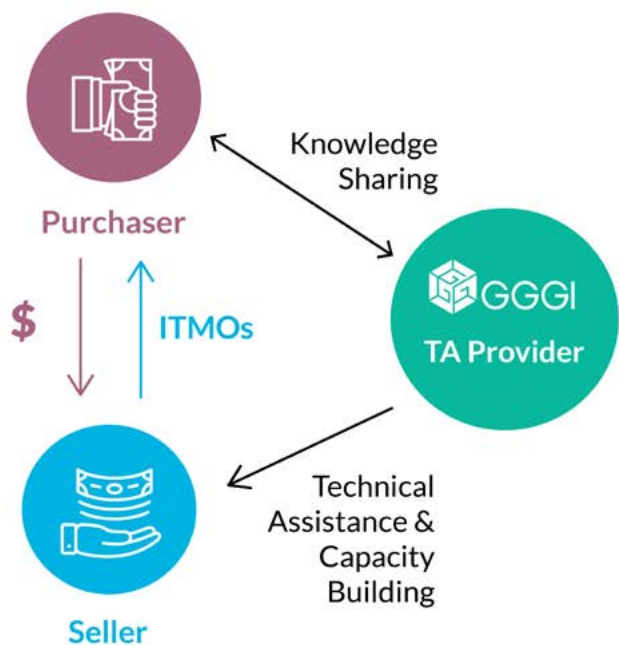
Within GGGI, the CTP will operate as a program managed by the CPU as the umbrella for all the organization’s Article 6 related activities. The Readiness Facility will interact closely with GGGI’s existing Article 6 programs – MATS, DAPA and SPAR6C – to share knowledge and generate potential transaction pipelines. The new carbon trust funds will also be managed by CPU, in line with other trust funds such as the Korea Green New Deal Fund (KGNDF) (see Figure 9).

5.4.2 GGGI Article 6 Readiness Facility

One focus of the CTP is on readiness for Article 6, as shown through Outcome 1 in the theory of change - Readiness Improved. Many GGGI Member and partner countries have expressed interest in carbon market participation but are not armed with the right knowledge to determine whether participation will be in their best interests and how best to engage. The CTP will assist in the following ways:

Figure 9: Change in structure of GGGI carbon activities with CTP

Current situation (without CTP)



With Carbon Trust Fund under CTP



- Initial awareness raising and capacity building with a wide range of stakeholders. This is particularly important given the broader responsibilities placed on governments under the Paris Agreement's bottom-up approach.
- Initial identification of potential transactions, helping to offer clarity for potential seller countries by way of real transactions.
- Matchmaking of potential buyers and sellers in order to help facilitate transactions.
- Knowledge sharing – at all points along the early readiness activities and then circling back at numerous points on the way and after completion of a transaction.
- General awareness raising among national stakeholders on climate change, carbon finance, and Article 6.
- Supporting governments to develop strategies and necessary governance arrangements and processes for Article 6 participation.
- General capacity building for government, the private sector, and other groups on market mechanisms and the benefits and risks of carbon trading under Article 6.
- Training on transaction models and legal agreements associated with selling/purchasing carbon credits (e.g., terms of ITMO purchase) and contract negotiation skills.

5.4.3 Capacity Building Activities

Beyond confidence and willingness to participate, countries must be ready and able to meet the Article 6 participation requirements outlined in the Paris Rulebook. However, general understanding of market mechanisms tends to be low, particularly in developing countries. Governments must have a fundamental understanding of the benefits and risks of participation as well as the institutional and governance frameworks required to ensure adherence to the Article 6 guidance. To address these challenges the CTP will implement the following:

5.4.4 Origination & Matchmaking Activities

While countries are preparing the foundations for participation, the identification and development of mitigation activities (including projects, programs, or other formulations) is another challenge that should be addressed. Because carbon projects can be technically complex, seller countries are likely to need technical assistance to originate, assess, and select mitigation activities for potential trading, which GGGI can provide through the CTP as it does in its MATS and DAPA programs, as well as for green investments across its country programs. Once a mitigation activity has been originated, the CTP would serve as a platform for connecting sellers and buyers in the Article 6 market.

