

GLOBAL KNOWLEDGE FORUM 2026 ON CARBON PRICING & MARKETS

May 18 - 19, 2026

Suntec Convention Centre
Singapore

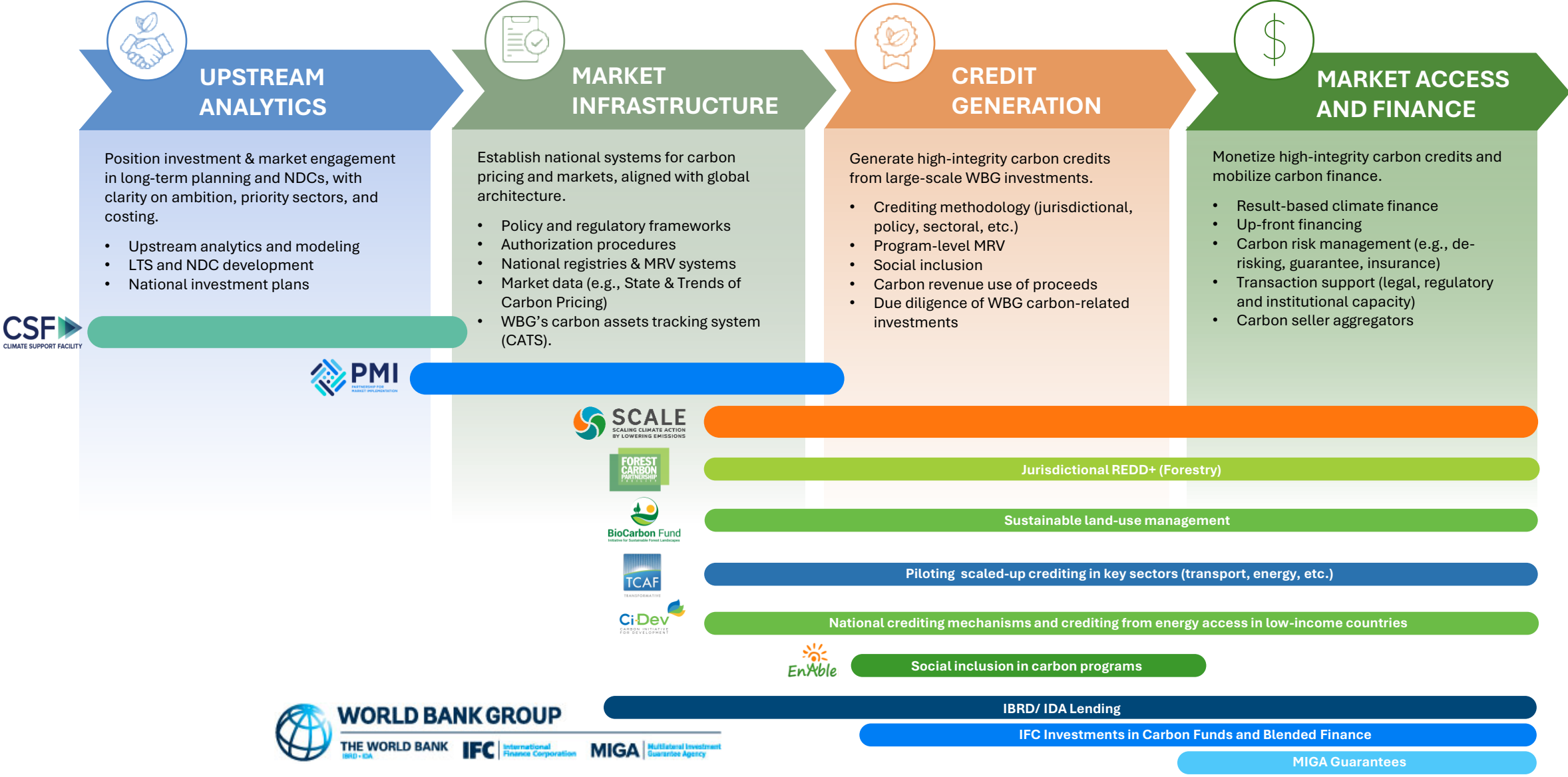


WORLD BANK GROUP



WORLD BANK GROUP SUPPORT TO THE CARBON MARKETS VALUE CHAIN – FROM COUNTRY STRATEGIES TO MARKET ACCESS AND FINANCE

Supporting countries on their pathways to generate and monetize high-integrity carbon credits



**AGENDA
DAY 2**

**MOVING TO
PARTICIPATION
&TRANSACTIONS**



09:00 am | **WELCOME & WELCOME BACK**

B1

09:30 am | **GLOBAL DIALOGUE >** State of international carbon markets

B2

10:40 am | **DECISIONS >** Navigating decisions on carbon markets

12: 10 pm | LUNCH

B3

01:10 pm | **LEGAL IMPLEMENTATION >** A framework to access markets

B4

02:25 pm | **TRANSACTIONS >** Buyers and intermediaries' expectations

B5

04:00 pm | **KNOWLEDGE MARKETPLACE >** Country climate toolbox

B6

05:00 pm | **CLOSING REMARKS >** Partnerships for development



SESSION B1 GLOBAL DIALOGUE

State of International carbon markets and seeing the opportunity

Fireside Chat

H.E. Ambassador Ali Mohamed

Special Envoy for Climate Change Executive Office of
President
Kenya

H.E. Marie Nyange Ndambo

Minister of Environment, Sustainable Development and
New Climate Economy
Democratic Republic of the Congo

Moderated by **Mark Kenber**, Executive Director, Voluntary Carbon
Markets Integrity Initiative (VCMI)

Knowledge Update



Seoyoung Lim

Program Officer, Mitigation, **UNFCCC**

Harikumar Gadde

Minister of Senior Climate Change Specialist, **WBG**

PACM

Paris Agreement Crediting Mechanism

Recent Developments and the Way Forward

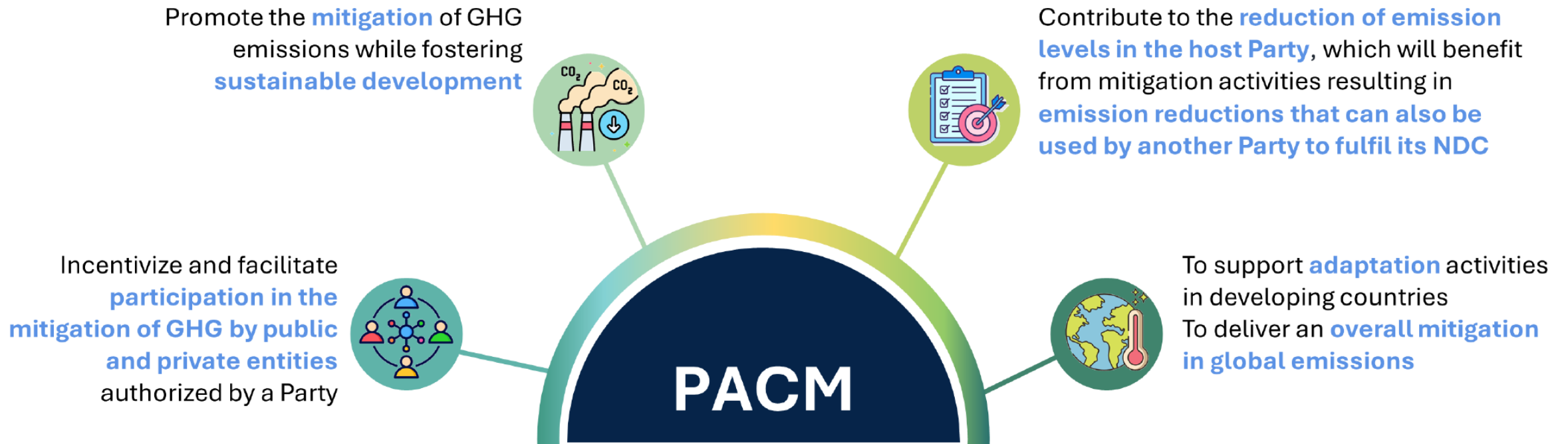
19 May 2026, Singapore



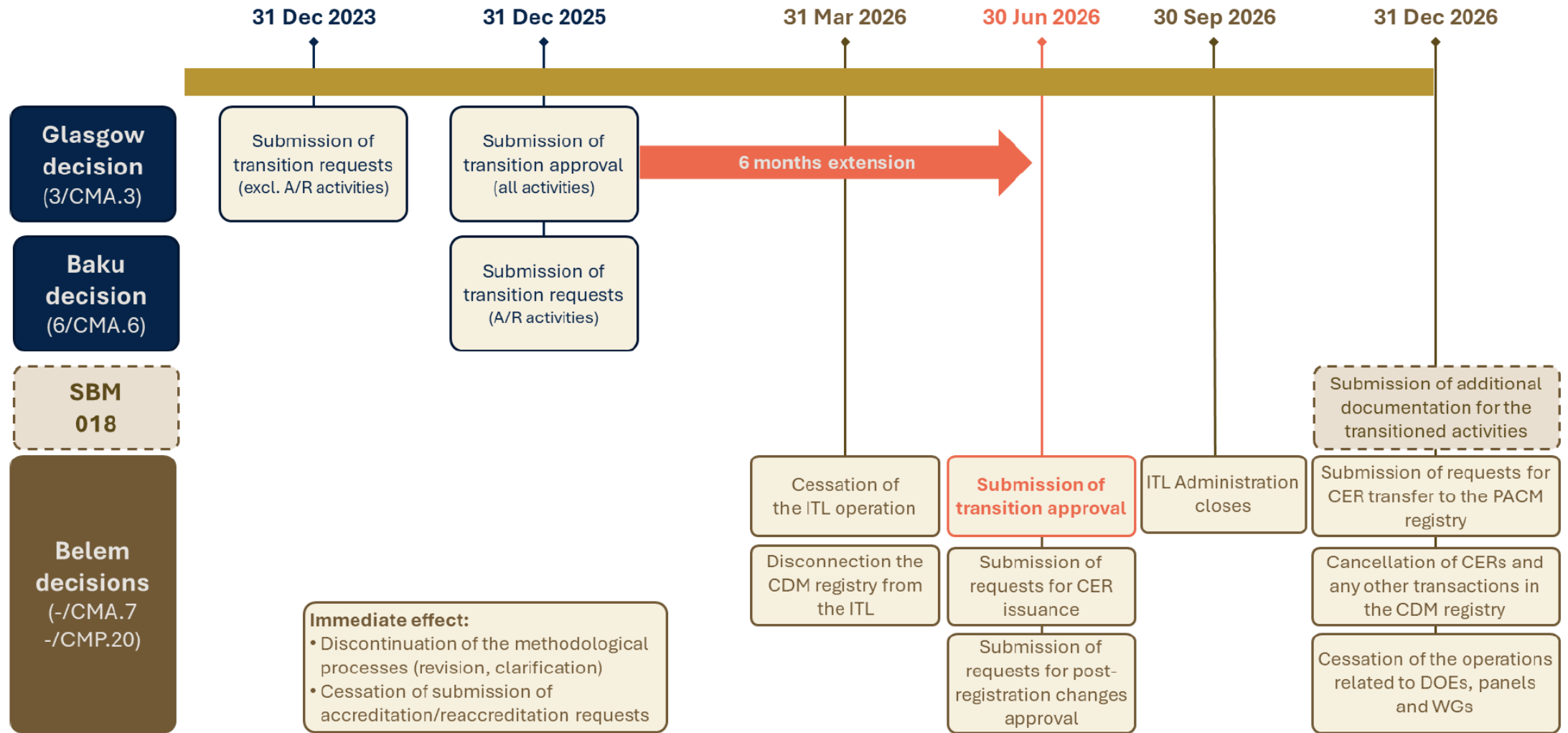
United Nations Markets and Non-Markets Support and
Climate Change Stakeholders Interaction Subdivision

Paris Agreement Crediting Mechanism (PACM)

- Paris Agreement Crediting Mechanism (PACM) is the **new centralized UNFCCC** baseline-and-credit mechanism and **the only multilateral mechanism** with universal applicability for public and private sector



CDM to PACM: CDM Wind Down Timelines



PACM Implementation Status (as of 18 May 2026)



Host Parties

- **127** of 194 Parties to the Paris Agreement have designated their **DNAs**
- **55** Parties submitted **Host Party Participation Requirements** Forms



Activities / DOEs

- Out of **1,511 CDM transition requests**, **213** have received **host Party approval**, with **22** of these **registered** as PACM activities
- **1,150 prior consideration notifications** from **107 host Parties** underway
- **14 DOEs accredited** out of 28 applicants



Methodologies

- **First PACM methodology** (A6.4-AMM-001: Flaring or use of landfill gas) adopted at SBM 19 (29-30 Oct 2025)
- Methodology development will continue to be prioritised in 2026

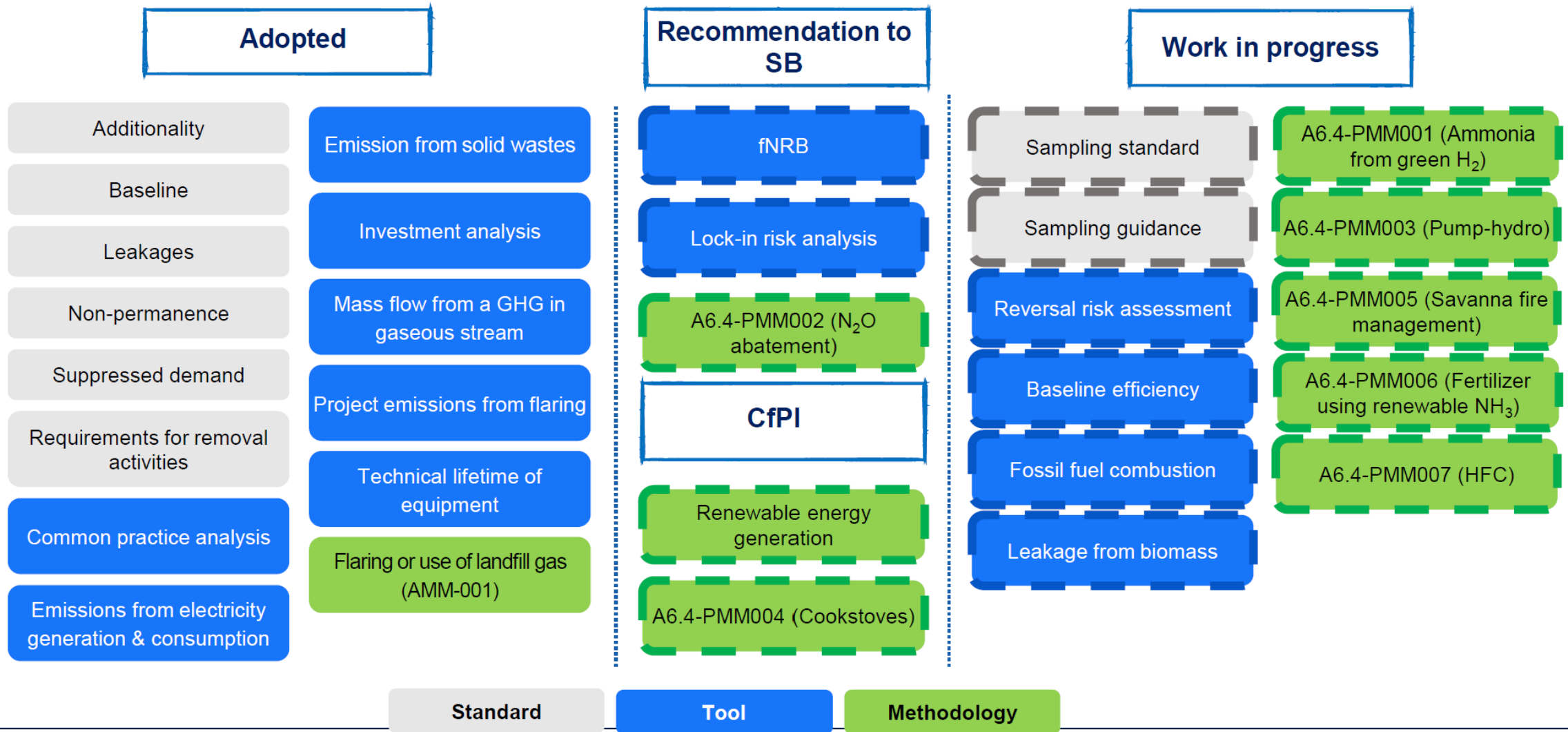


Issuance

- **Four issuance requests** have been submitted from transitioned CDM activities

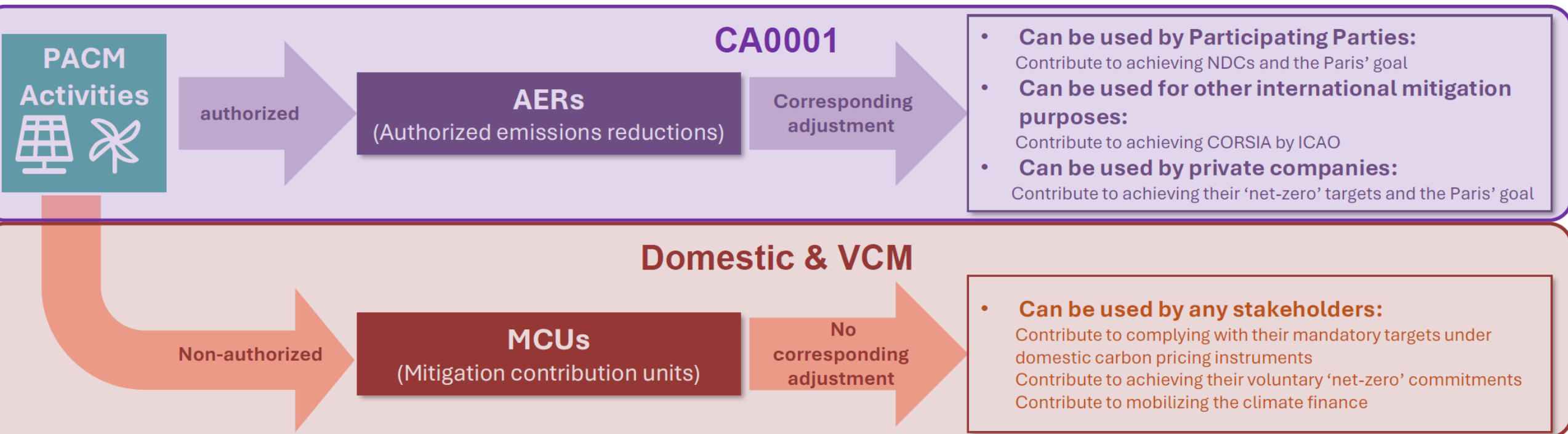


PACM Methodological Progress (as of 18 May 2026)



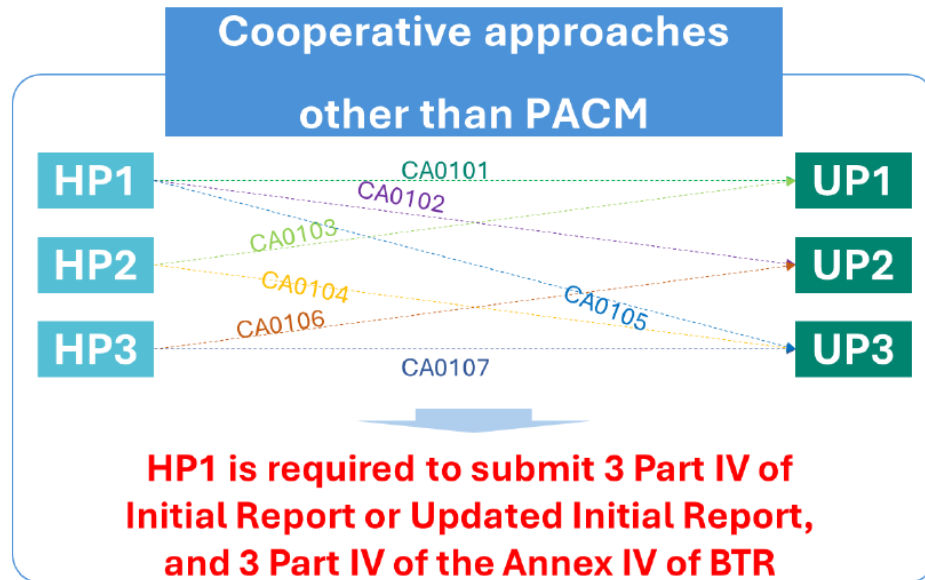
PACM: Universal Use for Contributing to the Paris Goals

- Article 6.4 Emission Reductions (**A6.4ERs**) can be used in **both compliance and voluntary carbon markets**, subject to **authorization** by the host Party
- Mitigation Contribution Units (**MCUs**) can be used for **domestic purposes, including carbon pricing instruments**, without triggering Article 6.2 reporting and accounting requirements for the host Party, while enabling users to contribute to the Paris goals

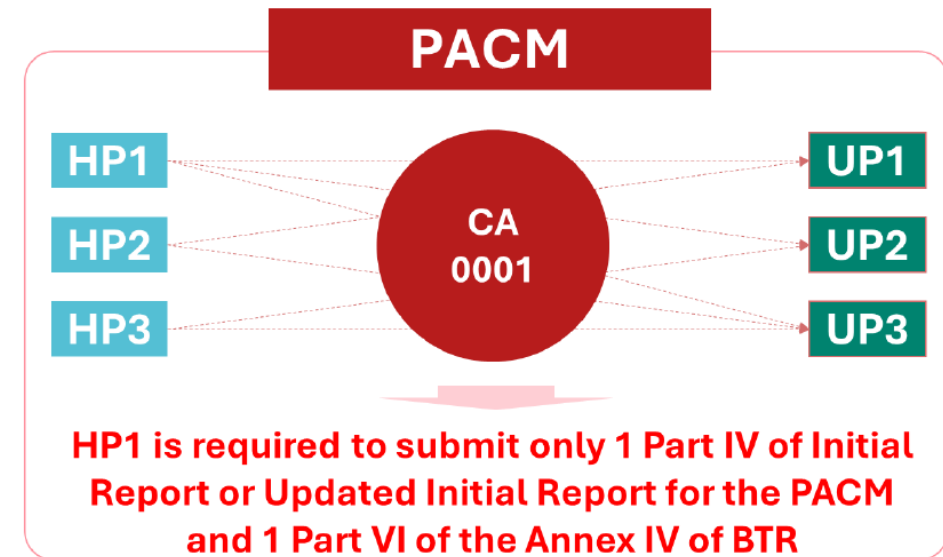


Engaging with PACM as Cooperative Approach CA0001

- Participation in the PACM offers several benefits, inter alia, including the **flexible use of emission reductions** and the **ease of Article 6 reporting** through **full interoperability** between the Article 6.2 infrastructure and the PACM registry



HP: Host Party / UP: Using Party



Engaging with PACM for Domestic and Voluntary Markets



Compliance credits for domestic carbon pricing policies
(e.g. offset credits for ETSs and carbon taxes)



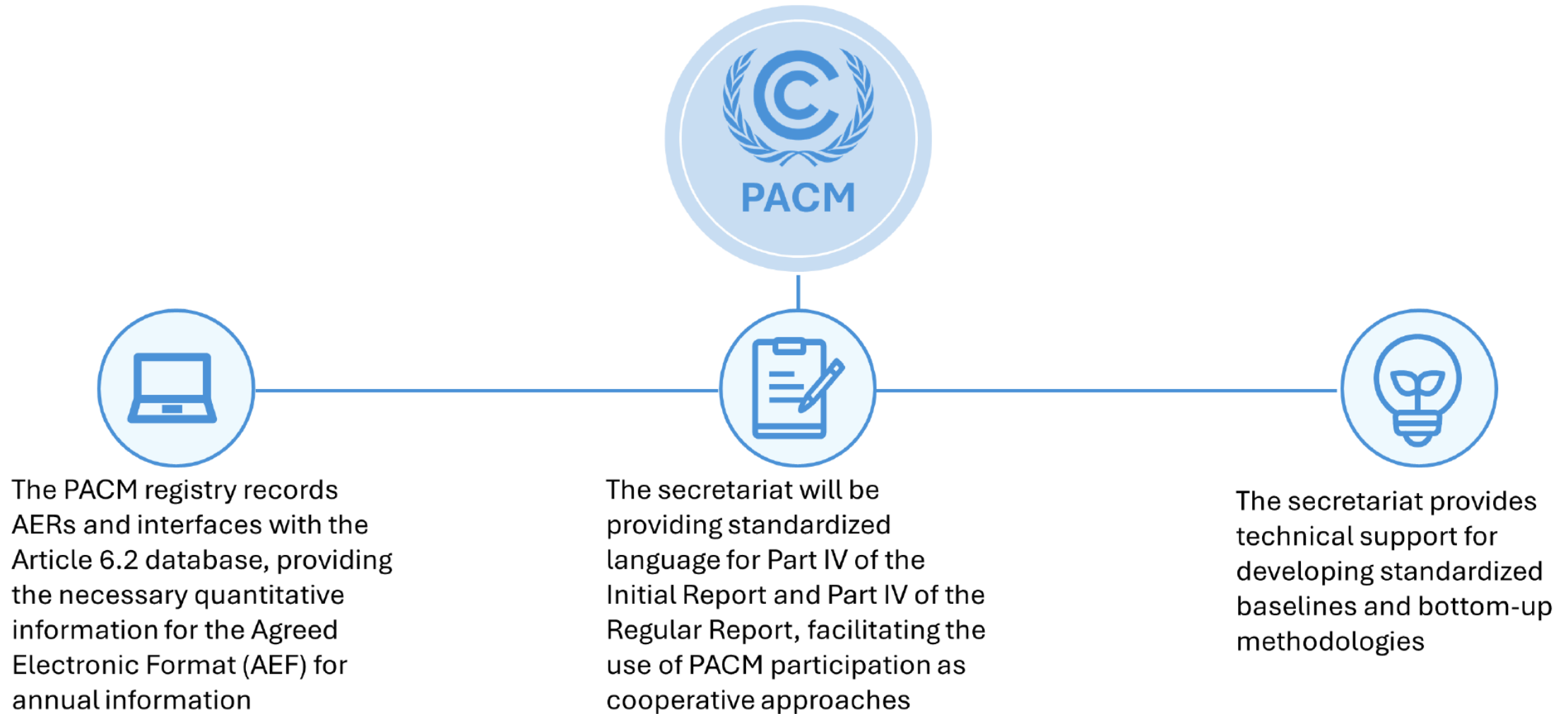
Voluntary commitments for private sector
(e.g. ESG, voluntary net-zero commitments)



Results-based finance
(e.g. REDD+)



Secretariat support for participation in the PACM



Knowledge Update: State of International Carbon Markets



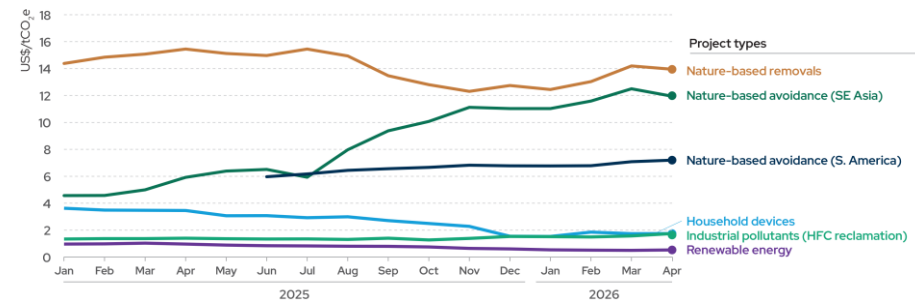
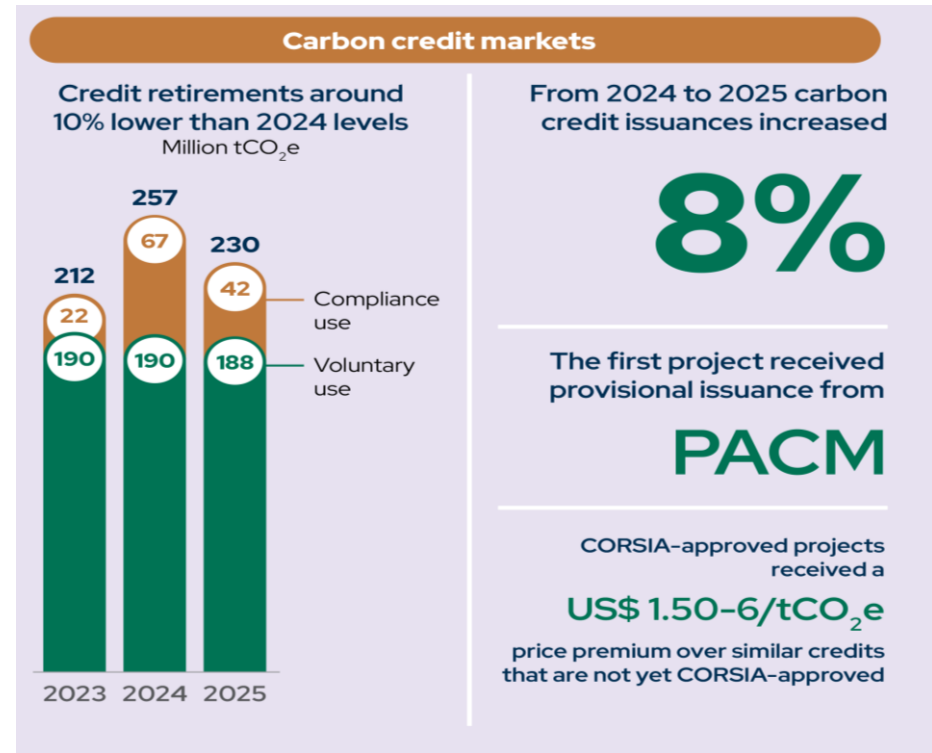
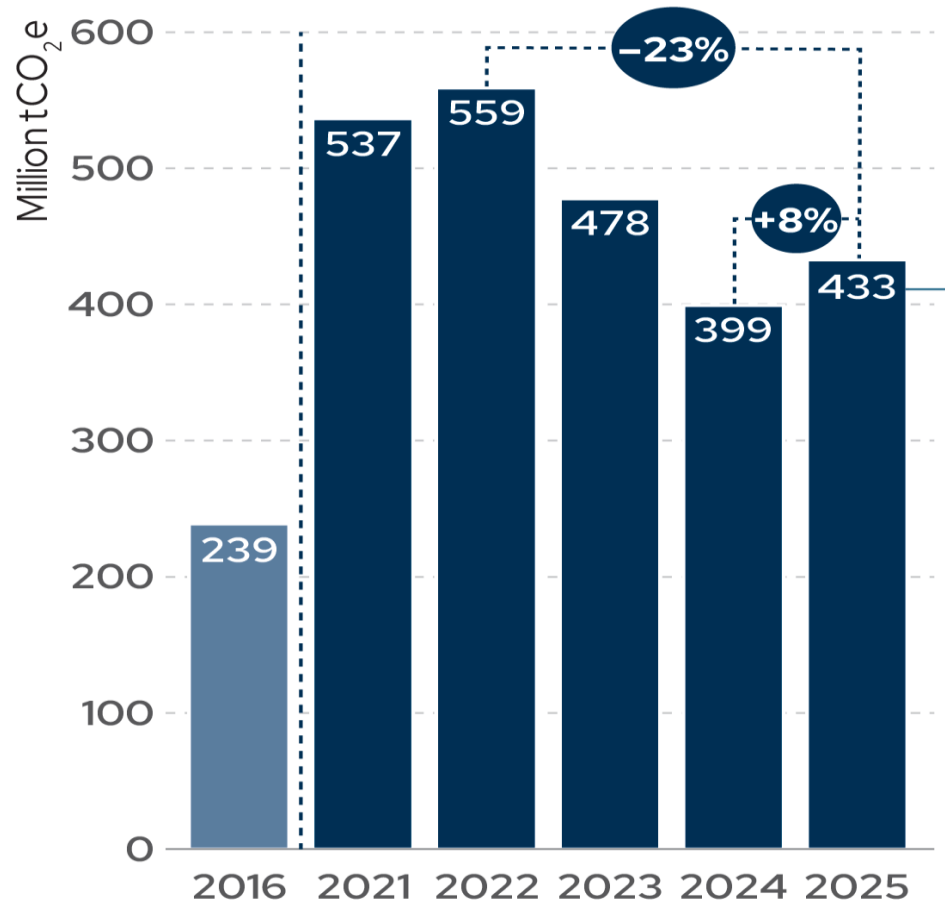
Harikumar Gadde, World Bank Group
May 19, 2026



Official Use Only

State of International Carbon Markets 2026

Carbon credit issuances, 2016 and 2021–2025



Carbon Markets are Undergoing Structural Transition

What's happening	What's emerging	What this means
Shift: Volume to quality	Article 6 Markets	Policy driven
Weak supply exits	NDC integration	Higher integrity
Price stabilization	Carbon pricing tools	Finance linkage

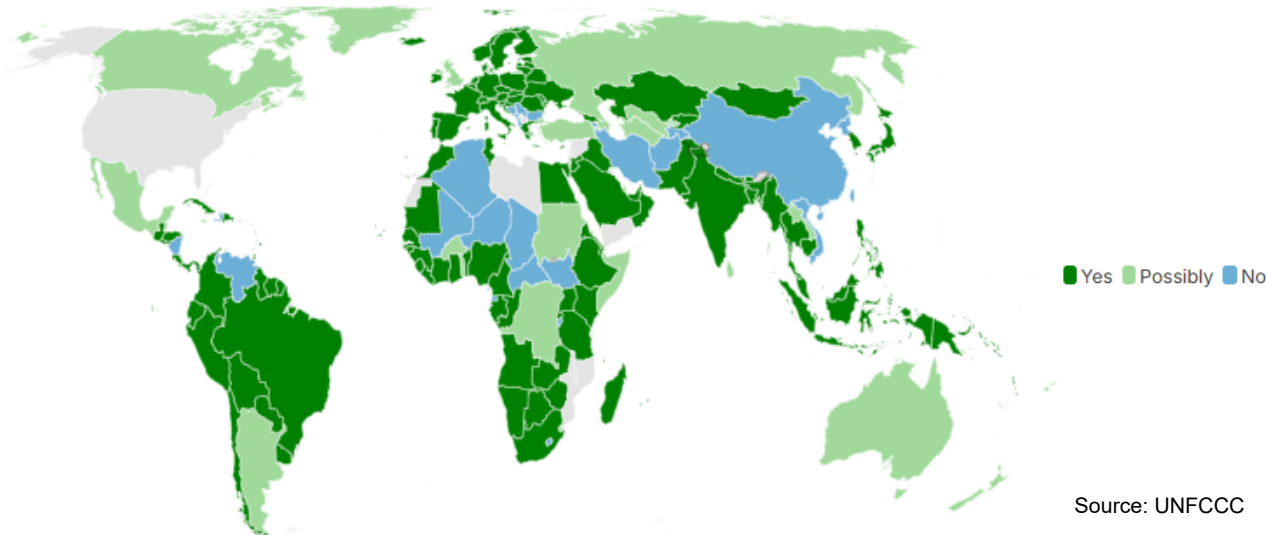
A new phase — **driven by authorization, integrity standards, and compliance demand** — is scaling up.

- **The VCM moved from growth to correction.** The market is smaller but more integrity-focused
- **Integrity labels moved from theory to market infrastructure. ICVCM CCP** (Core Carbon Principles) approvals are starting to define which credit categories are bankable, but the process also shows many methodologies will need revision.
- **Corporate claims rules are being rebuilt. VCMi's** Scope 3 framework and **SBTi** revisions reflect a shift from “offsetting neutrality claims” toward limited, evidence-based use of high-quality credits alongside real evidence-based decarbonization.

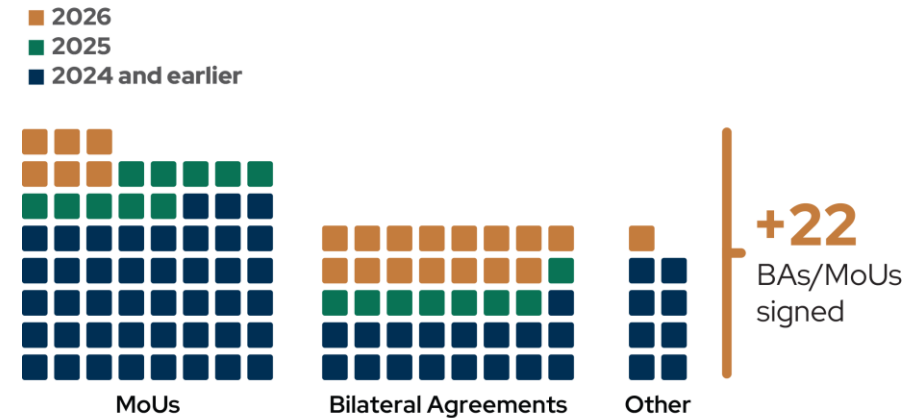
Scale of Carbon Markets will be Determined by Sovereign Authorization

- Authorization became synonym to high integrity;
- Policy makers are 'inadequately' prepared to navigate the dynamic and multidimensional authorization decision space;
- Need for 'additional' tools such as carbon budget calculations

Countries signalling interest in Article 6



Signed as of April 1:



Note: Bilateral Agreements and MoUs arranged in order of signing date. Includes MoUs under Japan's Joint Crediting Mechanism (JCM)

Of **108** BA/MoUs, to date only 4 projects have issued and transacted ITMOs, with no issuances since 2024

	Host	Buyer	Project type	Issuances (ktCO ₂ e)
1	Thailand	Switzerland	Transport	1.9
2	Ghana	Switzerland	Cookstoves	11
3	Maldives	Japan (JCM)	Energy	0.43
4	Thailand	Japan (JCM)	Energy	1

There are Emerging Market Forces that Will Keep the Demand Side Discussions Promising

Short Term

01

Compliance Markets

29%

global emissions under carbon price

	Maximum percentage of carbon credits allowed	Actual retirements, percentage of maximum allowed	ETS Compliance period end date
Colombia carbon tax	50%	61%	2026
South Africa carbon tax	10%	7%	N/A
Washington cap-and-invest	5%	1%	2025
Republic of Korea ETS	5%	8%	N/A
California cap-and-invest	4%	92%	2026

Note: ETS allowances and carbon credits for a given year are typically retired the following year (e.g., units surrendered for 2025 GHG emissions are surrendered during 2026).

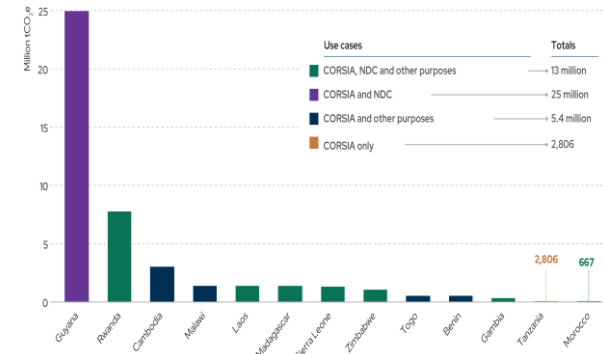
ETS
Carbon tax

02

CORSIA (Aviation)

~100-200 Mt

Phase 1 (2024-2026) demand



*Credits in this stage will become eligible for Article 6.2 (NDC or CORSIA compliance, and other purposes) once a corresponding adjustment is issued

Medium Term

03

EU Credit Policy

~200-400 Mt

Under the EU 2040 target

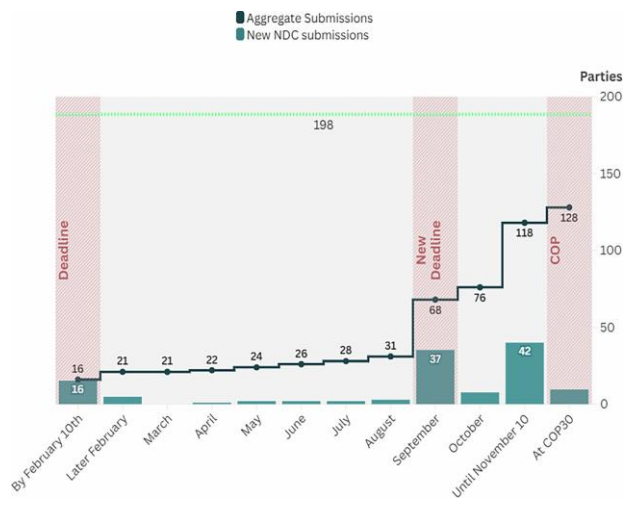
Long Term

04

Next Gen NDCs

170+

countries submitting 2035 targets



Coalition to Grow Carbon Markets (founded by UK, Singapore and Kenya) picks up momentum to drive demand for carbon credits

Market Infrastructure that Balances interoperability with Country Sovereignty will define the Integrity of the Carbon Market

① Registry Interoperability

National, UN (PACM), and standard registries need seamless data exchange. COP29 two-tier framework + CADT provide the architecture.

② SClaaS

Sovereign Carbon Infrastructure-as-a-Service. Few launched white-label national registry platform for Article 6.2 under full sovereign control.

③ Financial Integrity

Clear ownership rights, indemnity frameworks, and delivery insurance are essential. CORSIA Guarantee Insurance now emerging to unlock supply.

④ Digital MRV + Tokenization

Satellite MRV, AI verification, and blockchain-based credit lifecycle tracking are moving from concept to live deployment.

- **Integrity labels moved from theory to market infrastructure. ICVCM CCP** (Core Carbon Principles) approvals are starting to define which credit categories are bankable, but the process also shows many methodologies will need revision.



SESSION B2 DECISIONS

Navigating Decisions on Carbon Markets

Knowledge update



Kazuhisa Koakutsu
Director, Article 6 Implementation Partnership

Stocktaking Article 6 Implementation Progress

Key Findings from the Paris Agreement Article 6
Implementation Status Report (A6ISR)

Kazuhisa Koakutsu, Director
Article 6 Implementation Partnership (A6IP) Center

Article 6 Implementation Status Report

Objectives

A6IP's flagship report, published annually:

- Provides an overview of Article 6 implementation status at country, regional and global level ;
- Offers a detailed account of Article 6 and voluntary carbon market activities, using a database compiled by A6IP in cooperation with partners;
- Informs stakeholders on the strategic direction of Article 6 implementation;

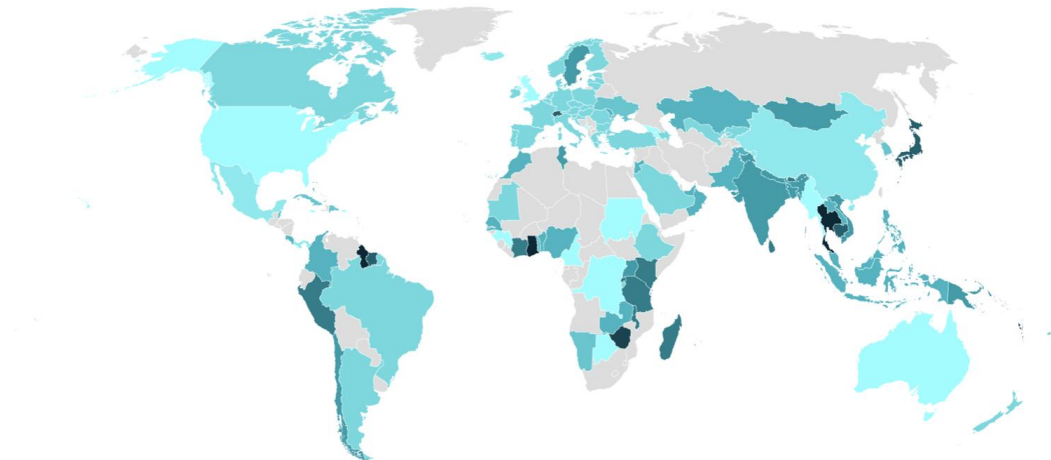
Contents

1. Executive Summary
2. Article 6 Implementation Status (Institutional arrangement, authorization, reporting, tracking)
3. Article 6 and Voluntary Markets' Status (bilateral cooperation, CDM transition, project activity data and summary)
4. Private Sector Perspectives
5. Increasing Ambition with Article 6 for NDCs



Implementation Status of Article 6.2 Guidance

Progress on authorization, tracking, and reporting



Partners: The World Bank, IETA, UNEP-CCC

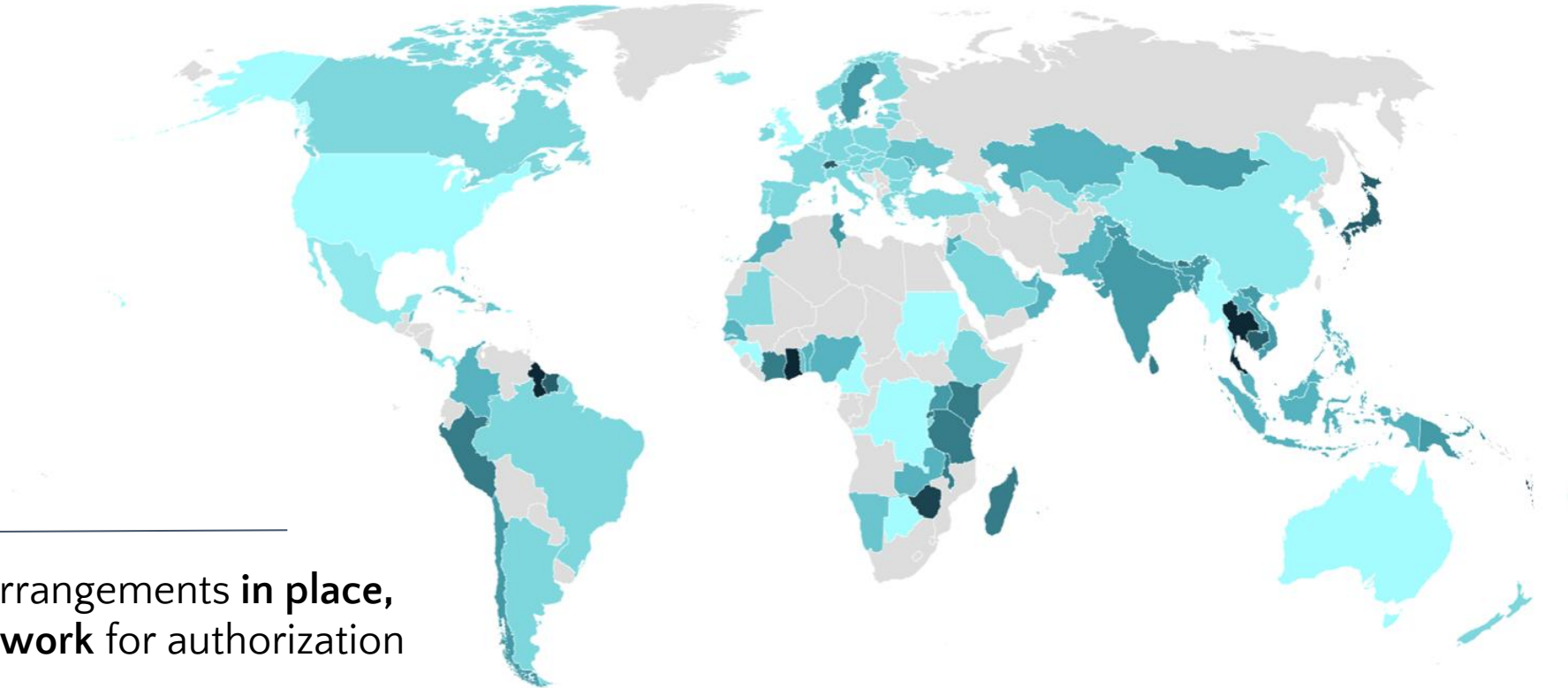
Article 6.2

- 14 parties with **both** authorization and tracking **in place**
- 20 initial reports on UNFCCC CARP
- 86 Parties authorization and/or tracking arrangements **in place, in progress, or under consideration**

-
- 27 Parties have authorization arrangements **in place**, with 33 **policy/strategy/framework** for authorization arrangements identified
 - 15 Parties with tracking arrangement **in place**, with 27 **registries** identified
 - 5 Parties have submitted **annual information** through AEF, and 4 Parties have included details relevant to **regular information** in BTR

Implementation Status of Article 6.2 Guidance

Progress on authorization, tracking, and reporting

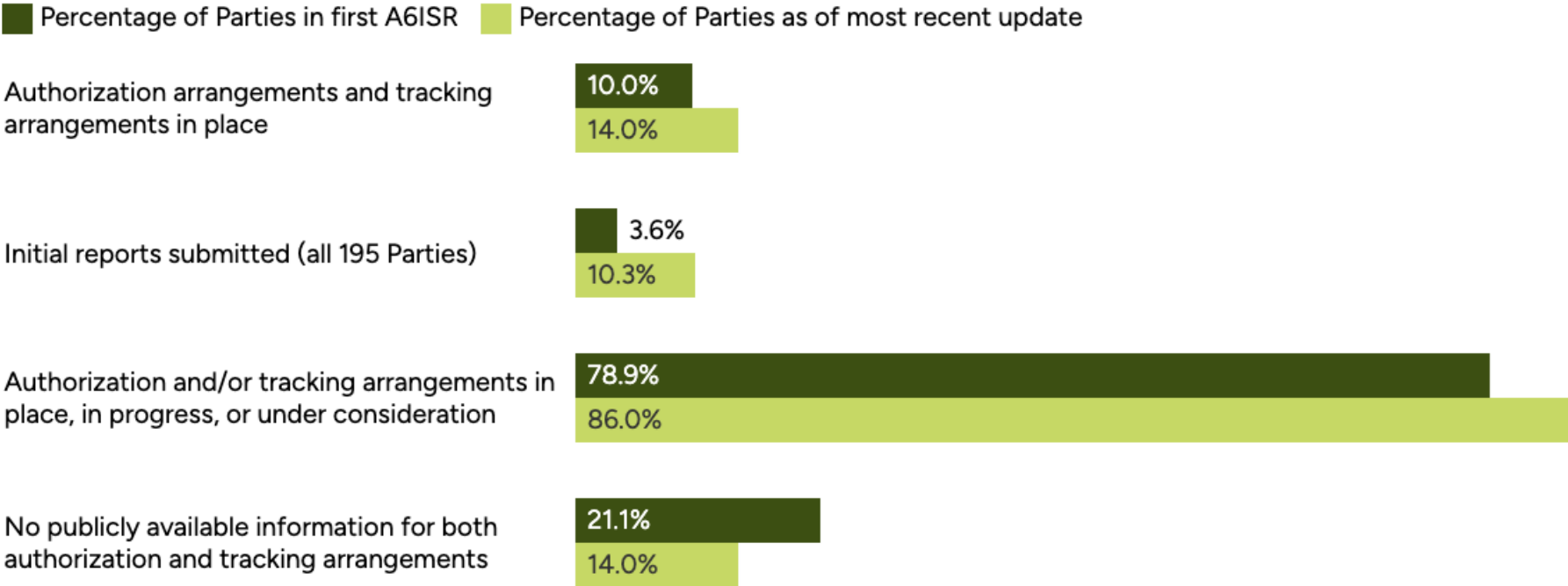


Updated Apr. 15, 2026

Article 6.2

Global readiness for implementing Article 6.2 remains limited, but is gradually increasing from the first iteration of the A6ISR.