Origination and matchmaking activities in the CTP will include:

- Originating mitigation activities through ideation, consultation and high-level design and assessment, preparation of project idea notes (PINs) for potential mitigation activities.
- Conducting informational sessions (through webinars and external engagements) with project developers in countries that are ready to participate but do not have any activities, in partnership with participating governments utilizing parallel Article 6 programs (like the UNFCCC RCCs) where possible.
- Once PINs are available, sharing project notes with potential buyer country participants in the CTP for consideration and discussion, with the aim of identifying buyer interest.
- Likewise, if buyers express a particular interest in purchasing ITMOs, discussing this with countries where GGGI feels there is a strong potential to develop supply.

5.4.5 Knowledge Exchange

Confidence in participating in the international carbon market – a fundamental requirement for market development – will grow only as the rules and norms^{xxiv} of the market become clearer with time and experience. Therefore, through the CTP, participants would be given the opportunity to discuss perspectives and provide lessons learned on operationalizing Article 6. Activities will include:

- Sharing experiences around mitigation activity development, including those being supported by GGGI in its Member partner countries, capturing practitioner experiences and reflections on the latest international movements and trends in the Article 6 market.
- Facilitating technical dialogue between buyers and sellers on key topics as the market develops to understand perspectives of different market participants. Topics could include understanding 'environmental integrity'; interpretation of the Article 6 Rulebook; transitioning of Kyoto-period credits; or others.
- Taking stock on needs and challenges by engaging regularly with GGGI Member and partner countries as they navigate their participation. Roundtable discussions in the context of GGGI Council or CTP meetings, for example, could be used to collect firsthand feedback.
- Development of global knowledge products, with reports such as the recent **GGGI Global Survey on Article 6 Readiness**, or other assessment tools or activities will be developed in the CTP and shared through GGGI's networks, such as the Green Growth Knowledge Platform (GGKP).

- Exchanging information between buyers and sellers on the journey to a transaction and the challenges from both sides so that others may learn from these experiences.

5.5 Carbon Trust Funds

In order to enable ITMO trading between GGGI Members and partners through one or more carbon trust funds – i.e., Outcome 2 – Catalyze Trading, the CTP aims to serve as the umbrella for carbon trust fund management, along with the preparation and facilitation of transactions. GGGI envisages that carbon trust funds will provide an opportunity to increase the pace and volume of trading by allowing GGGI to manage the burden of administration for initial trade completion as well as the ongoing trade management over the transaction period. Given potential capacity restraints among both buyers and sellers needing to deal with the burden of trade management and the subsequent potential for bottlenecks to develop, the establishment of carbon trust funds managed by GGGI could be an efficient vehicle for purchasing and processing ITMO transfers.

In addition, GGGI's involvement in fund management can provide value in the following ways:

- Capturing potential transaction pipelines through GGGI's other activities with its Members and partners (i.e., adding carbon transactions to the broader suite of services provided by GGGI).
- GGGI's permanent presence in countries allows for oversight of transactions over the whole crediting period (often 5 or more years).
- Being embedded in Member governments also allows GGGI to provide Members with ongoing guidance and support as they develop, execute, and monitor Article 6 trades.
- GGGI's Membership base has broad regional representation, allowing a wider number of buyers to be available as well as a more varied pipeline of potential transactions.
- GGGI can ensure a fair pricing policy through its trust fund for buyers and sellers until such time as a price discovery mechanism (such as an exchange) exists.

5.5.1 Fund Management Activities

In the early stages of the CTP, GGGI would be responsible for establishing carbon purchasing trust funds through discussions with buyers. The buyers (fund beneficiaries/donors) will be able to determine what the fund buys, the methodologies and standards used for mitigation calculation, along with ultimate trade price decisions. GGGI would provide fund management services as the Trustee, reporting to the buyer (or Fund Board for a multi-donor trust fund). Activities will include:

^{xxiv} The CTP will not aim to resolve issues related to rules of Article 6 carbon trading that are negotiated and established under the consensus decision making umbrella of the UNFCCC.