Progress of Article 6.2 Guidance Implementation Over Time



Updated Apr. 15, 2026

TABLE EXERCISE > CASE STUDIES



< **Case study 1, Country A**

(Tables 1 – 9)

Case study 2, Country B >

(Tables 10 – 19)



< **Case study 3, Country C**

(Tables 20 – 28)



Case studies

Frank Gwaba

Senior Climate Change Officer, Department of Environment & Climate Change, Ministry of Green Economy & Environment, **Zambia**

Ousmane Fall Sarr

Coordinator, **West African Alliance** for Carbon Markets and Climate Finance

Sarah Quek

Senior Assistant Director, International Trade (Green Economy and Sustainability) and Carbon Markets Division, Ministry of Trade and Industry, **Singapore**

Moderated by **Kazuhisa Koakutsu**, Director, Article 6 Implementation Partnership



REPUBLIC OF ZAMBIA

**MINISTRY OF GREEN ECONOMY AND
ENVIRONMENT**

**CARBON MARKET DEVELOPMENT AND PROJECT
PREPARATION IN ZAMBIA**

Frank Gwaba

Senior Climate Change Officer - Mitigation

CONTENTS

1. Carbon Market Regulations & Framework
2. Institutional Arrangements
3. Assessment & Approval Process
4. Fees & Share of Proceeds
5. Project Development & Pipeline
6. Bilateral Agreements
7. Conclusion

BACKGROUND

- Under the Eight National Development Plan , the Ministry of Green Economy and Environment identified Carbon Markets and trading as modalities that would help achieve Zambia's Carbon emission reduction targets.
- The Ministry with support from the Supporting Preparedness under Article 6 Cooperation (SPAR6C) program, published strengthened Guidelines for the submission and evaluation of Article 6 Mitigation Activities as Part I of Zambia's Carbon Market Framework (CMF).
- Following this, the full iteration of the Carbon Market Framework, the Green Economy and Climate Change Act No. 18 of 2025 and Statutory Instrument No. 5 Carbon Market Regulations 2026 have been published and operationalized.

1. Carbon Market Regulations & Framework

❖ Three key principles that form the basis of participation in carbon markets in Zambia

➤ **Environmental Integrity**

- Mitigation Outcomes measured in accurate, transparent, conservative and reproducible manner.

➤ **Ambition Raising**

- Mitigation activities to contribute to transformational changes for Nationally Determined Contributions. Ambition raising that aligns mitigation activities with pathways to achieve the long-term goal of the Paris Agreement and the 2030 Agenda.

➤ **Sustainable Development**

- Article 6 mitigation activities must contribute to sustainable development in Zambia.

Market Opportunities for Carbon Projects in Zambia

- ❖ **Article 6.2** – Trading emission reduction certificates, International Transferable Mitigation Outcomes (ITMOs), under a Bilateral Agreement signed between Zambia and a buyer country.
- ❖ **Article 6.4** – Trading emission reduction certificates with a buyer after registration of mitigation project by the Article 6.4 Supervisory Body (in progress)
- ❖ **Voluntary Carbon Market (VCM)** – Sale of emission reduction certificates under a VCM standard to a private buyer.
- ❖ **VCM with Corresponding Adjustment** – Sale of high-quality emission certificates with corresponding adjustment under a VCM standard to a private buyer.

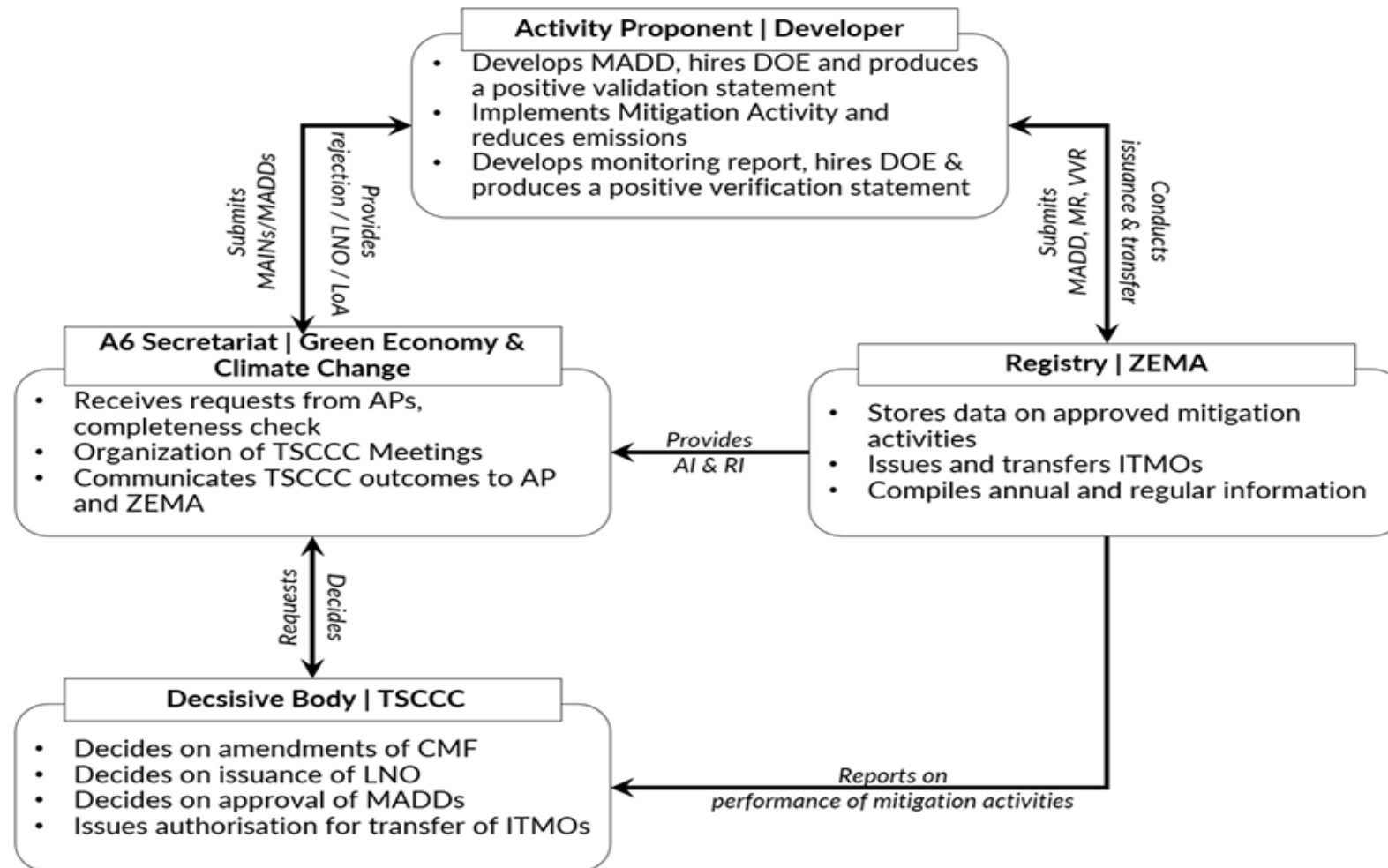
2. Institutional Arrangements

1. The Green Economy and Climate Change Act and Carbon Market Regulations have established institutional processes for the coordination of carbon market activities in Zambia.

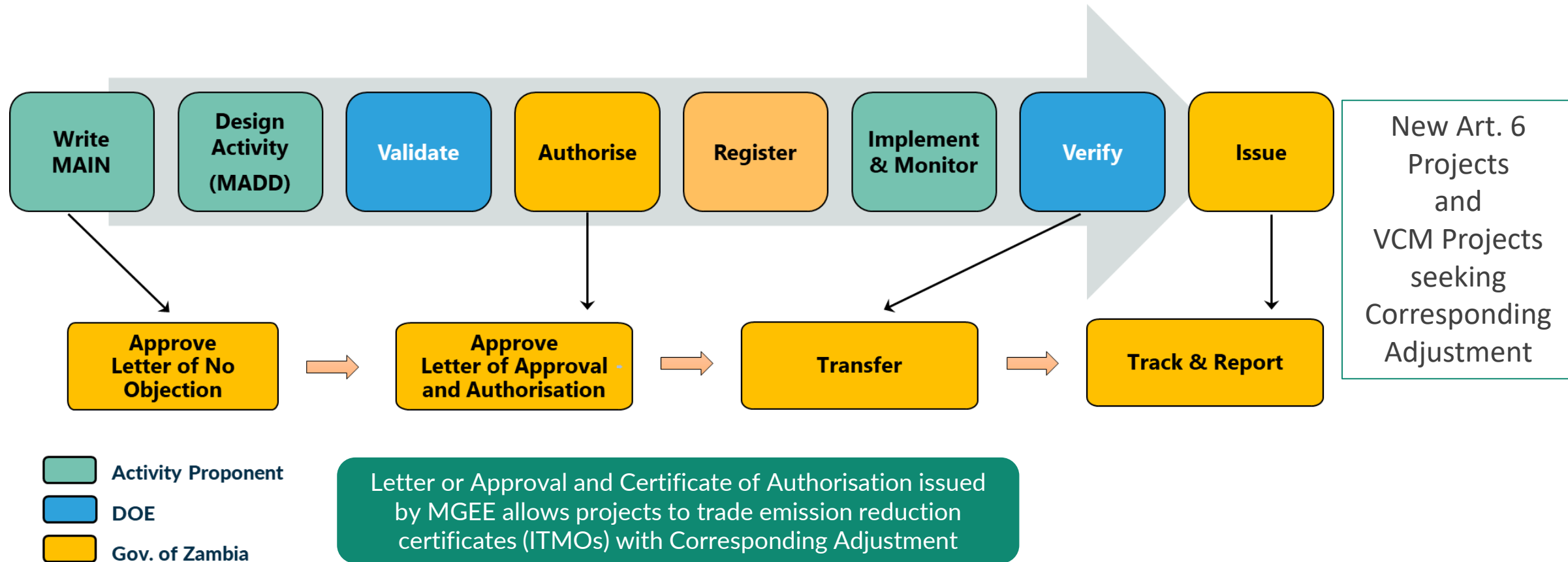
MGEE Department for Green Economy & Climate Change	MGEE is responsible for overseeing the regulation of carbon markets (A6 and VCM) and bilateral engagements with prospective Article 6.2 Acquiring Parties.
Technical Committee on Green Economy and Climate Change	Serve as the technical working group for operationalizing of Carbon Markets (A6, and VCM) and is the authority for assessing, approving, or rejecting A6 opportunities/activities
Zambia Environmental Management Agency	Fulfils technical requirements under the UNFCCC and the Paris Agreement including the MRV and accounting, GHG inventory, carbon registry operations, reporting and corresponding adjustments
Secretariat	Secretariat functions to the TC-GECC are provided by the Ministry of Green Economy and Environment (MGEE), Department for Green Economy & Climate Change, including the screening of carbon project submissions to the TC-GECC

2. The Green Economy and Climate Change Act has further promulgated the establishment of a national Carbon Registry and Integrated Measurement, Reporting & Verification System - the establishment of a National Carbon Registry is complete and will be integrated with the National Measurement, Reporting & Verification System (iMRV) which is in the process of being developed.

Carbon Project Activity Cycle



3. ASSESSMENT & APPROVAL PROCESS



PROJECT ELIGIBILITY CRITERIA & INDICATORS

Environmental Integrity Criteria

Ind. 1: Eligible mitigation activity type i.e., alignment of mitigation activities with Zambia's NDC

Ind. 2: Additionality demonstrated through investment analysis and regulatory surplus

Ind. 3: Activity baselines in compliance with NDC target

Ind. 4: Estimation of the required carbon price to achieve financial viability

Ind. 5: Addressing non-permanence risks (LULUCF activities)

Ind. 6: Alignment with IPCC methodologies and best practices for GHG estimations

Ind. 7: Blending of financing sources

Ind. 8: Minimization of uncertainties of GHG estimations

Ind. 9: Leakage risks shall be minimized

Sustainable Development Criteria

Ind. 10: Contribution to SDGs

Ind. 11: Obtain an EIA or Strategic EIA as required by law

Ind. 12: Assess ex-ante SD impacts

Ind. 13: SD as a monitoring parameter

Ind. 14: Agreed benefit sharing plan

Ind. 15: Comprehensive stakeholder consultations

Ambition Raising Criteria

Ind. 16: Contribution to transformational change

4. FEES & SHARE OF PROCEEDS

Category	Fee Unit	
Concept Note (One-time fee upon submission)	Local Developer	\$500
	International Developer	\$1,000
Project Proposal (One-time fee upon submission)	Local Developer	\$2,000
	International Developer	\$4,000
Application for Certificate of Authorisation to Trade in Carbon Credits (for Voluntary Carbon Projects without Corresponding Adjustment)	Local Developer	\$2,000
	International Developer	\$4,000
Application for a Duplicate Certificate of Authorisation to Trade in Carbon Credits (for Voluntary Carbon Projects without Corresponding Adjustment)	Local Developer	\$2,000
	International Developer	\$4,000
Application for registration as a verifier	Local Verifier \$500	
	International Verifier \$1,000	

- Share of Proceeds applicable to the transfer of carbon credits as Mitigation Outcomes based on issuance during the entire crediting period

Amount of Mitigation Outcomes for a single project or mitigation activity	Payment per Mitigation Outcome
For the first, 1-50,00	\$1.00
50,001 – 100,000	\$1.50
100,001 and above	\$2.00

5. PROJECT DEVELOPMENT & PIPELINE

Over 80 projects are currently in Zambia's project pipeline with over 50% being potential A6 projects. 3 of those projects were selected as pilot activities for project development support under SPAR6C. The 3 projects are;

- i. Kafue Sugar; 40MW Renewable Energy Project
- ii. Art. 6-based national Clean Cookstove Program
- iii. Green Tourism Project



ECS National Cookstove Program

Creation of an open platform that supports scaling up modern cooking in Zambia using digital MRV by Emerging Cooking Solution



Green Tourism Project

Promote sustainable forest and agriculture management, energy efficiency, renewable electricity generation and sustainable green transport by Ministry of Tourism



Kafue Sugar Project

Installation of a Biomass Plant for the generation of electricity from Biomass by Consolidated Farming Ltd.

SECTORS IN ZAMBIA'S PROJECT PIPELINE

Forestry

Energy:
Renewable

Energy: Clean
Cooking

Agriculture &
Livestock
Management

Waste

Mining

6. BILATERAL AGREEMENTS

- The launch of Zambia's Carbon Market Framework created a positive perception of Zambia's readiness to participate in Article 6 transactions amongst international buyer countries.
- The following countries have, to date, shown interest engaged in cooperative approaches with Zambia:
 - ❖ Sweden (Bilateral Agreement signed November 2024)
 - ❖ Norway (Bilateral Agreement signed November 2024)
 - ❖ Singapore (MoU signed November 2024 and Bilateral Agreement negotiations underway)
 - ❖ Switzerland (Bilateral Agreement signed November 2025)

7. CONCLUSION

- The CMF provides information to project developers to align projects to environmental integrity, ambition raising and sustainable development during the development of their projects.
- The Act encourages private sector investment in green initiatives, offering carbon finance as a tool for project bankability for organizations implementing mitigation activities and generating carbon credits
- Furthermore, the Act and Regulations together form a robust governance structure for carbon markets covering both forest and non-forest carbon projects, aligning with international agreements and allowing Zambia an opportunity to meet its climate targets.

THANK YOU



Singapore's Approach to Article 6 Cooperation

Global Knowledge Forum
19 May 2026

Sarah Quek, Senior Assistant Director
International Trade Division (Green Economy & Sustainability)



Overview of Singapore's Article 6.2 Partnerships

11 Implementation Agreements (IAs)

** 5 open for project applications*

14 Memorandum of Understanding (MOUs)



Singapore Government is sending strong market signals that we are a ready and committed buyer of credits

Sep 2025:

Contracted high quality nature-based credits from four projects in Ghana, Peru and Paraguay, at a value of about USD 60 million

Jan 2026:

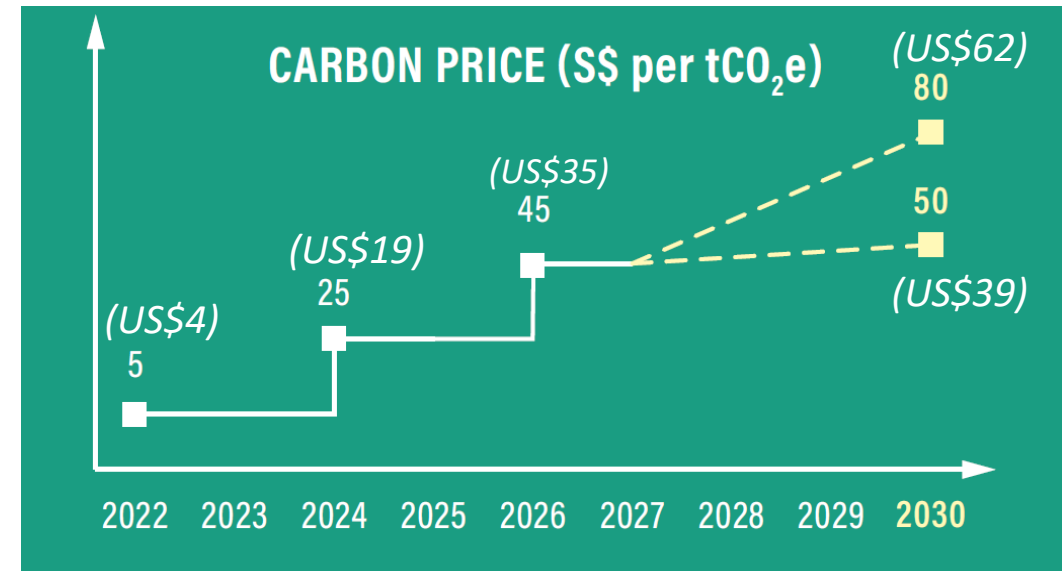
Second RFP closed — healthy number of bids received

Oct 2025:

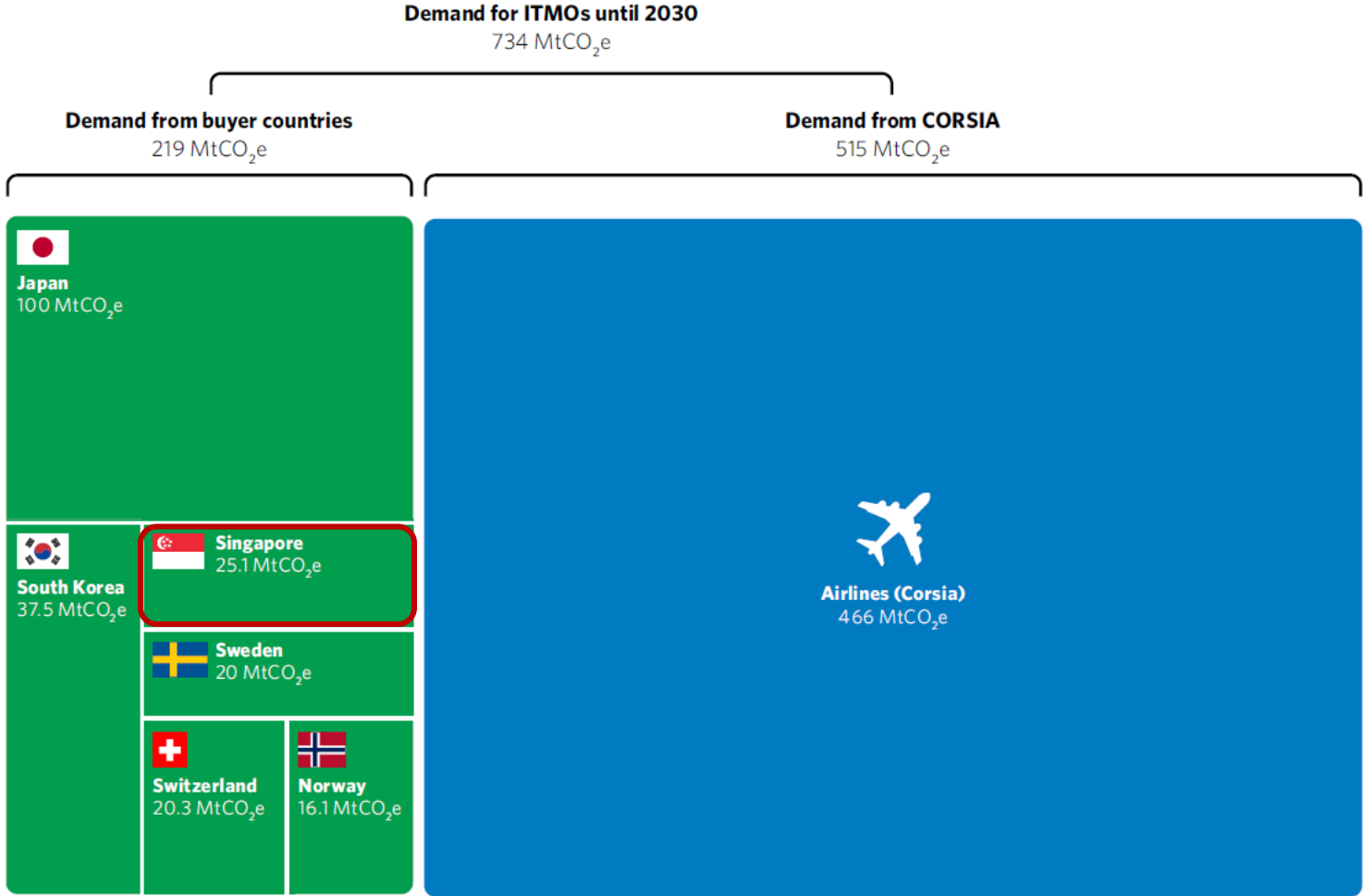
Launched second RFP for tech- and nature-based credits, to be sourced from IA partner countries

We also allow carbon tax-liable companies to surrender A6-eligible credits to offset up to 5% of their taxable emissions.

- Under Carbon Pricing Act, Singapore's taxable facilities can offset up to 5% of taxable emissions with Article 6 credits, spurring market demand
- Singapore first implemented our broad-based carbon tax in 2019, covering ~70% of our emissions
- Sets a credible price on carbon, with a clear trajectory
- For project developers, this creates pricing certainty that helps with investment decisions



Singapore is not the largest source of demand for compliance credits globally — but we want to help build the infrastructure for a robust global market

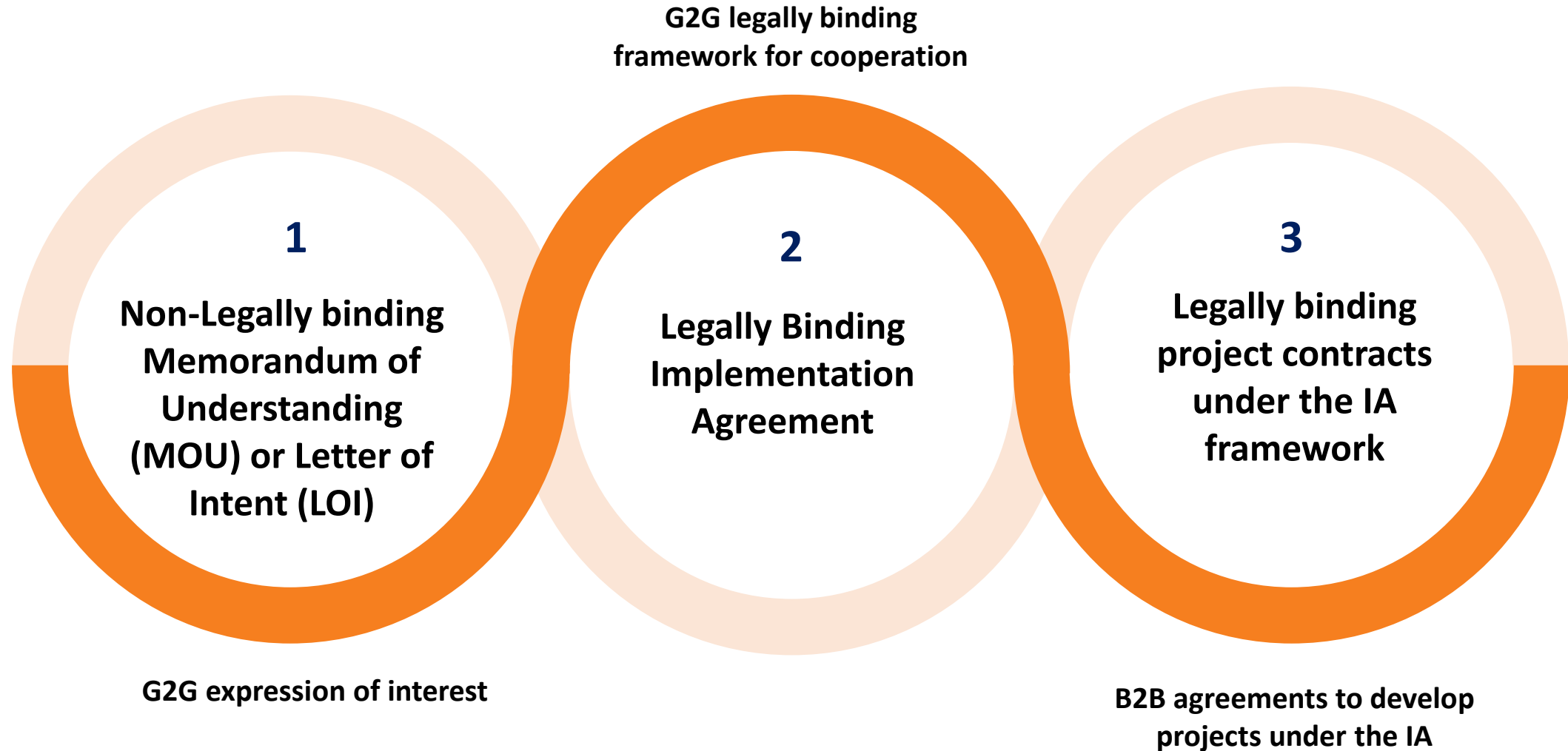


* Estimates from all buyer countries and CORSIA are detailed in [endnote 64](#)

** Countries like Liechtenstein, Kuwait, and the United Arab Emirates (UAE) have announced interest in purchasing ITMOs, but tangible demand numbers were either not announced or a relatively small, therefore, they were not included in Figure 13

Our Approach to Article 6.2 Bilateral Cooperation

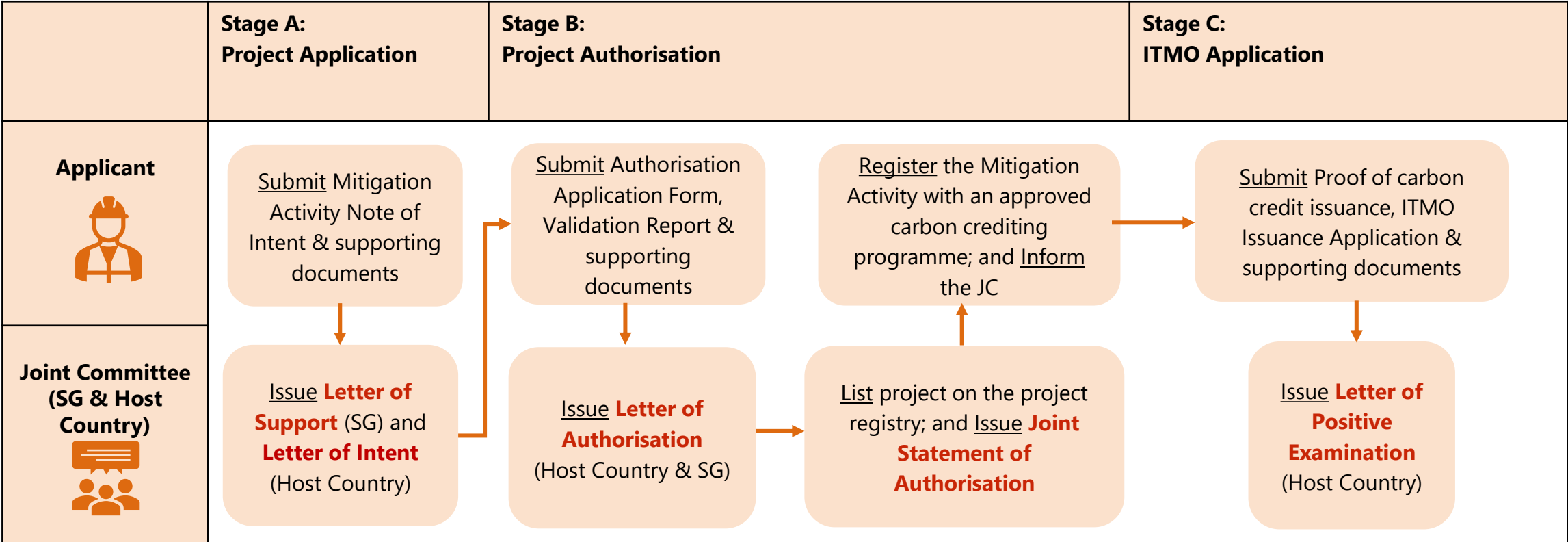
Singapore and partner countries establish cooperation through a legally binding Implementation Agreement (IA) framework



The IA sets out processes and requirements for authorisation of mitigation activities and issuance / transfer of credits

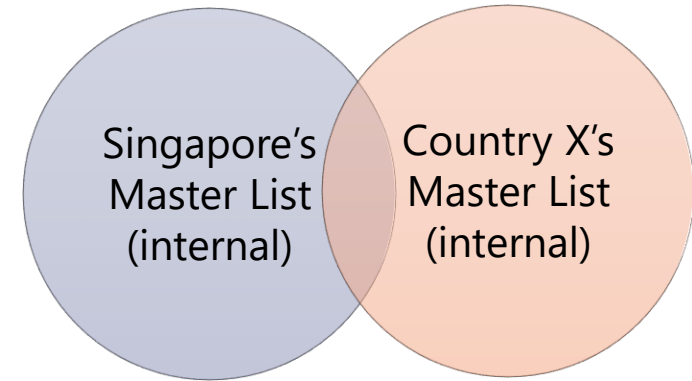
Publishing the step-by-step process provides clarity on each step in the process for both countries and developers.

Example of typical process under Singapore's IAs



IA also sets out list of eligible methodologies, and the framework for managing the eligibility list

- **Eligibility List for each IA differs as it must be mutually agreed upon by Singapore and host country.**
- The Eligibility List is reviewed regularly to maintain relevance and uphold the required environmental integrity standards.
- Singapore currently accepts methodologies from 5 international standards. Leveraging existing standards and methodologies that can meet our environmental integrity criteria:
 - Taps their capabilities in ensuring ICCs issued are robustly validated, verified, issued and retired.
 - Enables faster time-to-market; streamlines processes for market participants.
 - Promotes transparency and comparability.


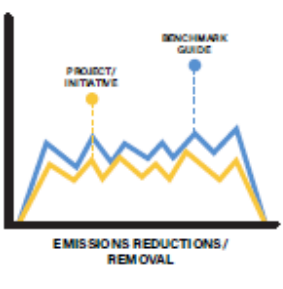

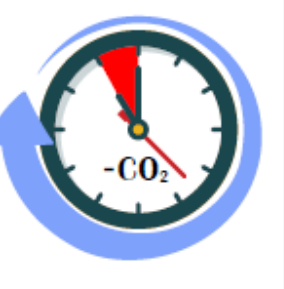





Eligibility List under SG-Country X's IA (public)



Singapore's Eligibility Criteria

On 4 October 2023, Singapore published the Eligibility Criteria under Singapore's ICC Framework. This lays out a clear set of principles of what constitutes high environmental integrity, which determines what carbon credits Singapore is willing to purchase.

01 ADDITIONAL	02 REAL	03 QUANTIFIED & VERIFIED	04 PERMANENT	05 NO NET HARM	06 DO NOT CAUSE LEAKAGE	07 ARE NOT DOUBLE- COUNTED
						
Emissions reductions/removals were only made possible with the financing from the International Carbon Credit.	Emissions reductions/removals were quantified based on a realistic, defensible, and conservative estimate of what would be emitted in the absence of the project.	Emissions reductions/removals were calculated conservatively and transparently, and measured and verified by an accredited and independent third party.	Emissions reductions/removal are not reversible . If there is risk of reversal, there must be measures to monitor, mitigate and compensate such occurrences.	The project that generated the emissions reductions/removals do not violate any laws, regulatory requirements or international obligations of the host country.	The project that generated the emissions reductions/removals do not cause an increase in emissions elsewhere . If there is risk of leakage, there must be measures to monitor, mitigate and compensate such occurrences.	The emissions/removals are only counted once, and not double counted between the host country and Singapore.

Cornerstone of IA (and Article 6.2 bilateral cooperation in general) is agreement that countries will perform “corresponding adjustment”

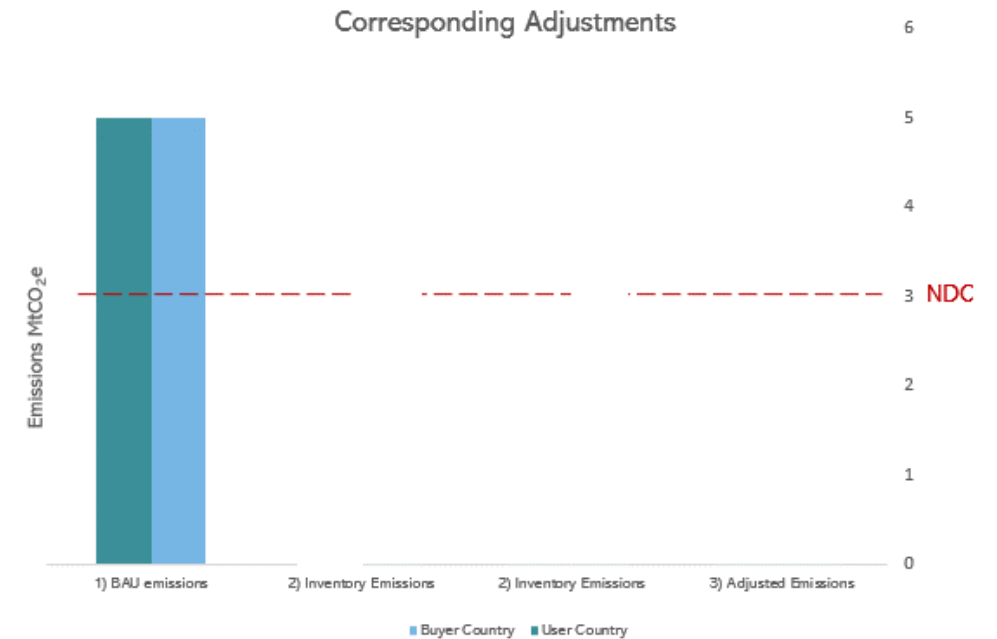
Corresponding Adjustment (CA): Upon transfer of ITMOs, host country adjusts its reported emissions upwards, while buyer country reports a decrease in emissions → **Avoids double-counting of emissions.**

Why CA matters for host countries:

- Ensures clear accounting, lending credibility to host country’s climate ambition
- Strengthens international credibility to anchor investment
- Buyers need assurance that CA will be applied

Planning for CA:

- Carbon budget planning — assess how much ITMOs can be sold for each sector, to meet conditional NDC target
- Put in place monitoring and safeguards to prevent overselling



A well-designed Article 6 strategy allows host countries to mobilise finance through ITMOs whilst still being ambitious in its climate targets.

Singapore's has also committed to supporting host countries' adaptation efforts and contributing to overall mitigation of global emissions.



5%

Share of Proceeds

5% of carbon credits will go towards the adaptation fund of the host country as Share of Proceeds.



2%

Overall Mitigation of Global Emissions

2% of carbon credits will be cancelled at issuance to increase overall emission reductions.

Dialogue



Hugh Salway

Senior Director for Market Development and Partnerships, Gold Standard

Fenella Aouane

Director and Head of Carbon Pricing, GGGI

Moderated by **Kazuhisa Koakutsu**, Director, Article 6 Implementation Partnership



SESSION B3 LEGAL IMPLEMENTATION

Approaches to
establishing a legal
framework to access
carbon markets



Fabiano de Andrade Correa

Senior Counsel, Environmental and International Law, WBG

Sharlin Hemraj

Director for Environment & Fuel Taxes, National Treasury, **South Africa**

Peter Zaman

Partner, **HFW**

Mechael Werdofa Balcha

Senior Carbon market specialist, Ministry of Planning and Development, **Ethiopia**

Zubair Ahmed Channa

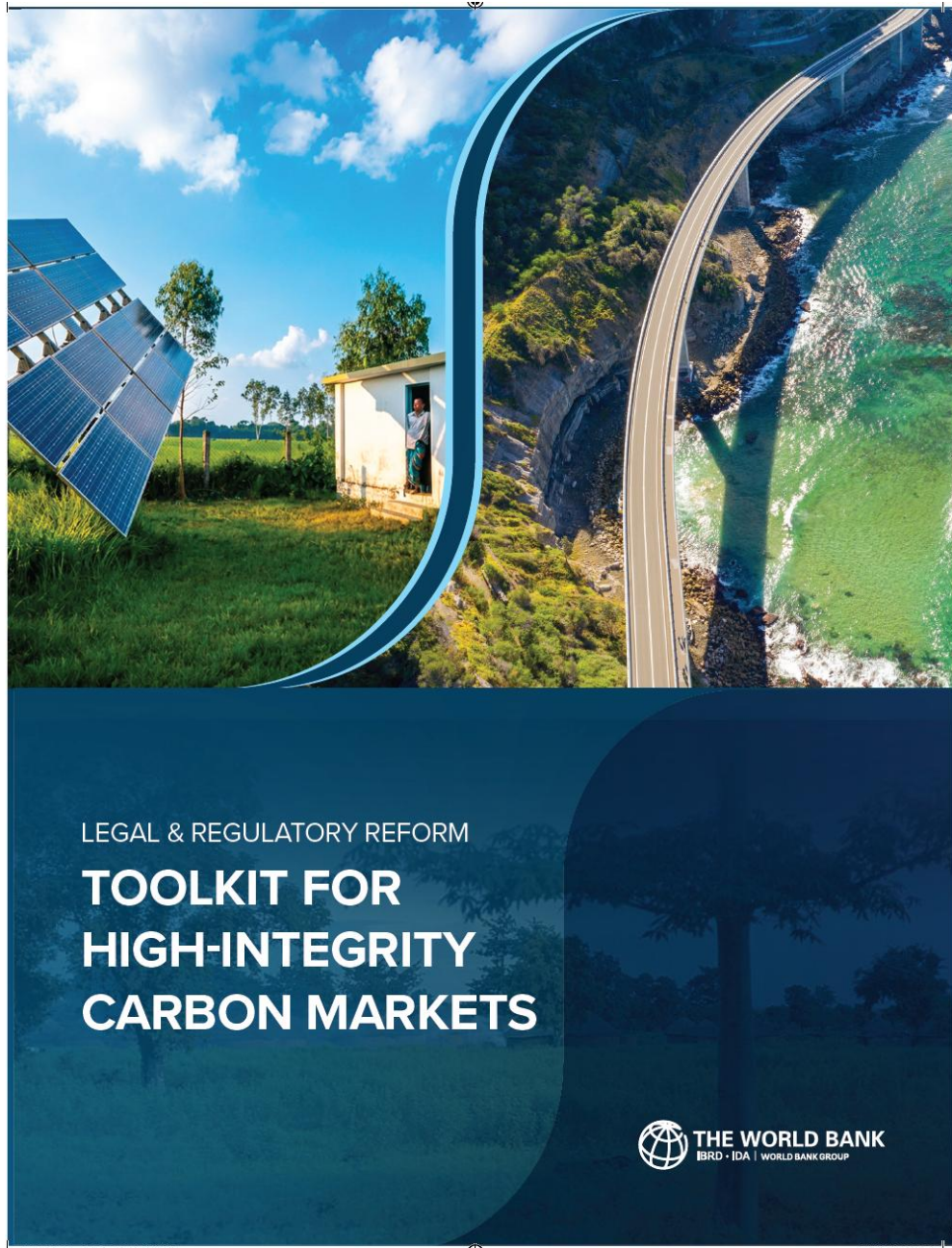
Secretary, Environment, Climate Change and Coastal Development Department,
Government of Sindh, **Pakistan**

Moderated by **Flavia Rosembuj**, Senior Counsel, Environment and International
Law, WBG

LEGAL TOOLKIT

CARBON MARKETS READINESS QUESTIONNAIRE





WB's Legal and Regulatory Reform Toolkit for High-Integrity Carbon Markets

- **Goal:** provide comprehensive, practical guidance to support countries in developing and implementing an enabling institutional and legal, framework to access high integrity carbon markets.
- **Scope:**
 - baseline-and-crediting mechanisms (does not cover ETS)
 - VCMs and compliance carbon markets under the Paris Agreement,
- **Target audience:** legislators, policy and decision makers, public sector institutions, other stakeholders involved in carbon markets.

WB's Legal and Regulatory Reforms Toolkit for High-Integrity Carbon Markets

1. CREATION OF THE CARBON CREDIT		
<p>Stage 1</p> <p>LEGAL AND REGULATORY FRAMEWORK</p>	<p>Stage 2</p> <p>ELIGIBLE ACTIVITIES AND STANDARDS</p>	<p>Stage 3</p> <p>MONITORING, REPORTING, AND VERIFICATION (MRV) AND REGISTRIES</p>
<p>Building the foundation: Regulating market access and institutional design</p>	<p>Defining what counts: Determining eligible activities and standards</p>	<p>Infrastructure for trust</p>
<p>Should a country regulate voluntary carbon markets, international compliance markets, or both? Which legal instruments and institutional structures should be used?</p> <ul style="list-style-type: none"> • New statute vs. adapted existing laws • Centralized vs. delegated governance model • Designate authority for policy, authorizations and registries 	<p>How should a country determine what activities and standards are allowed, and how is integrity ensured?</p> <ul style="list-style-type: none"> • Positive list, negative list, or hybrid approach • Adopt international standards (for example, Verified Carbon Standard, Gold Standard, and Paris Agreement Crediting Mechanism) or develop domestic methodologies • Define additionality, baselines, permanence, and leakage 	<p>How should MRV systems and registries be structured to ensure robustness and prevent double counting?</p> <ul style="list-style-type: none"> • Minimum MRV requirements and interaction with international standards • Registry type: tracking vs. transactional • Interoperability with Article 6 infrastructure

WB's Legal and Regulatory Reforms Toolkit for High-Integrity Carbon Markets

2. TRANSACTION OF THE CARBON CREDIT		
Stage 4	Stage 5	Stage 6
LEGAL RIGHTS AND CREDITS	TRANSACTIONS AND REVENUE	ENFORCEMENT AND DISPUTES
<p>Defining the asset: Legal nature and ownership of emissions reductions or removals (ERRs), and credits</p>	<p>Regulating transactions, authorization procedures, and revenue frameworks</p>	<p>Holding the line: Enforcement, sanctions and dispute resolution</p>
<p>How should a country define legal rights to ERRs and the legal nature of carbon credits?</p> <ul style="list-style-type: none"> Analyze how credits would be classified in accordance with domestic law: intangible property; financial instrument; commodity? Define who holds rights to underlying ERRs Determine authority to issue carbon credits 	<p>How should authorization procedures and revenue frameworks for non-authorized credits, internationally transferred mitigation outcomes, and Paris Agreement Article 6.4 emission reductions be designed?</p> <ul style="list-style-type: none"> Authorization procedures for different credit types Transactional rules (who can sell, and under which conditions?) Structure of taxes, fees, and levies Revenue allocation and benefit sharing mechanisms 	<p>How should a country approach enforcement and dispute resolution?</p> <ul style="list-style-type: none"> Define and assign enforcement powers, sanctions, and corrective measures Administrative, judicial, and alternative dispute resolution pathways Domestic, cross-border, or combined mechanisms

Practical and modular guidance:

- Built on the premise that legal issues are context sensitive, need to be tailored to each specific legal tradition, policy needs and socioeconomic / political situation of each country.
- For each of the main themes:
 - Proposes approaches with advantages x disadvantages
 - Presents sample legal text countries
- Can be used as a whole, or in a modular approach according to specific needs.



OPTION 1: Establish a positive list of sectors and activities that are approved to generate ITMOs.	
Advantages	<ul style="list-style-type: none"> • Provides clear guidance and certainty to project proponents and investors about approved sectors and activities • Simplifies initial mitigation sector and activity screening and reduces administrative review burden • Allows the country to direct carbon finance toward preferred sectors and activities
Disadvantages	<ul style="list-style-type: none"> • May exclude potentially valuable sectors and activities not initially anticipated • Requires periodic updates to remain current with evolving technologies and opportunities • Could limit market flexibility and innovation in emerging sectors
Example legal text	<p>Section III. Mitigation Activity Design and Development</p> <p>A. Approved sectors and activities for generating ITMOs</p> <ol style="list-style-type: none"> 1. The Administrative Authority shall utilize the following criteria to evaluate sectors and activities approved to generate Internationally Transferred Mitigation Outcomes (ITMOs), including contribution to sustainable development, alignment with the Nationally Determined Contribution (NDC), [alignment with conditional NDC] [insert other country policy objectives]. 2. The following “positive list” of mitigation activities shall be deemed to meet the criteria and approved to generate ITMOs: [insert list of approved sectors and activities].⁴³ 3. Activities that are part of the positive list are not automatically approved to generate ITMOs. Activities must utilize approved carbon crediting standards contained in Section [III.B]⁴⁴ and comply with the authorization requirements set out herein. 4. The Administrative Authority shall maintain the list of approved sectors and activities and may add additional approved activities through [regulations] [guidance].