- Financial management of resources in the trust fund.
- Investment management and advisory.
- Accounting and financial reporting.

GGGI would be accountable to the buyers for performance of its functions, consistent with the establishment agreement, by-laws, policies, and procedures.

The benefits of GGGI acting as trustee of carbon funds for buyers include an increase in efficiency of transaction management after the initial trade agreement has completed. In such long-term agreements regular deliveries and payments must be received and paid, GGGI as the fund trustee would be responsible for monitoring and oversight of the projects (for the purposes of ensuring implementation and ongoing MRV for generation of mitigation outcomes) throughout the transaction period as well as management of the verification, issuance, transfer, and payment for ITMOs. Efficiencies can be made if this function is held by a single entity for multiple transactions. This can also be an important measure to address resource limitations in buyer country governments.

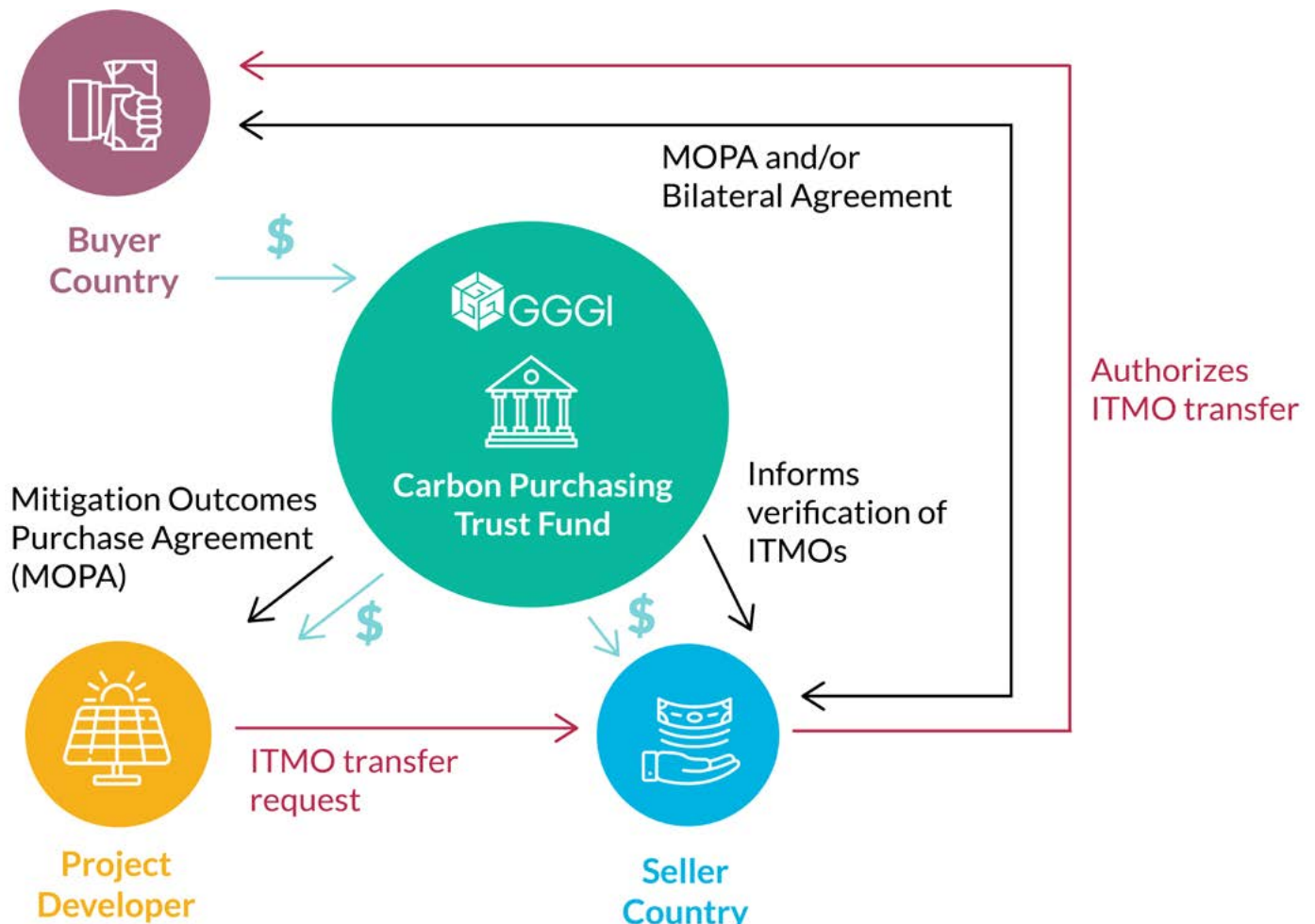
As time goes on, the complexity of the trust fund management function may increase, where multiple investors and multiple buyers undertake transactions through a single fund (as is the case with the World Bank's Transformative Carbon Asset Facility – TCAF). In this case, the efficiency gains could be significant, in addition to the opportunity to reduce risk for buyers by investing in portfolios covering a wider number of transactions.