LEGAL TOOLKIT



**DOWNLOAD THE
FULL TOOLKIT**





Ethiopia readiness on the regulatory framework for the carbon market

19 , may, 2026

Suntec , Singapore

Outline

Regulatory readiness

Institutional arrangement

Bilateral agreement

Data consistence

Challenge



1. Regulatory Readiness – Ethiopia (2025)

Developed a **robust and inclusive carbon market strategy**

Defines **core principles and strategic direction**

Identifies **key issues and priorities**

Clarifies **roles and responsibilities of:**

- Sector ministries
- Government agencies
- Regional states

- **2. Institutional Arrangement**

- Lead Institution**

- Ministry of Planning and Development

- Functions as the **Designated National Authority (DNA)** for Article 6 of the Paris Agreement

- Carbon Market Desk**

- Established under **Environment & Climate Change subsector**

- ❖ Leads **carbon market operations and coordination**

- Key Responsibilities**

- Issue **No Objection Letter (NOL)**

- ❖ **Approve Mitigation Activity projects**

- ❖ Grant **Letter of Authorization (LoA)** for mitigation outcomes

- Coordination Role**

- Coordinate the **Inter-sectoral Carbon Market Committee**

- Ensures collaboration across **key ministries** , agencies and regional state

Conti---

- Revisions have been completed
- No authorization of ITMOs for mitigation activity projects at this stage
- Preparation of initial Biennial Transparency Report (BTR) is underway
- Ensuring alignment with corresponding adjustments and UNFCCC reporting requirements .

3. Bilateral Agreements & Data Consistency

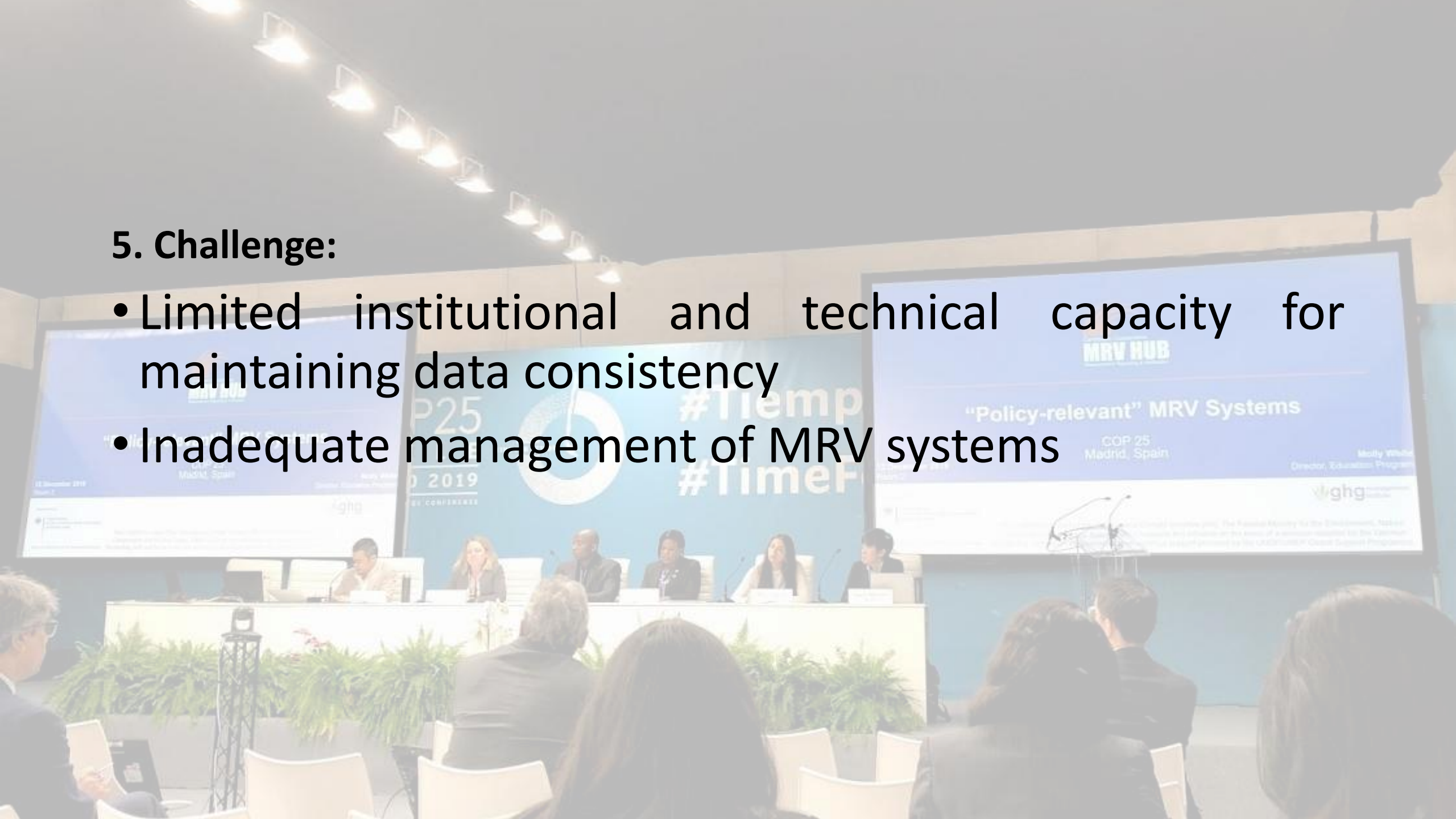
- As part of our strategy, we have identified potential partner countries such as the UK, Norway, Switzerland, Sweden, and South Korea.
- We have already signed a bilateral agreement with Singapore.
- Additionally, an MOU was established with Japan under the CDM era; this is currently being revised and aligned with the Joint Crediting Mechanism (JCM).

4. Data Consistency

- At the national level, we are currently developing a Monitoring, Reporting, and Verification (MRV) framework.
- This framework is being aligned with our NDC 3.0 commitments.

5. Challenge:

- Limited institutional and technical capacity for maintaining data consistency
- Inadequate management of MRV systems



SESSION B4 TRANSACTIONS

Navigating buyers' expectations and intermediary engagement to unlock carbon markets opportunities

TRANSACTIONS: NAVIGATING BUYER EXPECTATIONS & INTERMEDIARY ENGAGEMENT TO UNLOCK CARBON MARKET OPPORTUNITIES

BASAK ODEMIS

KTCSC | WBG CLIMATE

BUILDING THE KNOWLEDGE BANK ON CLARITY, TRUST, CAPACITY, AND URGENCY

19 MAY 2026

CARBON MARKET LANDSCAPE

Non-exhaustive



x Number of actors

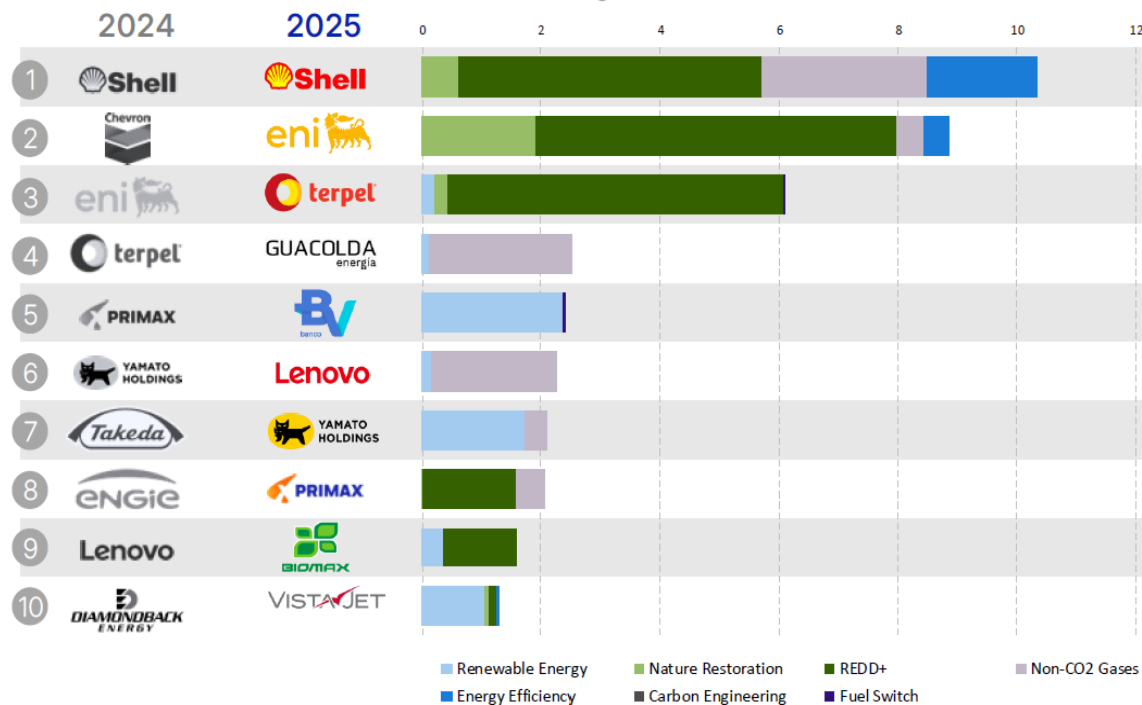


1. Landscape is from current VCM which is the largest carbon credits market currently; Sovereign Carbon market value chain will look different

Source: Ecosystem Marketplace; CDM; South Pole; Google AdWords market data

RETIRES AND OFFTAKE BUYERS

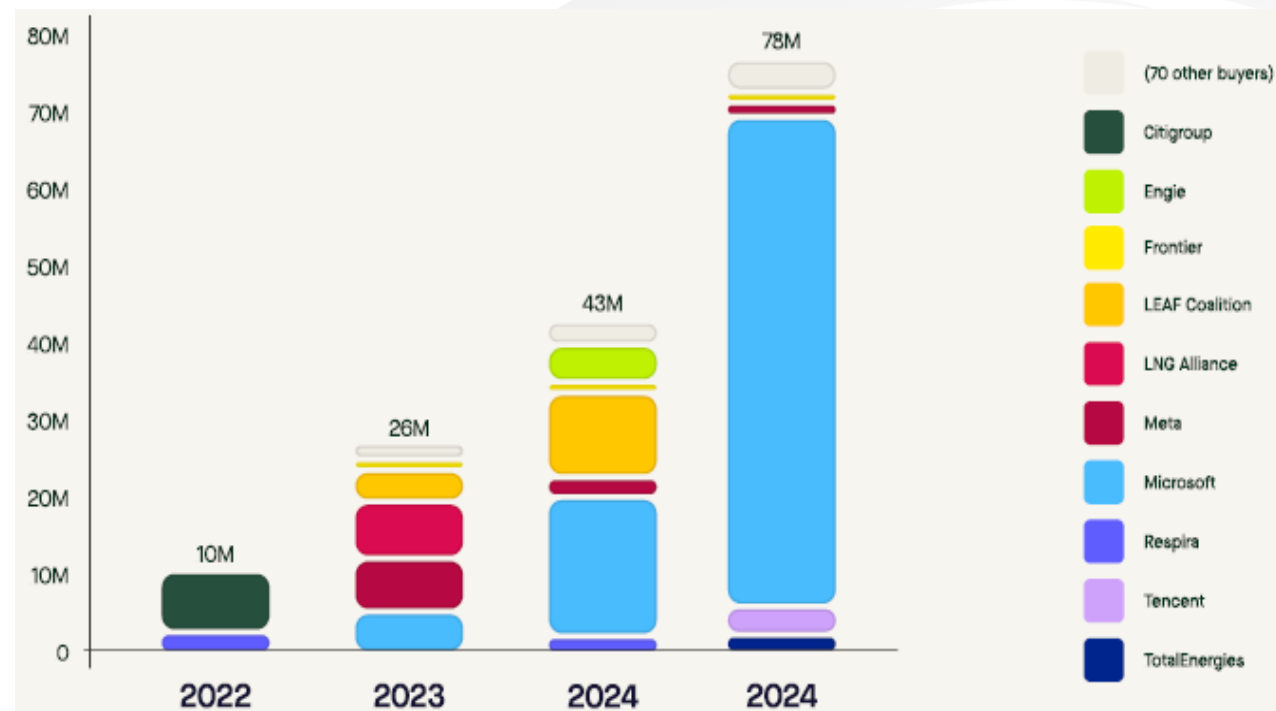
Credits retired from top retirees (Mt)



- **Top sectors** of credit retirees include fossil fuels, transportation and services, with compliance needs
- Top 10 retirees represent 10% of total retirements

Source: MSCI

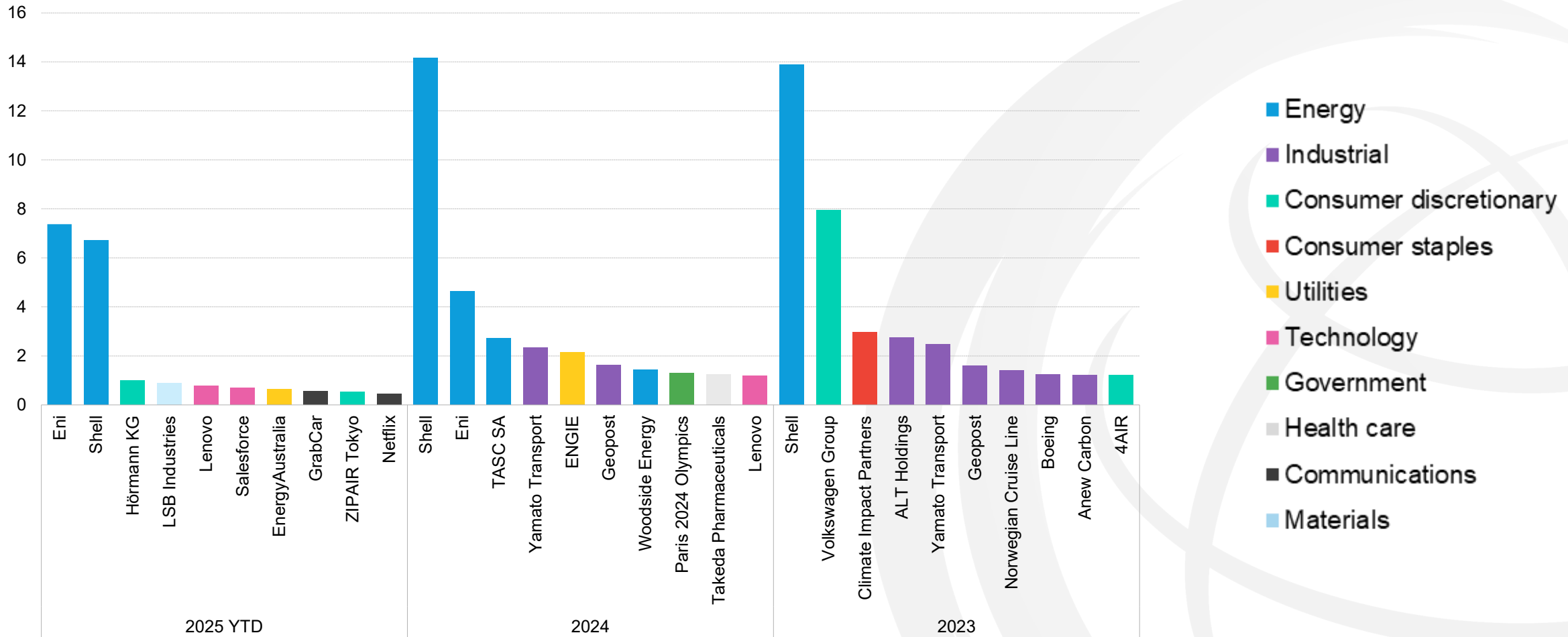
Offtake Volumes announced by year



- Buyers begin to sign more long-term offtakes to secure future supply against price increase of high-quality credits
- Volumes are greatly skewed with MSFT taking up 58%

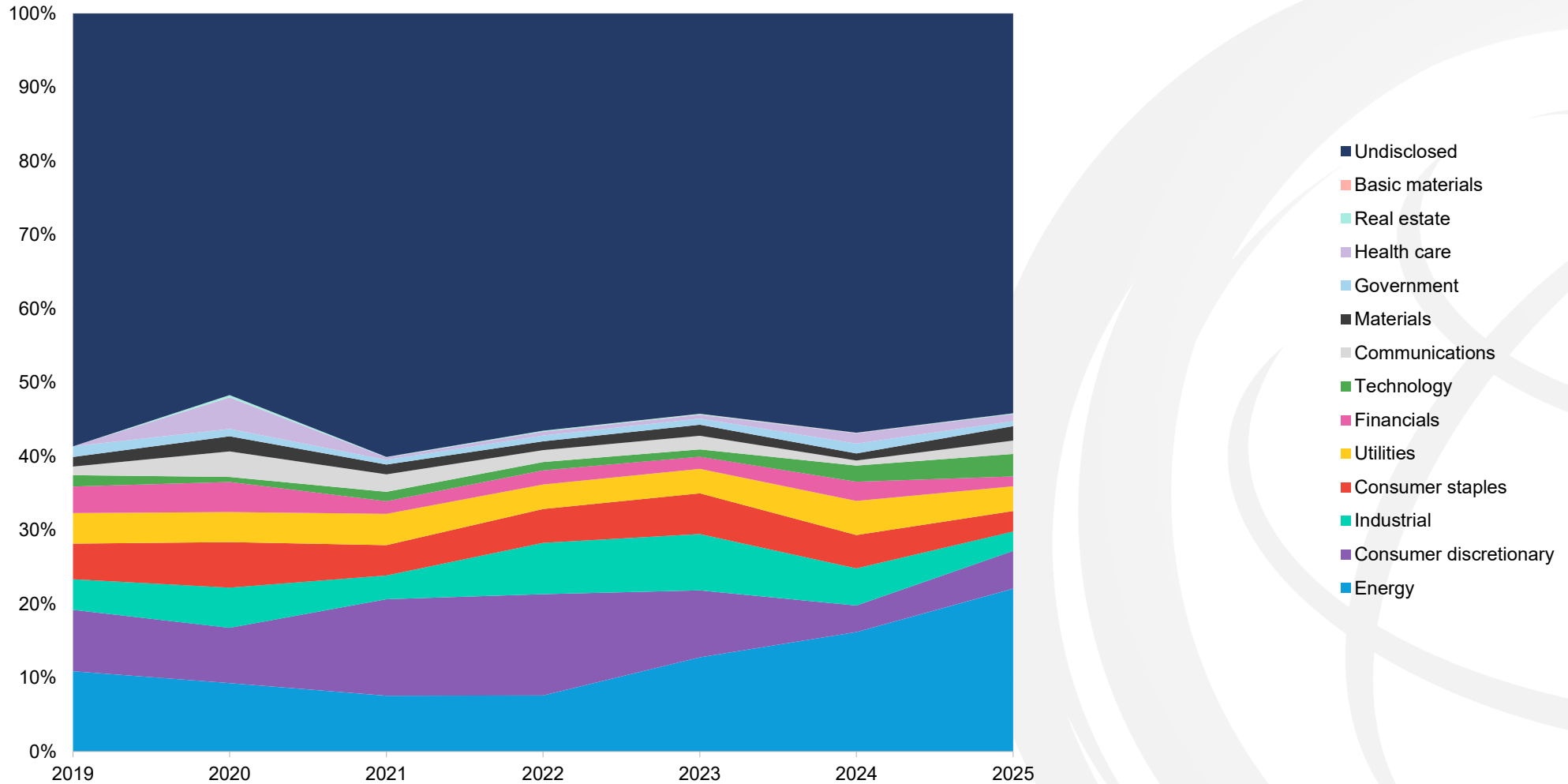
LARGEST CARBON CREDIT BUYERS BY INDUSTRY

Million metric ton CO2e



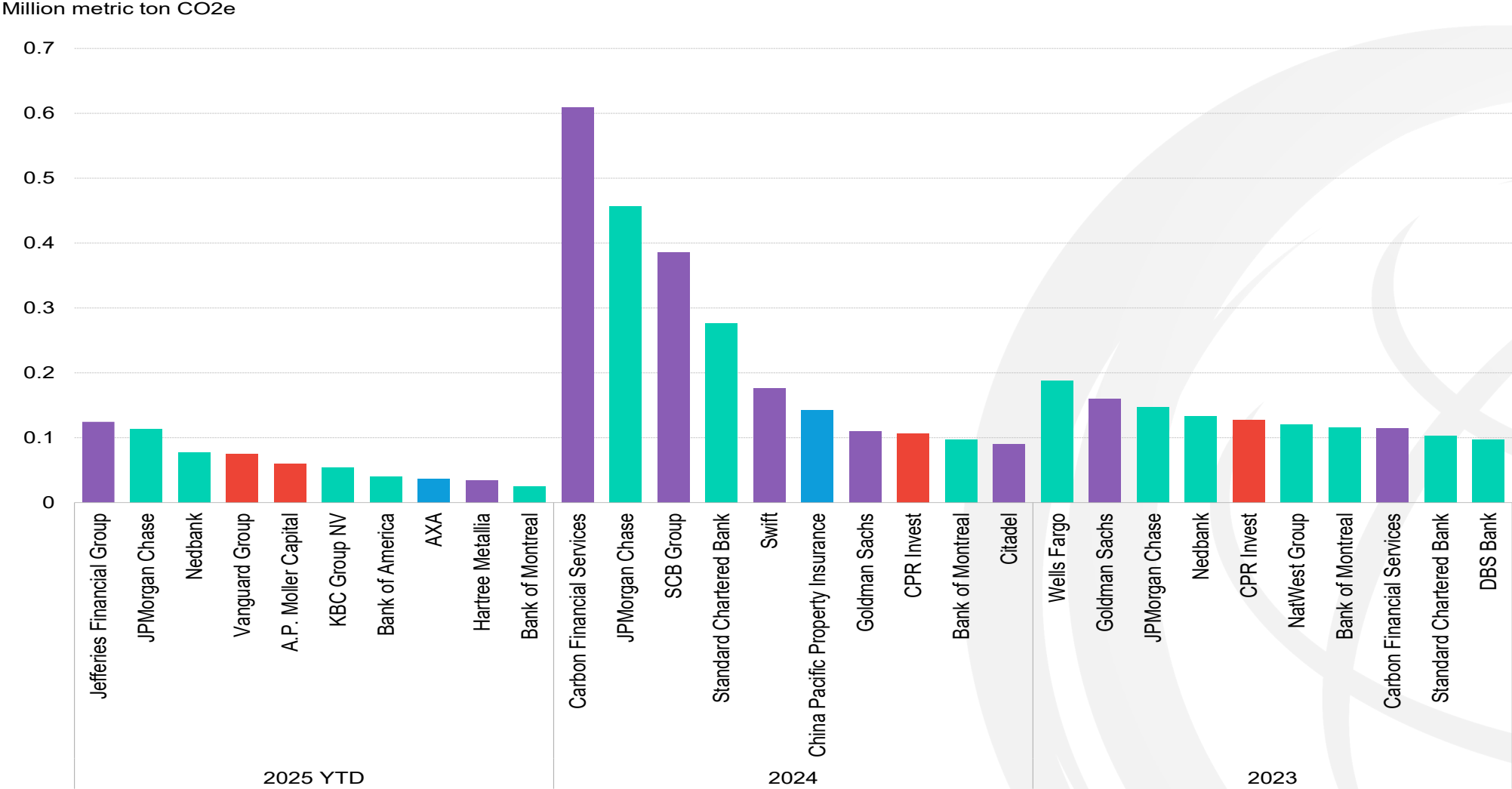
Source: BloombergNEF, Carbon Credit Registries.