5.5.2 Transaction Preparation Activities

Once potential buyers participating in the CTP have identified mitigation activities that they would like to support and develop into ITMO transactions through matchmaking activities under the Readiness Facility, GGGI can provide technical assistance for the preparation of mitigation activities. Preparation could involve not only the development of the carbon transaction, but also a wider range of services already offered such as investment services through policy planning or the setup of MRV systems, which are already core services provided by GGGI. Assuming that initial analysis has been developed during an origination phase, examples of activities that could be implemented include:

- Business model development associated with projects/ programs.

Figure 10. Example transaction structure for a carbon trade through the Carbon Transaction Platform



- Additionality assessment.
- Deep impact assessment of the potential mitigation activity (mitigation and co-benefits).
- Stakeholder engagement and technical review.
- MRV setup and proposal design.
- Prepare and review MADD (for government approval).

Transaction preparation activities would be funded through a technical assistance allocation of the carbon trust fund, potentially with co-funding from other established trust funds in GGGI like the KGNDP.

5.5.3 Transaction Facilitation Activities

GGGI is currently implementing carbon programs funded by the Swedish Energy Agency (SEA) and Norwegian Ministry of Climate and Environment (NMCE) which aim to prepare bilateral pilot Article 6 transactions with GGGI Member and partner countries. In these programs, ITMO purchase agreements are expected to be formulated as direct transactions between the funding partner and the GGGI Member country involved. GGGI is considered a technical assistance provider and advisor to seller country governments but is not a counterparty to any transaction. In the future, GGGI would propose to expand its role in facilitating transactions, serving as a trustee of carbon funds that would purchase ITMOs as shown in Figure 11 below.

Figure 11: CTP structure showing GGGI as fund manager and trustee to Carbon Trust Funds

With Carbon Trust Fund under CTP



Through the CTP, following verification that a mitigation activity satisfies the environmental integrity requirements of Article 6, GGGI will support the ITMO transfer. In the case of a carbon purchasing trust fund, this would be done in accordance with the buyers requirements. The fund would receive the ITMOs^{xv}, transferring them to the beneficiary country government according to the terms of a Mitigation Outcome Purchase Agreement (MOPA) and the procurement processes of the buyers. An illustration of a transaction is shown in Figure 11.

5.6 Governance of the CTP and Carbon Trust Funds

As a program of GGGI, the ultimate oversight of the CTP would be entrusted to the GGGI Council, the organization's primary governing body. All GGGI's activities envisaged and proposed under the CTP would be subject to the usual scrutiny and approval of GGGI's governance organisms through its existing planning, budgeting, monitoring, and reporting mechanisms.