RETIREMENT BREAKDOWN BY BUYER INDUSTRY



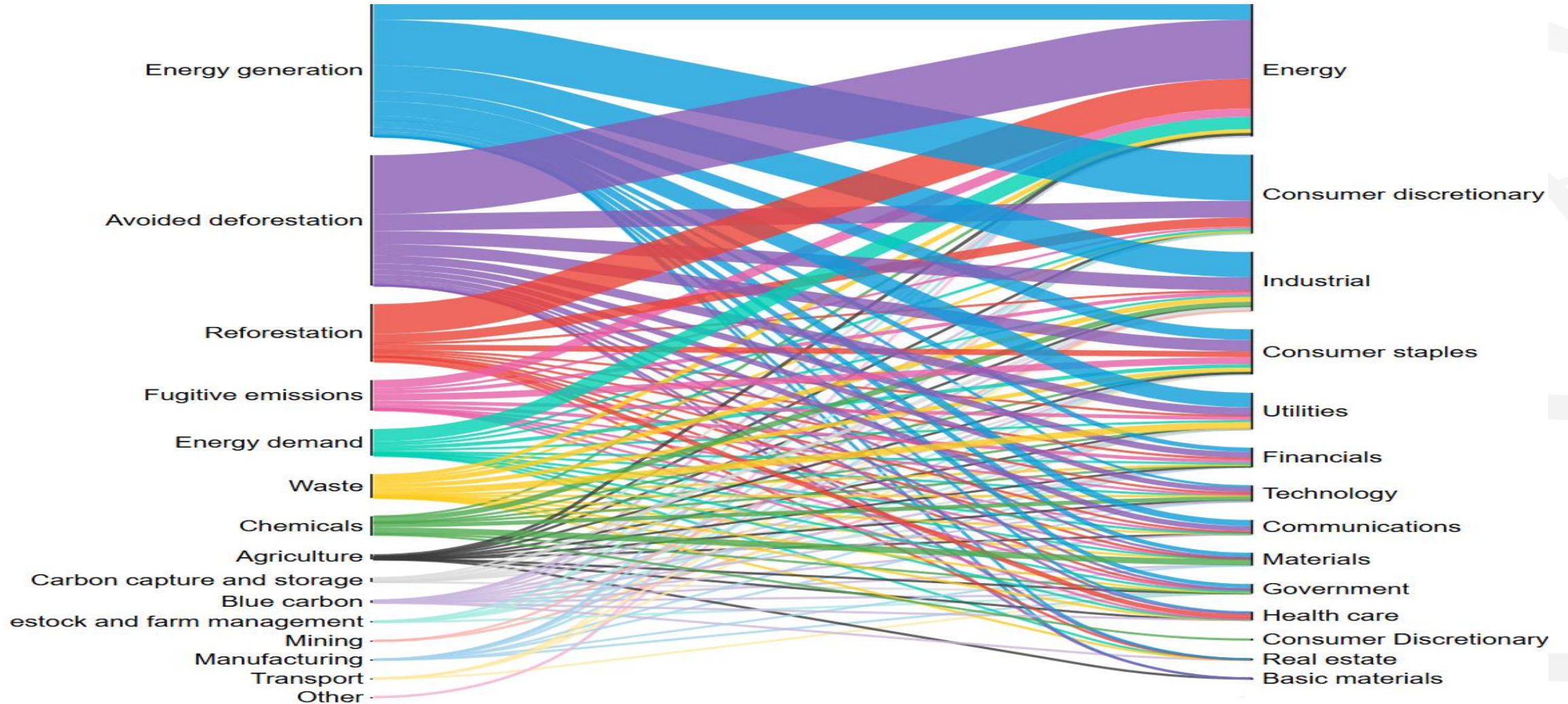
Source: BloombergNEF, Carbon Credit Registries.

TOP FINANCIAL INSTITUTIONS BY RETIRED CREDITS (2023-2025)



Source: BloombergNEF, Carbon Credit Registries.

RETIRED CREDITS BY BUYER INDUSTRY (RIGHT), BY PROJECT SECTOR (LEFT)



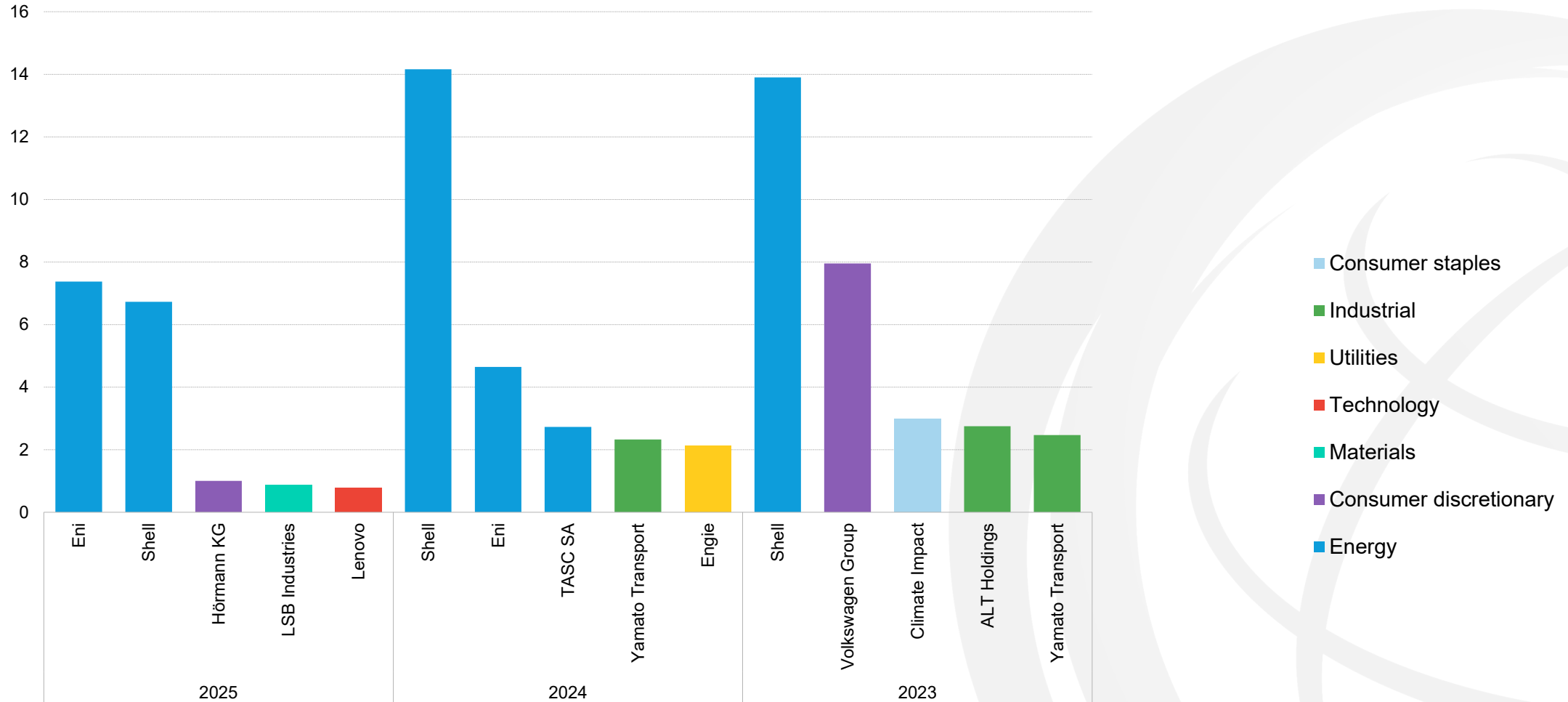
Source: BloombergNEF, Carbon Credit Registries.

ANNEX



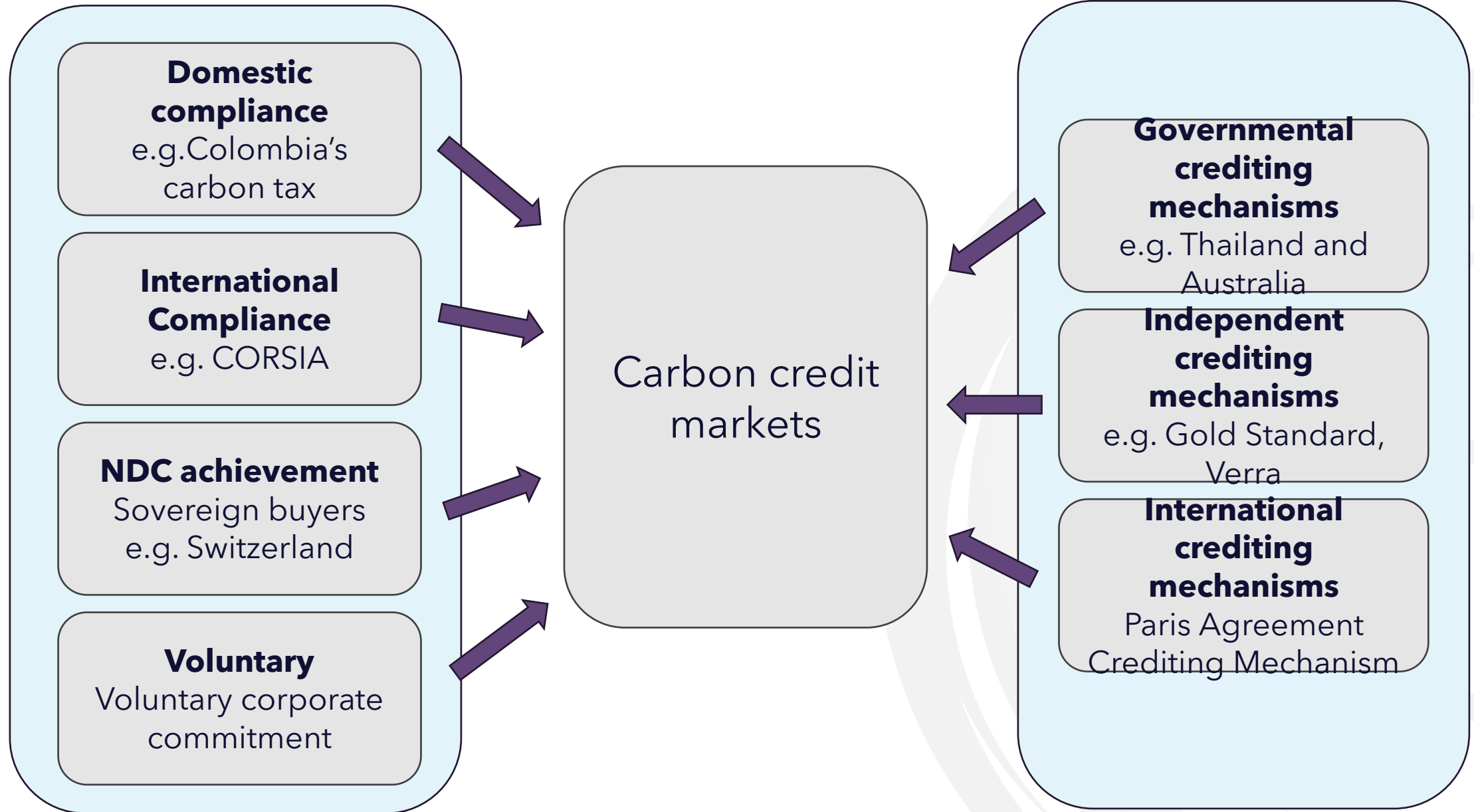
LARGEST CARBON CREDIT BUYERS

Million metric tons CO2e

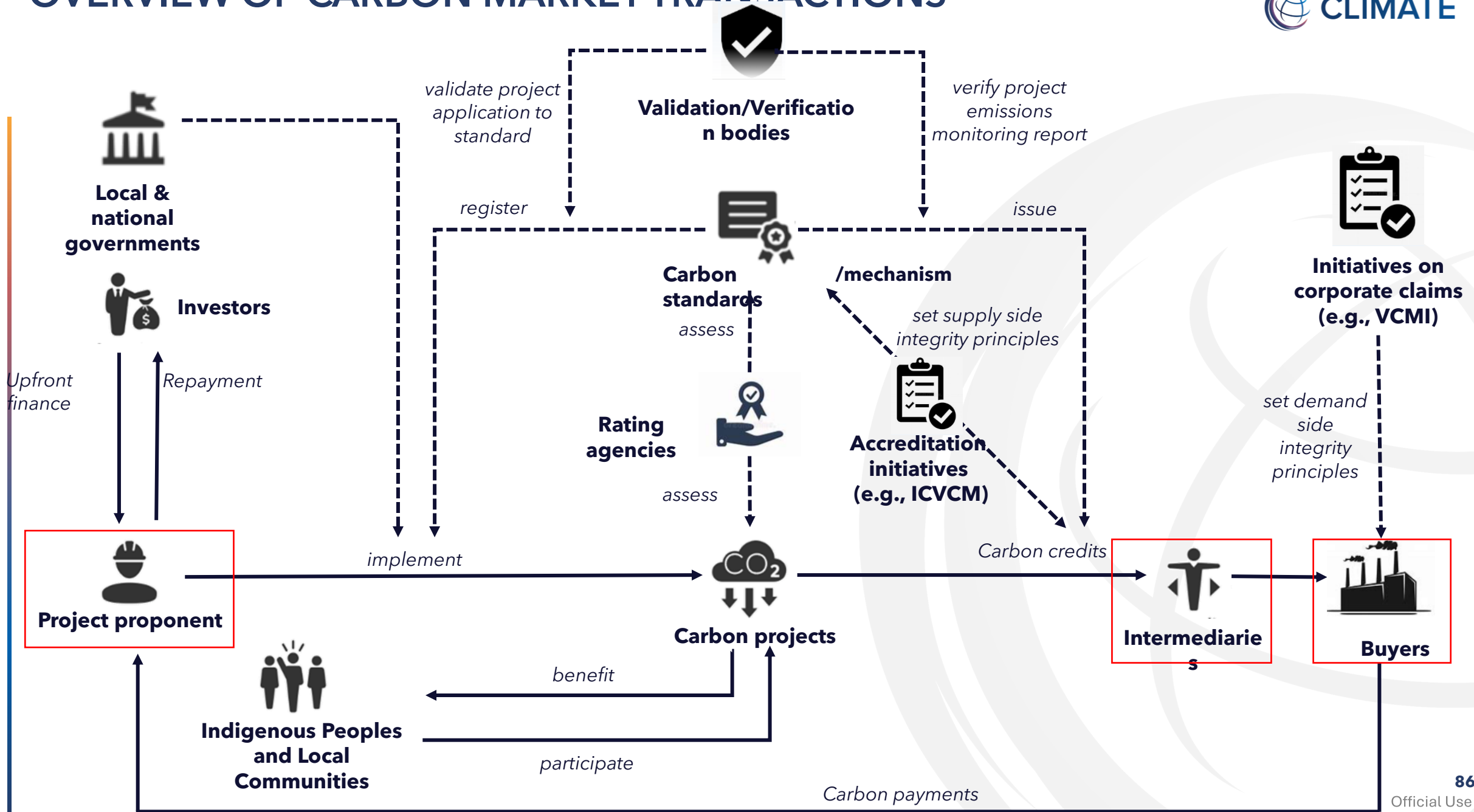


Source: BloombergNEF, Carbon Credit Registries.

CARBON MARKET LANDSCAPE



OVERVIEW OF CARBON MARKET TRANSACTIONS





Juan Carlos Arrendonado Brun

Director of Knowledge, Policy & Advocacy, Abatable

Rodrigo Bezerra

Head of Upstream Carbon Emissions, Hartree Partners

Saurabh Joshi

Head of Origination & Strategic Partnerships, Climate Impact X (CIX)

Moderated by Basak Odemis, Principal Operations Officer, Carbon Finance Solutions, WBG

Unlocking carbon market opportunities: navigating buyer expectations and intermediary engagement






















Scene setting

Global Knowledge Forum Session



Eligibility of standard across various markets may create a competition for their units as they serve compliance, voluntary and international (CORSlA) carbon markets

⚡ Abatable

Carbon crediting standards	Country of origin	Voluntary offsetting	ETS and carbon taxes			CORSlA First Phase eligible
						
 ACR SM AT WINROCK INTERNATIONAL		✓	✓	✓		✓
 ART Architecture for REDD+ Transactions		✓				✓
 CLIMATE ACTION RESERVE		✓		✓		✓
 GLOBAL CARBON COUNCIL		✓	✓			✓
Gold Standard SM		✓	✓		✓	✓
 ISOMETRIC		✓				✓
 PREMIUM T-VER		✓				✓
 Verified Carbon Standard A VERRA STANDARD		✓	✓	✓	✓	✓
 CERCARBONO Certified Carbon Standard		✓			✓	
puro•earth		✓				

Example of convergence on use of credits from standards in voluntary markets. Non-exhaustive list. Reflects ICAO Council decisions to October 2025

Unlocking carbon market opportunities: navigating buyer expectations and intermediary engagement

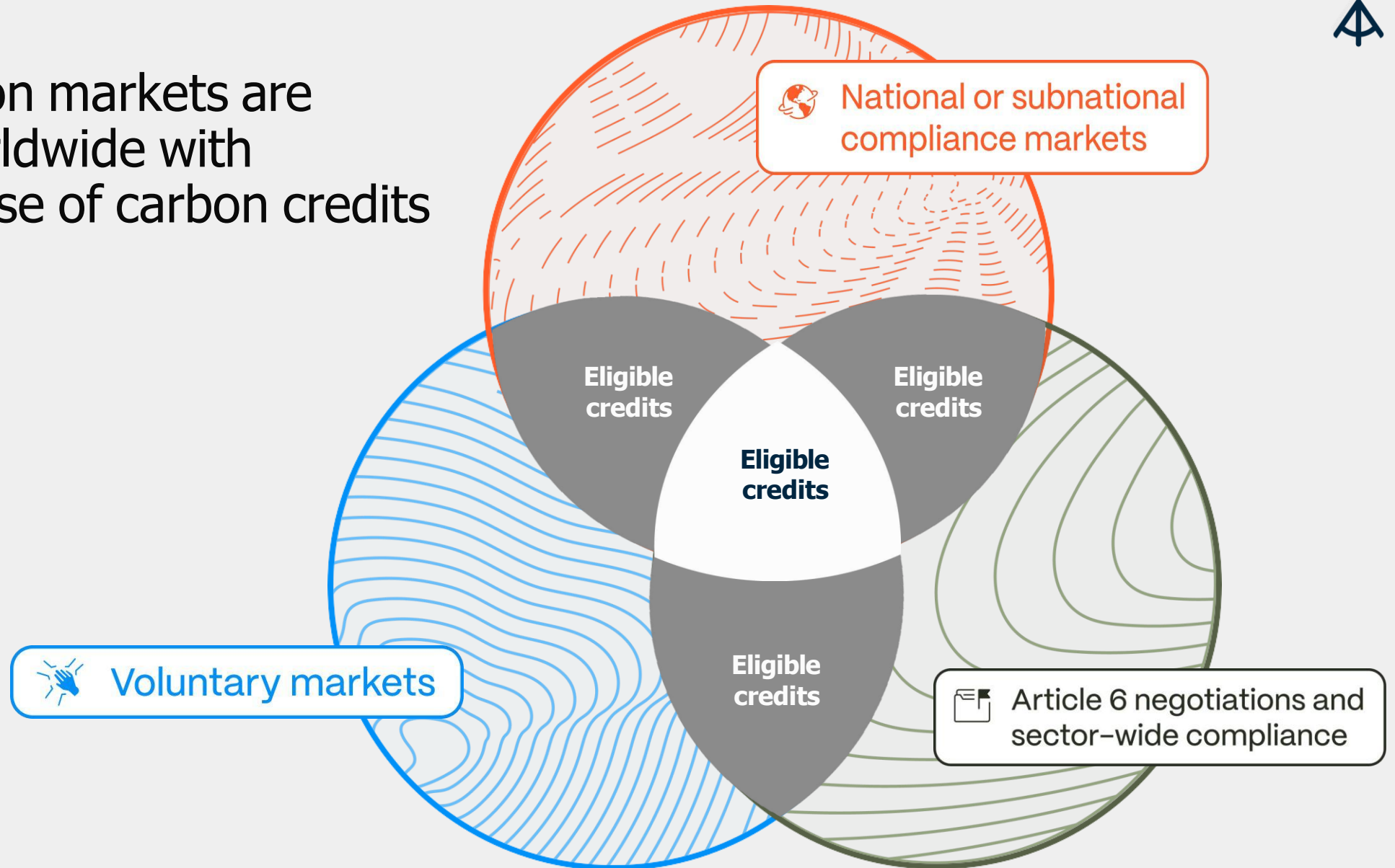
Scene setting

Global Knowledge Forum Session





Multiple carbon markets are emerging worldwide with overlapping use of carbon credits



Demand for carbon credits is subject to their **eligibility and use** across different markets

Carbon crediting standards* may be designed and managed by:

*Indicative, non-exhaustive list

Governments standards



CCER



SPE-GRK



Malaysia Forest Fund



Independent organisations

NBS +
Tech



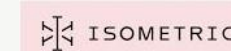
Gold Standard



NBS



Tech
Removals



United Nations

Kyoto Protocol



Clean Development
Mechanism






















Paris Agreement



Article 6.4
mechanism

Eligibility of standard across various markets may create a competition for their units as they serve **compliance, voluntary and international (CORSlA) carbon markets**

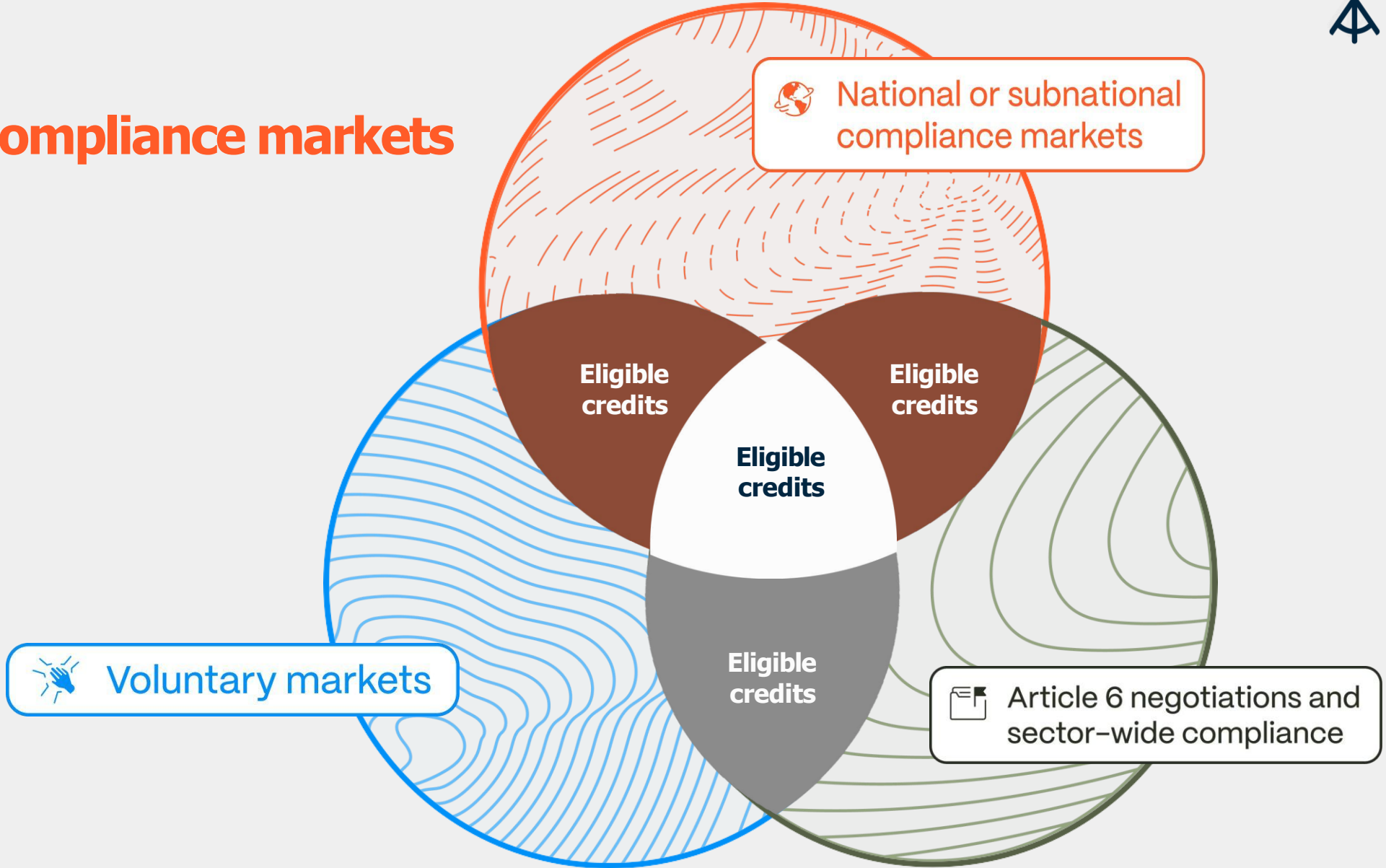
⚡ Abatable

Carbon crediting standards	Country of origin	Voluntary offsetting	ETS and carbon taxes			CORSlA First Phase eligible
						
 ACR SM AT WINROCK INTERNATIONAL		✓	✓	✓		✓
 ART Architecture for REDD+ Transactions		✓				✓
 CLIMATE ACTION RESERVE		✓		✓		✓
 GLOBAL CARBON COUNCIL		✓	✓			✓
Gold Standard SM		✓	✓		✓	✓
 ISOMETRIC		✓				✓
 PREMIUM T-VER		✓				✓
 Verified Carbon Standard A VERRA STANDARD		✓	✓	✓	✓	✓
 CERCARBONO Certified Carbon Standard		✓			✓	
puro•earth		✓				

Example of convergence on use of credits from standards in voluntary markets. Non-exhaustive list. Reflects ICAO Council decisions to October 2025
















Demand in compliance markets



Demand in compliance carbon markets comes if **regulations allow the use of carbon credits**

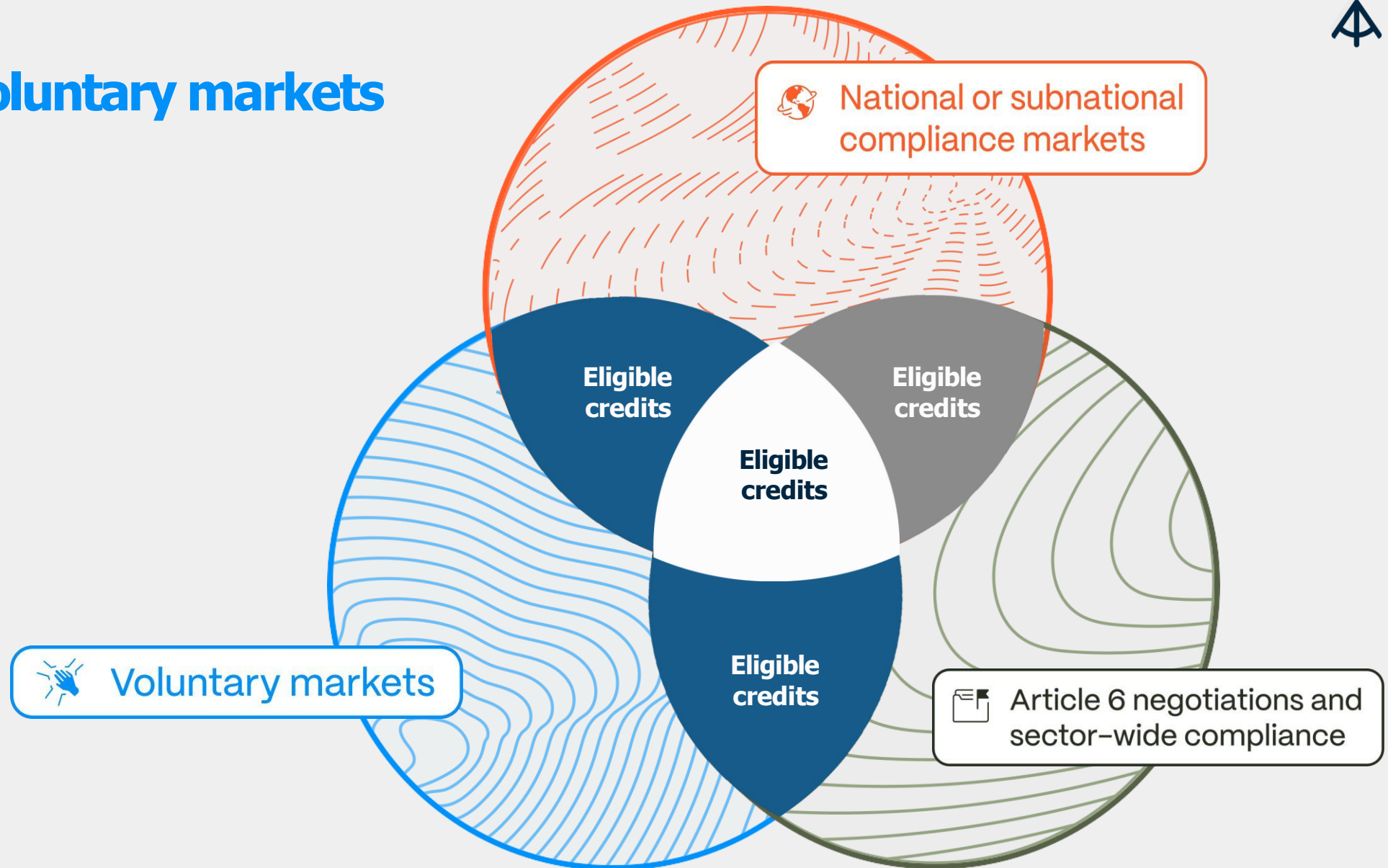
Estimated carbon credits demand
 ≅ **500 MtCO₂ /yr**

Carbon credit usage by compliance

Country	Use limits	Eligible units and standards
 China	5% of liabilities	China CCERs
 South Korea	5% of liabilities	Korean Offset Credits (KOC) from KCS
 California	Up to 6% of liabilities	Credits from ACR and CAR Issued by CARB or authority of linked system
 RGGI (USA)	3.3% of liabilities	Specific RGGI-state projects
 Colombia	50% of liabilities	Carbon credits from CDM, GS, VCS, Cercarbono, COLCX, Biocarbon Registry
 Mexico	10% of liabilities	Possibly credits from CDM, CAR, GS, VCS
 South Africa	5-10% of liabilities	Credits from CDM, GS, VCS
 New Zealand	Not allowed	
 EU ETS	Not allowed. Discussing Article 6 units	
 Switzerland	Not allowed	
 Singapore	5% of liabilities	International Carbon Credits from Art 6 countries: GS, VCS, ART, ACR, GCC
 Quebec	Up to 8% of liabilities	Generated in Quebec or linked jurisdictions
 Washington	Up to 8% of liabilities	Generated in Washington or linked jurisdictions



Demand in voluntary markets



Demand in voluntary carbon markets has remain flat between over the past three years, at approximately **160-170 MtCO₂** per year

Estimated voluntary demand
 ≈ **160-170 MtCO₂ /yr**

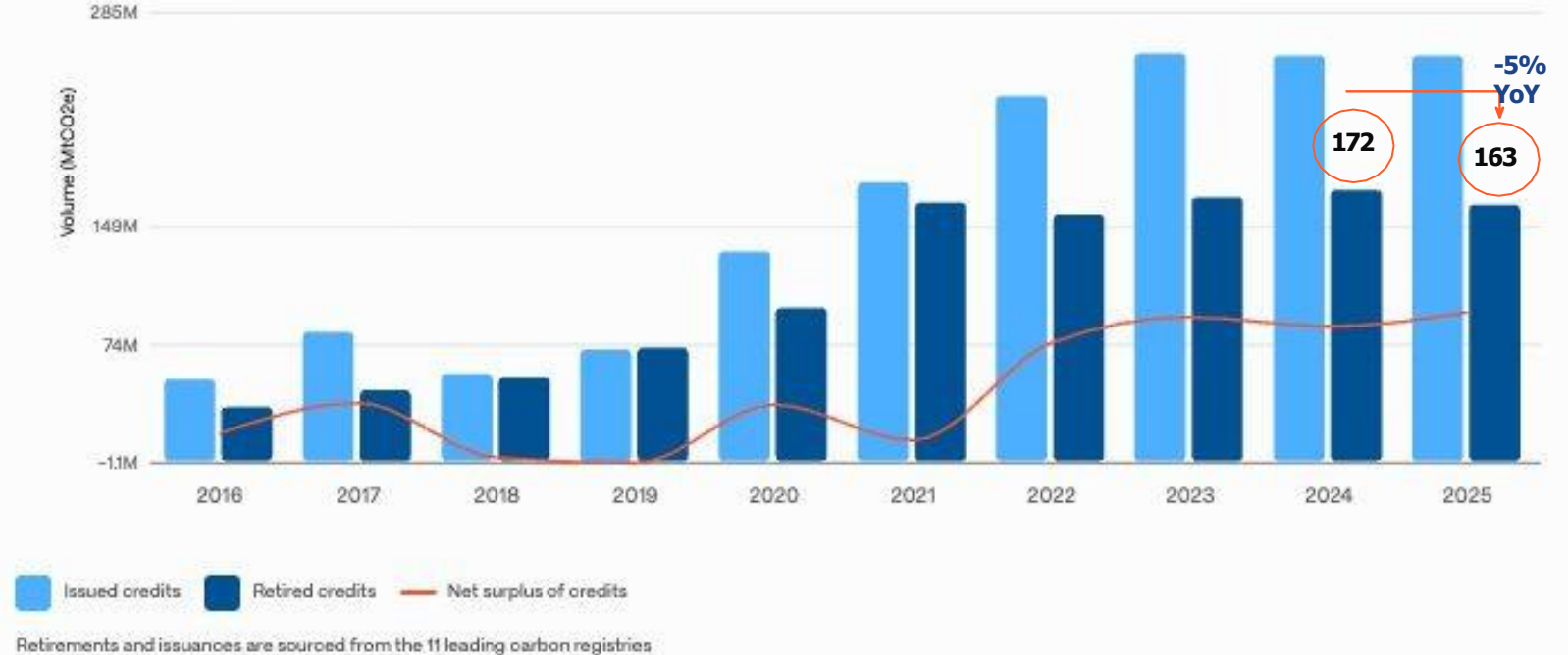
Retirements in 2025 **decreased by 5% compared to 2024** primarily driven by:

(1) Pullback from large Oil & Gas (O&G) companies, which were historically major retirees.

(2) Mid-market buyers (i.e. 20-100kt volume range) scaling up their retirements but overall smaller volumes. Increasing number of retirees but smaller volumes relative to O&G.

(3) Market remains flat for 3rd consecutive year, but composition of demand is changing. **Net surplus of credits has stabilized, aligning with adjusted market demand.**

Supply and demand of carbon credits over time





Integrity and co-benefits are driving voluntary carbon credit buyer criteria and confidence

What buyers are prioritising in their procurement mandates going into 2026:

CCP-approved methodologies

40 different CCP-approved methodologies from eight eligible programmes now serve as the 'preferred' criteria for project selection.

Benefits beyond carbon

Companies are investing in due diligence to ensure that projects deliver stated benefits beyond the carbon reduced or removed.

Price competitiveness

Buyers want to purchase high-quality credits at transparent and competitive prices, maximising the amount of funding going to the communities operating the projects.

Vintage recency

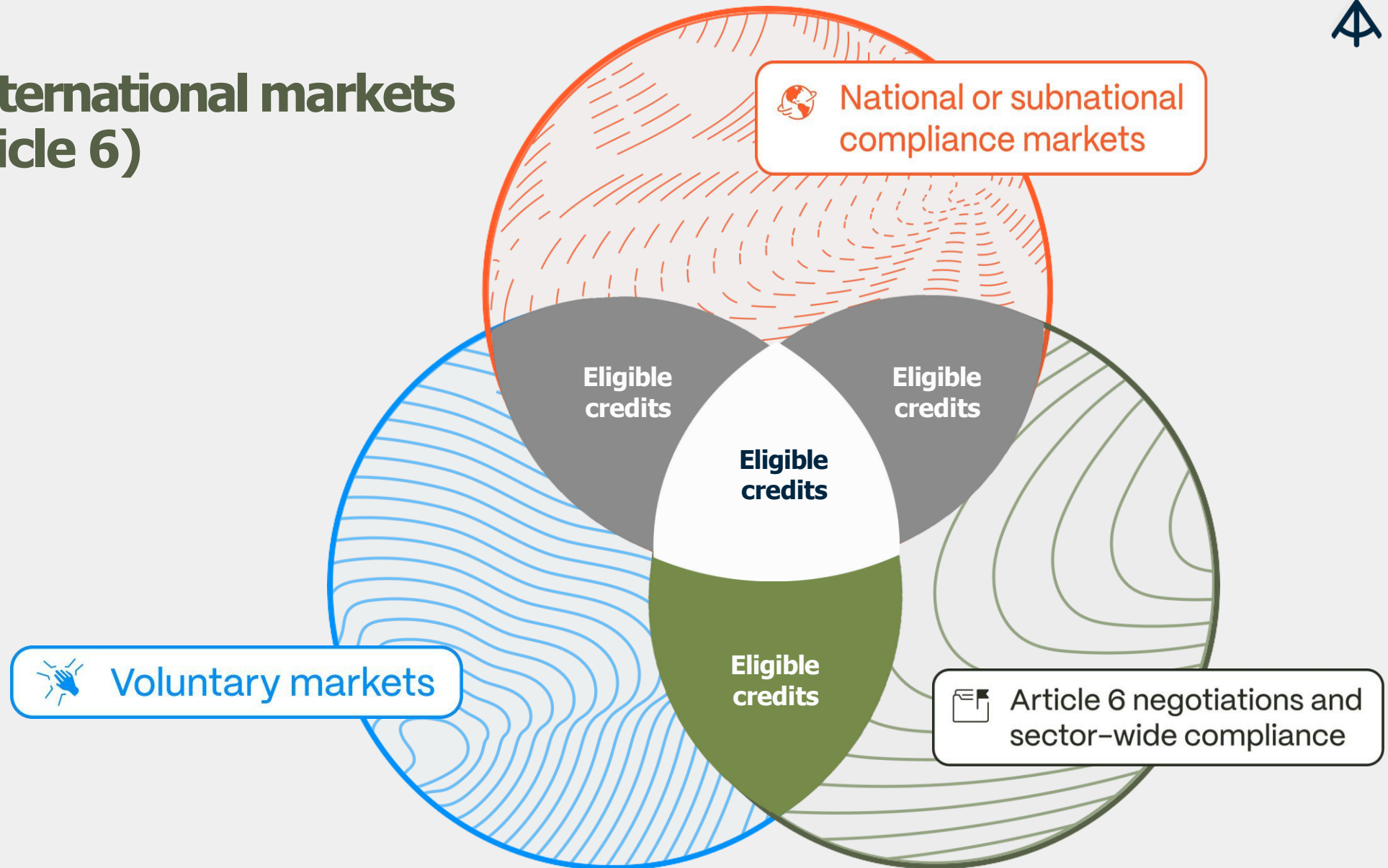
While not always an indicator of quality, there is a dominant corporate preference for 2022+ credits to ensure alignment with emission years.

Geography

Buyers tend to prioritise 'home-court' advantage by preferring those located in their own operating regions.



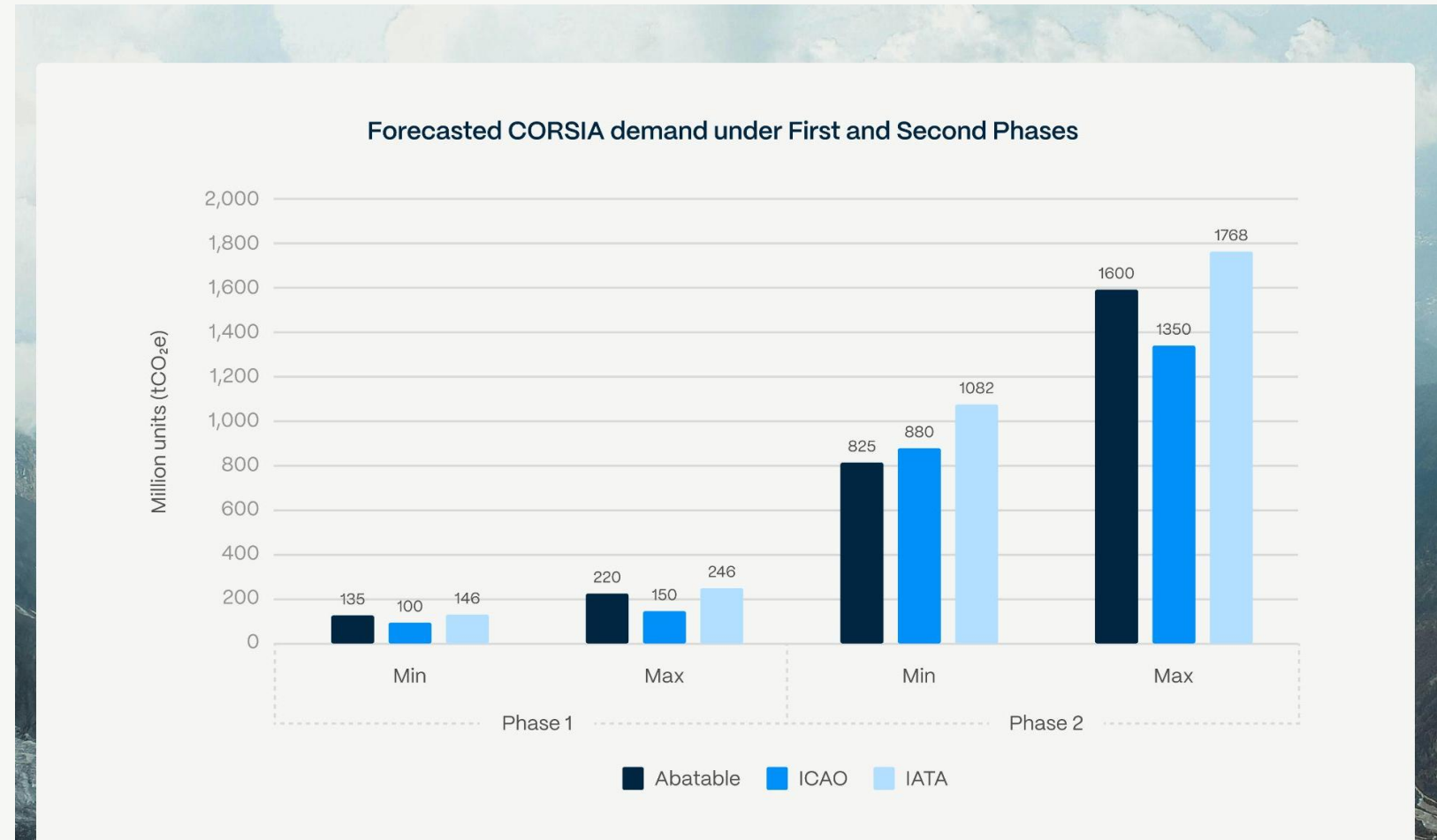
Demand in international markets (CORSlA, Article 6)



Demand forecasts for CORSIA's First phase close to **200 MtCO₂**, that will **materialise in the next 18 months.**

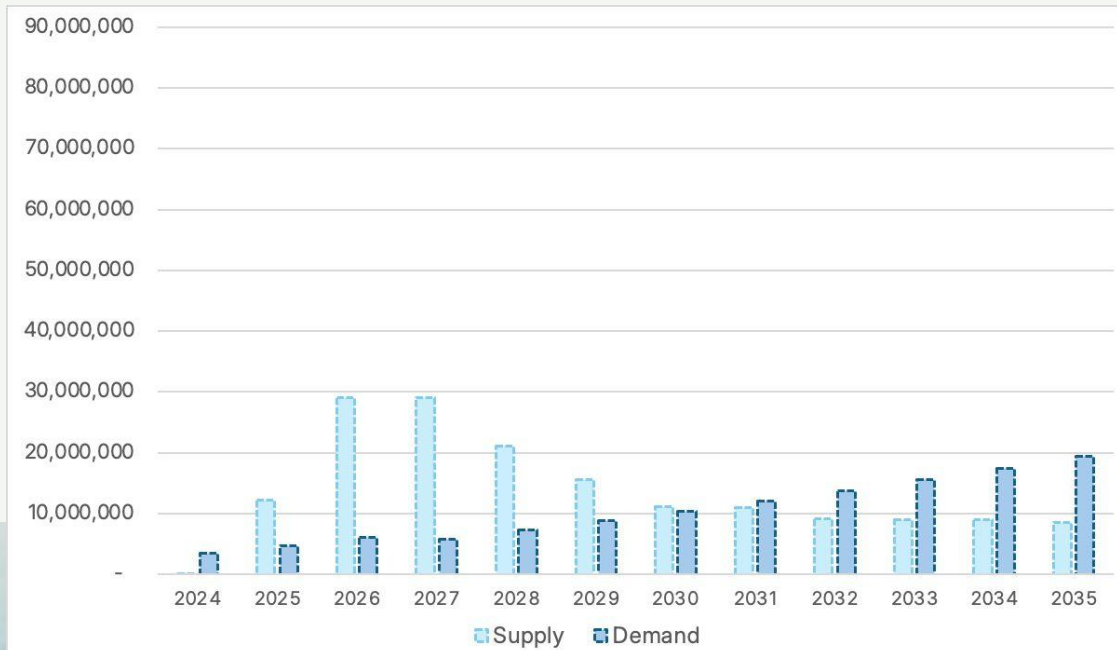
Estimated CORSIA demand ≈ 200 MtCO₂ in 3 years

Key dates to watch for CORSIA	Deadline for CORSIA First Phase (January 1, 2024 – December 31, 2026)
State notification	By November 30, 2027 , national authorities will notify airlines of their total final offsetting requirements for the entire CORSIA First Phase.
Credit cancellation	By January 31, 2028 , airlines must cancel the required number of CORSIA-eligible emissions units (EEUs) for the First Phase.
Reporting	By April 30, 2028 , airlines must submit their final Emissions Unit Cancellation Report (EUCR) to their state authority.

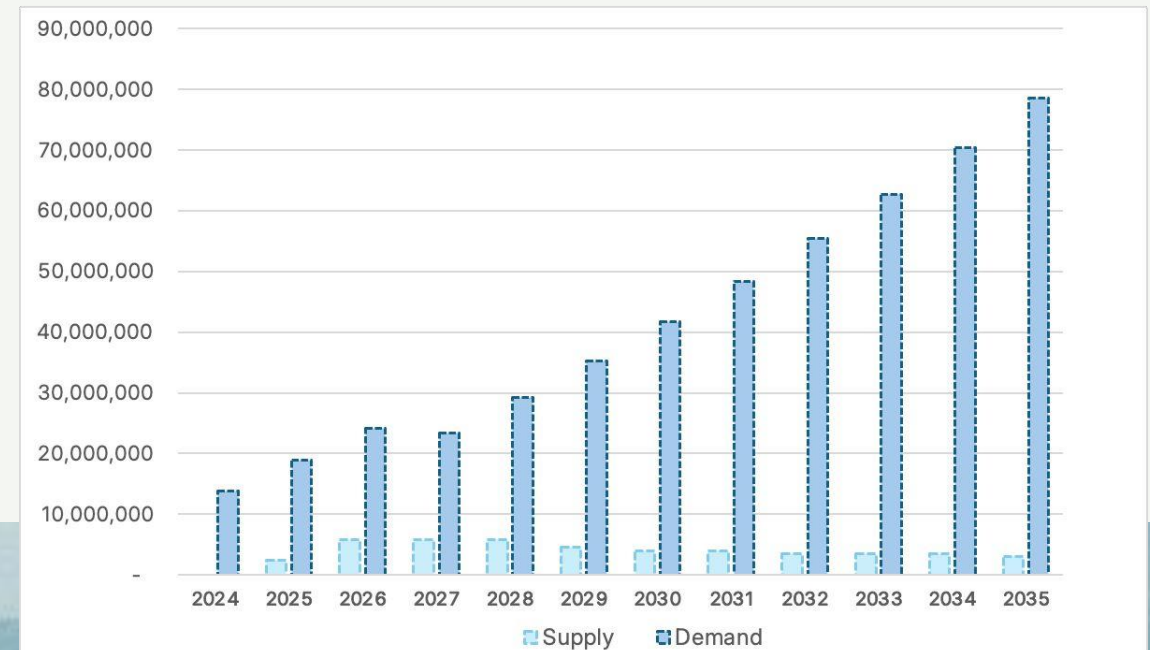


CORSIA supply and demand have **different geographical distributions**, generating global **competition for eligible supply**

10 ASEAN member states¹

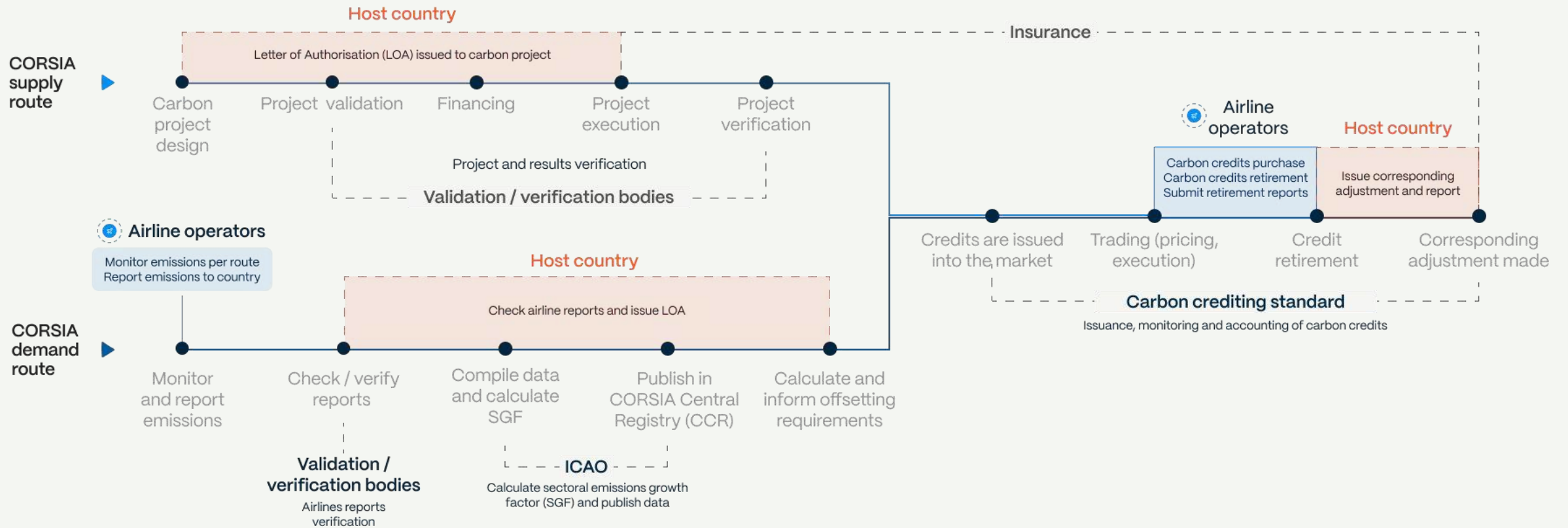


10 countries: Asia, Europe, Middle East, Americas



1. Excluding Timor-Leste, which became a member of ASEAN on 26 October, 2025

Successful CORSIA compliance means navigating a complex process where credits are authorised by host countries and labelled by standards in registries



Key activities airlines need to undertake to compensate emissions using CORSIA Eligible Units
--- Main stakeholder involvement
 Fundamental steps in the CORSIA emissions compensation process

Demand for internationally transferred mitigation outcomes (ITMOs) relies on **policies** leading to operationalisation of Article 6 of the Paris Agreement

Country policies change over time and require constant monitoring














Climate policies by country define which emissions sources are eligible for carbon projects, and how countries account for verifiable mitigation, including for CORSIA.