The Council sets GGGI's policies and approves its Regulations and thereby determines the operational guidance for the GGGI Secretariat to follow. In developing GGGI's projects and programs,

^{xv} As funds are not Party to the Paris Agreement, they may not physically receive ITMOs but may be labelled in the contractual MOPA agreements as Focal Point or Coordinating Managing Entity with legal title to direct the ITMOs between registries.

GGGI staff will ensure to operate within the Regulations, Rules and Code of Conduct established by Council - including all the safeguards currently in operation. To date, GGGI's Council has not set any operational guidance specifically affecting carbon trading, but it could do so in future if it felt that was in the best interest of the organization.

The Council has delegated the management of the GGGI Secretariat to the Director General (and onwards through GGGI's established Delegation of Authority). The DG is authorized to commit the organization through contracts and negotiate and establish Trust Funds with interested donors in the respective grant agreements or Trust Fund Administration Agreements.

Specifically for the newly proposed carbon trust funds, the buying decision remains with the fund participants/donors (the buyers of carbon credits) and the selling decision concerning corresponding adjustments remains with the selling governments. GGGI's role is limited to facilitating agreements between buying and selling governments and the development of projects or policies that may generate carbon credits, then facilitating transactions and managing investments over the crediting period as the trustee of the carbon trust funds.

Under this overarching governance, buyers would fund and have full control over the carbon trust funds they invest in, as agreed in the Administration Agreements negotiated for each Trust Fund (equivalent to the negotiation of grant agreements negotiated for an earmarked project). GGGI, as trustee, would propose investments and activities to the buyers (Trust Fund Participant(s)/ donor(s)) for their approval.

5.6.1 Ensuring Environmental Integrity of ITMOs

The CTP would be guided by Article 6 of the Paris Agreement to ensure the environmental integrity of transactions. This must ensure that any ITMOs traded are additional to business as usual and are of high quality using robust accounting rules. Specific Trust Funds may also choose to state commitments such as alignment with the San Jose Principles or restricting the use of CDM rollover credits.

Although the CTP aims to help governments access an array of possible standards in the market to enable a wide collection of sectors and activity types under Article 6.2, it must be acknowledged that any standard registration process relied on must be aligned to the Article 6 rulebook. It must ensure environmental integrity and apply corresponding adjustments to ITMO transfers.

5.6.2 Maintaining GGGI's Trusted Advisor Role

Maintaining GGGI's role as a trusted advisor while acting as a trustee for a carbon trust fund is essential. GGGI is currently positioned as a trusted technical advisor in the green growth and climate change space. A close relationship with government counterparts is one of GGGI's greatest strengths as a development institution and maintaining the position of trusted advisor is central to the mission of the organization, including in the Article 6 and carbon pricing area.

Practitioners and decision-makers in GGGI's Members and partner countries must be able to comfortably raise any questions or concerns they have in their carbon trading experiences. Therefore, GGGI's neutrality should never come into question in the process of purchasing ITMOs through a carbon trust fund. The primary source of risk to GGGI's neutrality comes from the process of trade facilitation, particularly the negotiation between buyers and sellers and the terms of trading. GGGI would take measures to ensure it remains a neutral facilitator in this process, such as:

- Clarifying in the establishment agreement of all trust funds what the criteria are for the fund's purchases.
- Ensuring sellers understand the terms of trade clearly early on in the trading process.
- Establishing and following principles for ethical mediation between participants in carbon transactions under Article 6.



6. Conclusions

The scale of the climate crisis requires all countries to work together across borders, sectors, and communities. Article 6 provides a tool for governments, businesses, and civil society to collaborate with integrity to achieve the scale of transformation that is required for realizing the Paris Agreement goals. Developing country governments, as potential host countries, are critical to the success of international carbon markets under Article 6 and beyond. As more pilot projects, programs, and policies begin to be implemented and negotiations advance on the Article 6 rulebook, additional financial and technical resources will be needed to equip host country governments with the institutional capacities, systems, and processes they need to plan, implement, and track ITMO transactions. Only through a truly cooperative approach can buyer and seller countries hope to breathe life into the Article 6 market and increase global climate change mitigation ambition.

The adoption of the Article 6 rulebook at COP26 marks an important milestone. It has provided more clarity on the capacity, infrastructure, and system requirements that are needed to engage and transact under Article 6. At the same time, it adds complexity to carbon markets and will likely lead to the development of many different cooperation approaches across actors and geographies. For countries to be fully prepared to actively engage in the Article 6 carbon market, substantial capacity building activities and support

are required for government decision makers and other public, private, and civil society stakeholders on applying the Article 6 rulebook, establishing robust national governance systems, and finding the balance between NDC compliance and potential benefits under Article 6.

GGGI is continuing to learn how to best support developing country governments to bridge their gaps in capacity. The organization's programs have already begun to enable host countries to demonstrate ownership of their Article 6 approaches, through the enactment of decrees officializing institutional arrangements for the steering committees and the signature of Letters of Interest and Memorandums of Understanding between potential buyers and sellers. Many have now formally signaled a strong interest in piloting a trade, spreading that confidence to other countries in their regions.

The Article 6 Readiness survey provides a snapshot of 29 of GGGI's Members and partners from developing and emerging economies, representing all regions of the world. The findings provide important insights into the state and perceptions of potential sellers regarding Article 6 readiness globally. In the survey, countries showed a keen interest in international carbon trading under Article 6. This interest in carbon trading builds on experiences gained with the Clean Development Mechanism (CDM), the Voluntary Carbon Market (VCM) and REDD+. It is boosted by a belief that carbon finance – the revenue stream generated through the sale of carbon credits – is an important tool for countries to meet their ambitious global climate objectives and achieve domestic sustainable development and green growth goals.

An overwhelming majority of survey participants indicated that their countries are considering participating under Article 6 (93%). The potential benefits of international trading were well understood by survey participants, but their eagerness to engage in transactions is tempered by their perception of regulatory, market, and capacity risks as well as some perceptions of lack of equity in the process of trading in this early phase of the market. 86% of participants indicated that they perceive risks and capacity gaps that could affect their participation and ambition. Exploring this phenomenon further, the survey examined several facets of readiness, including both functional capacity (measured in terms of the state of existing governance frameworks, current availability of capacity building support, private sector skills and experience) and confidence in the market (characterized by a common perception of an uneven playing field between sellers and buyers). Throughout the interviews with stakeholders, a clear and consistent request for support was revealed. Based on the Survey findings and the consultations of its Members and partners, GGGI has drawn the following conclusions:

1. **Potential seller countries are expressing their needs for substantially more capacity building support.** While some seller countries have gained market experiences from the CDM, Article 6 trading is likely to require more strategic planning and oversight and involves larger risks. Readiness support providers must carefully analyze opportunities and risks for seller countries and tailor training to the many different domestic audiences involved in implementing mitigation activities and transferring ITMOs. Cooperation among service providers and opportunities to share lessons learned among practitioners will be critical. Providing potential market participants with a consistent, reliable platform for knowledge exchange, including lessons learned and best practices, could help close the capacity gap.
2. **More piloting and “learning by doing” is critical for Article 6.2 implementation.** Rules, modalities and procedures need further clarification for the market to take off. Even once these are developed for Article 6.4 transactions, questions about how to undertake Article 6.2 transactions, which take place without the approval of the UNFCCC Supervisory Body, will remain. For Article 6.2 transactions, norms that lay out the proper processes and procedures can be developed only as transactions are implemented. Although not all countries are interested in being early movers (by, for example, beginning their Article 6 readiness journey by developing pilot mitigation activities), the learning by doing approach taken by many countries in partnership with potential buyers is essential to market development.
3. **Perceived gaps in equity between buyers and sellers must be addressed.** Carbon trading under Article 6 of the Paris Agreement involves a delicate mix of commerce and diplomacy. To maximize the GHG emission-reducing impact of the market (through creation of a vibrant, active market), buyers and sellers must be both able and willing to engage in transactions under optimal market

conditions agreed by both sides. Capacity building plays an important role in this regard; sellers must be fully engaged and capable of making decisions in their best interest. At the same time, partnerships rooted in the spirit of cooperation at the core of Article 6 can create a more “even playing field,” giving sellers the confidence they need to engage in transactions. Open and honest exchange of experiences between buyers and sellers can also build seller confidence.

There is a very strong interest in Article 6 carbon trading amongst almost all GGGI Members, though most countries – including sellers and buyers – are not yet prepared to participate, with very significant knowledge and capacity gaps still to be addressed. The Survey on Article 6 Readiness shows that potential sellers are keen to have an equal level of influence in the development of the market but require support to achieve this.

Through the CTP, GGGI will focus on addressing uncertainties like how the compliance and voluntary markets will interact, and eliminating barriers to equitable participation in the carbon market by scaling knowledge exchange and transfers.

During the GGGI Assembly and Council Meeting in October 2022, the Council approved the following decisions:

1. GGGI Council authorizes the Secretariat to establish the GGGI Carbon Transaction Platform as a program of GGGI, that will encompass all GGGI’s Article 6-related activities, both related to technical assistance (Article 6 readiness) and the operational support for ITMO trading through GGGI carbon trust funds. The CTP program will be managed by the Carbon Pricing Global Practice in IPSD.
2. GGGI Council authorizes the Director General to establish GGGI carbon trust funds, under the same conditions the Director General is authorized to establish GGGI Trust Funds, as detailed in GGGI’s Financial Regulations. GGGI Council requests the Director General to develop additional Financial Rules as may be required to operate such carbon trust funds and to consult MPSC on such additional Financial Rules before their approval and implementation.
3. GGGI Council decides that GGGI’s carbon transaction activities will be limited to developing and emerging economy seller countries in which GGGI operates, but authorizes the Director General to agree on carbon transaction readiness and purchasing activities with all interested donors and buyers, respectively, in the interest of GGGI Member and partner countries.
4. GGGI Council determines that GGGI’s objective to undertake CTP activities will be to enable the governments of both sellers and buyers among its Members and partner to develop, advance and scale up Article 6 carbon transactions in the mutual interests of buyers and sellers. Once an agreement to trade ITMO’s between buyers and sellers has been reached, the GGGI Secretariat is authorized to engage with the government as well as the private sector in seller countries

to develop and make available ITMOs for trade, and with the government as well as the private sector in buyer countries to purchase the ITMO's thus made available.

Looking forward to 2023, GGGI aims to mobilize additional resources to expand its capacity building and readiness technical support to more GGGI Members and partner countries, to meet the strong demand for such services. In addition, GGGI aims to operationalize the CTP described in this paper, both by establishing one or more carbon trust funds and by facilitating one or more government to government agreements to transfer mitigation outcomes internationally.

As GGGI Members and partners gain experience with the new carbon market under Article 6 of the Paris Agreement, GGGI aims to support its buyer and seller partners to come to a high volume of high-quality carbon transactions that will complement strong domestic action to meet ambitious NDC goals in buyer countries and mobilize significant climate finance to implement NDC roadmaps in seller countries.



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Based in Seoul, GGGI is a treaty-based international, inter-governmental organization- with 44 Members and over 20 countries and regional integration organization(s) in the process of accession - dedicated to supporting and promoting strong, inclusive, and sustainable economic growth in developing countries and emerging economies. With operations in over 30 countries, GGGI serves the role of an enabler and facilitator of Members' transition into a low-carbon green economy, providing policy advice and technical support in the development of green growth plans, policies and regulations, mobilization of green investments, implementation of green growth projects, and development of local capacities and knowledge sharing. Further information on GGGI's events, projects and publications can be found on

www.gggi.org.



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