Countries are setting up domestic procedures to allow country-to-country cooperation, with various degrees of progress

Countries preparedness for issuance of **Letters of Authorization (LoAs)** and application of **corresponding adjustments** must be monitored.

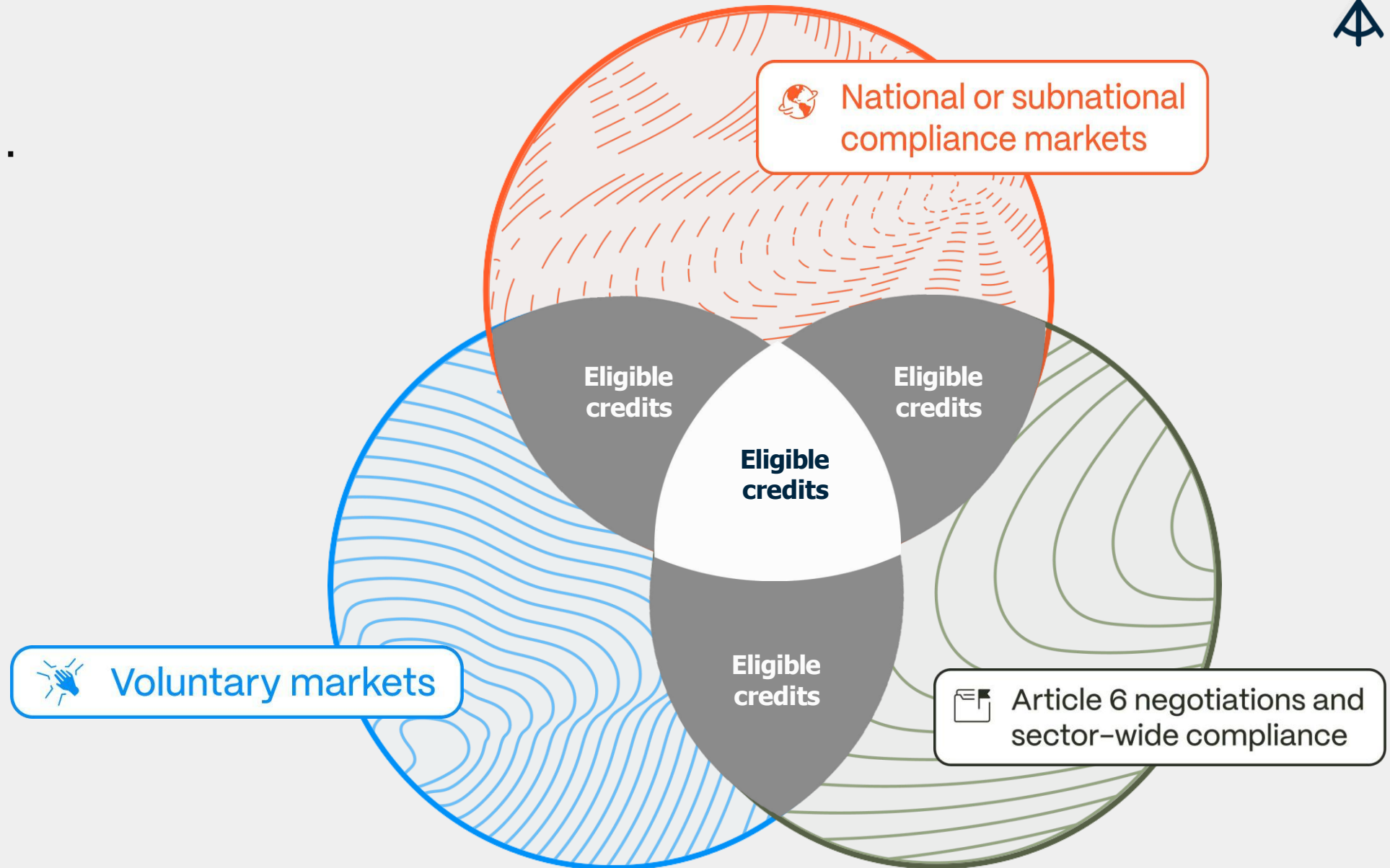
A robust carbon procurement strategy should rely on close monitoring of countries policies to minimise the risk of LoAs revocation or have means to respond to it

Our country profiles monitor policies development

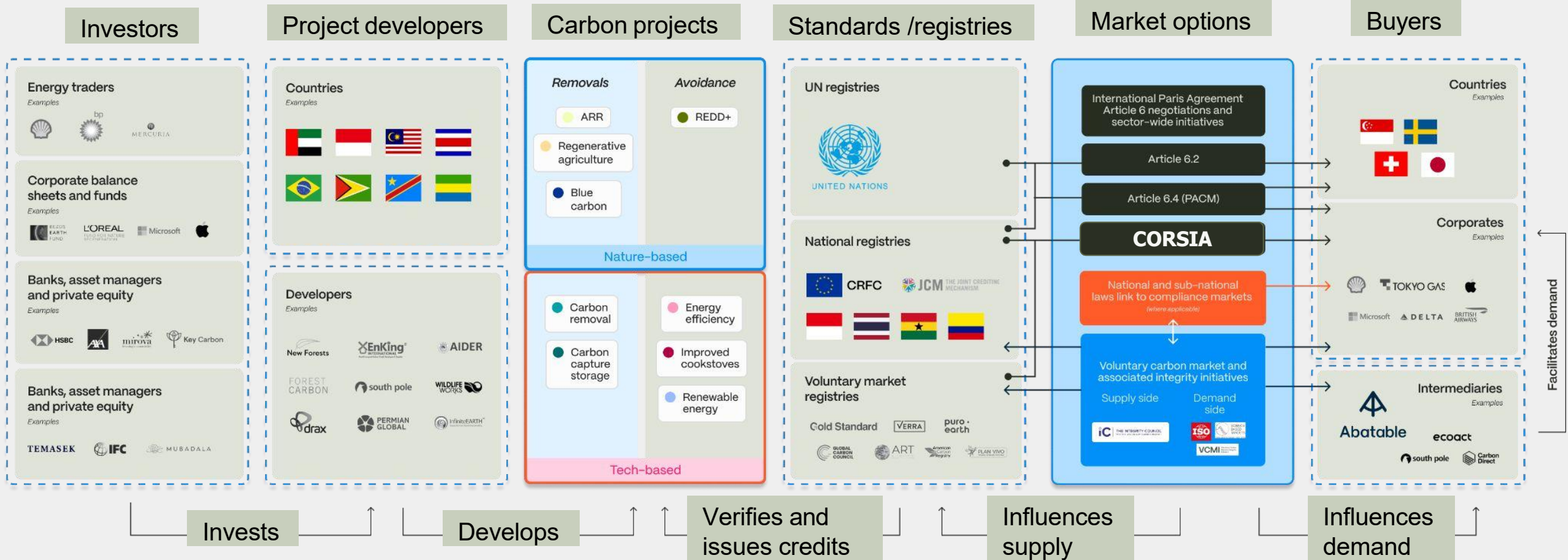
Host country	Acquiring country					Article 6 operation			
						List of eligible activities	Authorization procedure	Corresponding adjustment	Carbon markets regulation
	✓					✓			
		✓	✓	✓	✓	✓	✓	✓	✓
				✓					
	✓	✓	✓			✓			✓
			✓						✓
		✓	✓						
		✓				✓			✓
	✓	✓	✓						



In summary...



Multiple carbon markets are emerging worldwide with overlapping degrees of carbon credits eligibility





Juan Carlos Arredondo Brun

Director of Knowledge, Policy and Advocacy

[Abatable](#)



Juan Carlos is an international expert on climate policies and carbon markets.

He is former Vice-Minister for Environmental Policy and Planning, and former Director General for Climate Change Policies at Mexico's Ministry for the Environment and Natural Resources (SEMARNAT). He led the development of Mexico's Emissions Trading Systems, and the first compensation mechanism of Mexico's carbon tax.

For 15 years he was a **climate negotiator for Mexico to the UNFCCC** and was Mexico's lead negotiator for Article 6 of the Paris Agreement.

He worked as advisor on carbon markets and Article 6 with the World Bank and the Swiss government, and later for McKinsey & Co in London advising governments and corporates across sectors (e.g., aviation, cement, finance, oil and gas, power) on the design, structuring and use of carbon markets for voluntary and compliance purposes in:

- o **Africa** (ACMI, Ghana, Kenya, Nigeria, Rwanda),
- o **Asia** (India, Indonesia, Malaysia, Singapore),
- o **Europe** (Denmark, EU, France, Italy, Greece, Spain, Switzerland),
- o **Latin America** (Mexico, Colombia, Dominican Republic, Panama), and
- o **North America** (USA).

In 2019 he was appointed by UN-ICAO as member of the Technical Advisory Body (**TAB**) for **CORSIA**

In 2025, he was selected to the Expert Panel of the Integrity Council for the Voluntary Carbon Market (**ICVCM**)

Navigating Buyer Expectations and Intermediary Engagement

The role of trading desks in bridging information asymmetry between sovereign sellers and carbon-credit buyers

World Bank discussion | Rodrigo Bezerra, Head of Upstream, Environmental Products

Core message

A carbon credit is not priced like a simple commodity. It is priced through delivery, policy, integrity, counterparty, and market risk.

The practical challenge is making those risks legible, allocable, and financeable.

Carbon-market infrastructure is growing, but transactions remain hard

28%

global GHG emissions covered

Direct carbon price: ETSs + carbon taxes

US\$102bn

public revenue in 2024

Collected by compliance pricing systems

80

compliance instruments

37 ETSs and 43 carbon taxes implemented

33

governmental crediting mechanisms

Implemented regional, national, subnational

The signal for sovereign sellers:

● Demand is not generic

Buyers need credits that fit their use case, rules, claims, timing, and internal risk limits.

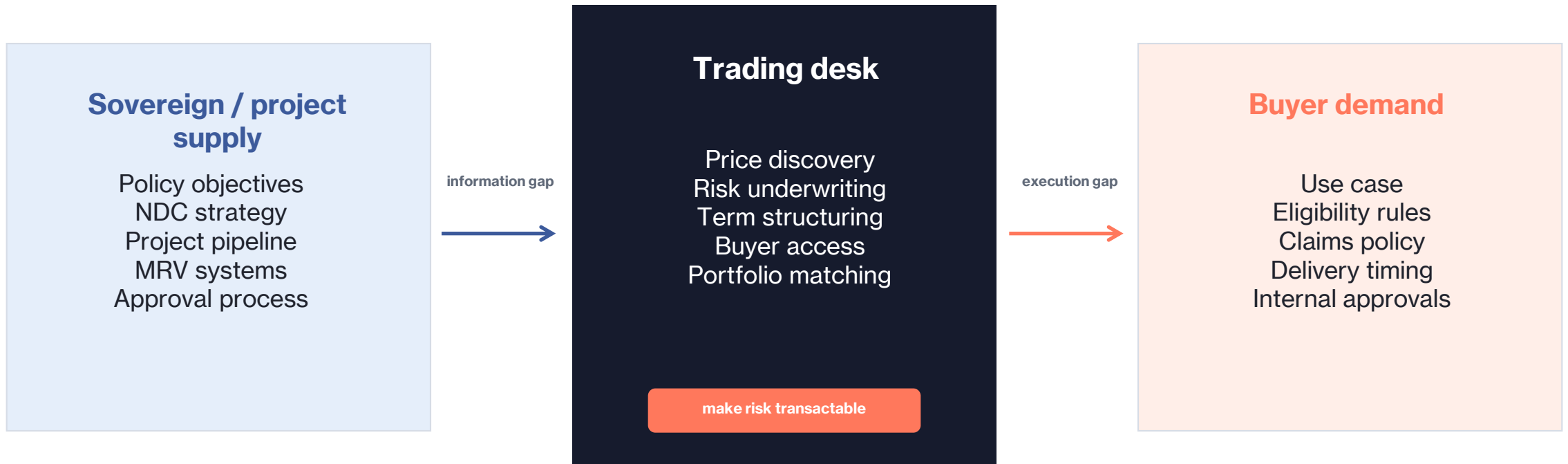
● Liquidity remains uneven

Price transparency is limited, especially in bilateral VCM and pre-issuance transactions.

● Integrity is a market access issue

Quality, safeguards, MRV, vintage, and claims rules increasingly determine whether demand appears.

Why trading desks exist: to bridge information asymmetry



The desk does not only move credits. It converts uncertain future supply into a product a buyer can underwrite.

How price discovery works in opaque, bilateral markets

In carbon, the visible price is the output of many hidden underwrites.

● Project type

Removal vs reduction, nature-based vs industrial, jurisdictional vs project

● Credit quality

Standard, methodology, vintage, safeguards, permanence, additionality

● Policy status

CA framework, authorization, ownership, NDC treatment, host-country approvals

● Delivery profile

Issued vs forward, volume certainty, timing, monitoring and verification path

● Buyer use case

Voluntary claim, CORSIA/compliance eligibility, internal procurement rules

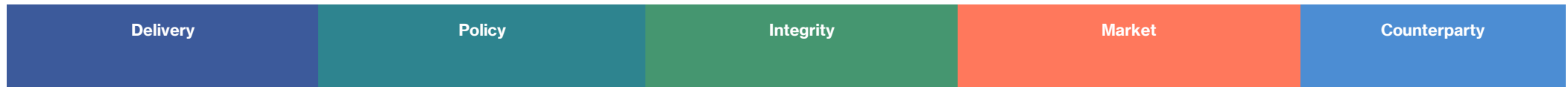
● Market depth

Comparable trades, liquidity, reputation risk, optionality and resale path

Executable price = buyer willingness to pay after risk, eligibility, timing, and claim constraints

A carbon credit is a bundle of risks

1 tCO₂e plus the future confidence that the tonne will be delivered, valid, claimable, and acceptable



● Delivery risk

Will credits be generated, verified, issued, and transferred on time and at expected volume?

● Policy and CA risk

Will authorization, corresponding adjustments, ownership, and NDC accounting remain clear?

● Market and reputation risk

Will the credit remain acceptable to claims standards, end-users, media scrutiny, and compliance rules?

Transactions close when these risks are allocated explicitly, not when they are ignored.

What credit and counterparty risk assessment looks like

Before capital is committed, buyers and intermediaries underwrite both the credit and the seller.

● Credit integrity

Methodology, baseline, additionality, leakage, permanence, safeguards, validation and verification

● Delivery certainty

Project readiness, issuance timeline, volume sensitivity, monitoring plan, buffer/reversal treatment

● Legal title

Credit ownership, transfer rights, registry controls, local approvals, enforceable authorization

● Sovereign process

Ministry alignment, NDC treatment, CA approval path, continuity across political cycles

● Counterparty strength

Ability to perform obligations, reporting discipline, dispute path, payment and delivery mechanics

● Market exit/use

Likely buyer universe, claim type, compliance eligibility, resale constraints, reputational acceptability

How transactions become executable

The desk creates value when broad uncertainty is converted into price, conditions, and responsibilities.



Common sovereign friction points

Credit ownership

CA authority

Approval timeline

MRV documentation

Forward delivery risk

If a risk cannot be described in transaction terms, it usually becomes a discount, a condition precedent, or a reason the buyer cannot proceed.

VCM and compliance demand have different gates

Voluntary demand is more flexible but less predictable; compliance demand is more rules-based but requires tighter eligibility.

Dimension	Voluntary carbon market	Compliance / Article 6 demand
Buyer driver	Corporate climate claims, portfolio strategy, voluntary procurement	Regulatory obligation or sovereign / scheme eligibility
Price signal	Bilateral, fragmented, limited transparency	More rules-based; often clearer benchmarks
Key requisites	Quality, claims acceptability, safeguards, vintage, buyer reputation fit	Formal eligibility, MRV, authorization, registry, CA where required
Transaction risk	Demand can pause as claims guidance changes	Rule changes matter, but demand can be more durable
Sovereign need	Market engagement and flexible product strategy	Institutional process, legal clarity, Article 6 readiness

VCM benchmark: 2024 transactions fell to 84.4 MtCO₂e (-25% y/y), while retirements held near 182m credits and removals carried a 381% premium over reductions.

Corresponding adjustments are a sovereign choice

A CA can unlock higher-confidence demand, but it also transfers how a mitigation outcome is accounted for.

What a CA can unlock

Compliance / Article 6 buyer access

Stronger claim durability

Higher buyer confidence

Potential price support

CA

value
vs
NDC cost

What a CA requires

NDC strategy and tradeoff analysis

Clear legal authorization authority

Registry and accounting controls

Durable reporting process

Decision test: do the incremental market benefits justify transferring the mitigation outcome for the intended use?

What sovereign sellers need before going to market

1. Clear risk allocation

Know which risks the sovereign retains, transfers, mitigates, or expects the market to price.

2. Regulatory clarity

Define credit ownership, authorization authority, CA policy, registry process, and approval timeline.

3. Transaction capacity

Build the institutional ability to negotiate terms, manage data rooms, engage buyers, and close contracts.

4. Market optionality

Prepare supply for more than one demand pool: VCM, CORSIA, Article 6, domestic or other compliance uses.

Closing thought

Price is a function of risk, not just production cost. Transacting at scale requires making risk legible and allocable.

Thank you

Unlocking Carbon Market Opportunities

Navigating buyers, pricing and market structure

May 2026





A trusted partner and premier exchange for environmental markets

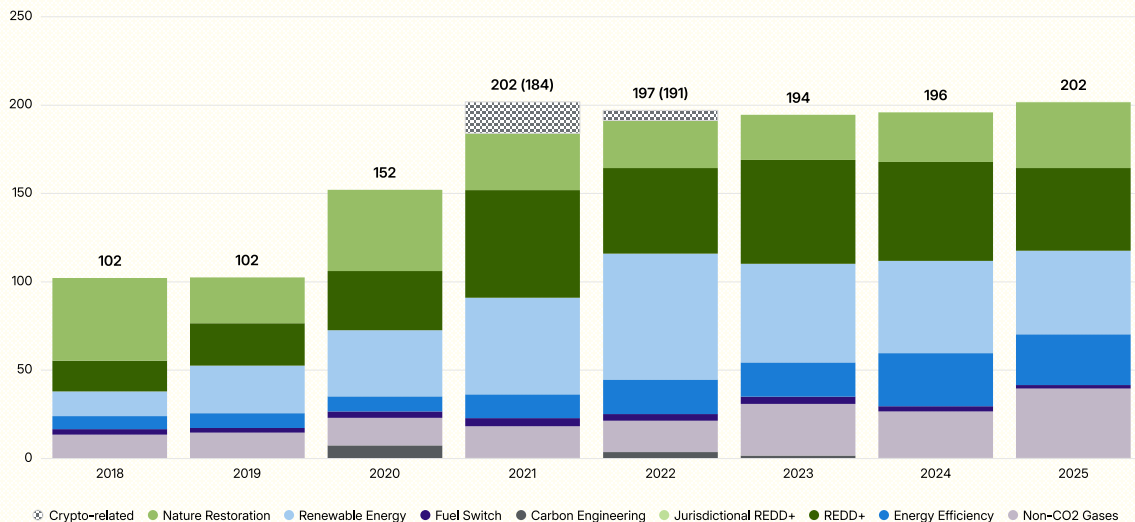
Driving global impact by **seamlessly connecting supply and demand** for verified environmental products across diverse markets.

Backed by visionary institutions with a strong sustainability and climate agenda:





Carbon market dynamics today



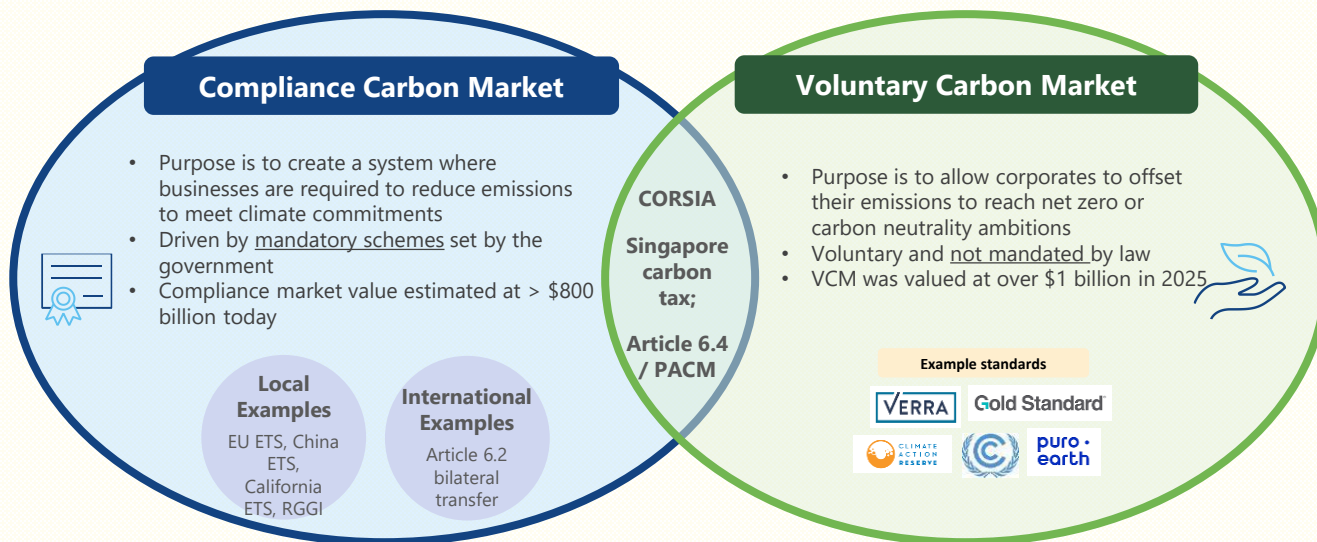
Source: MSCI

Retirements have stagnated at ~190–200 MtCO₂e per year since 2021

Buyers are becoming more sophisticated, with a strong focus on integrity & high-quality

Compliance demand is starting to pick up, with CORSIA & Article 6 moving from policy to practice

While spot activity continues, forward offtakes are growing, reaching over \$12 billion in 2025





The carbon market ecosystem

Supply

Financiers & Implementation Partners:

Sponsor and finance carbon credit projects. This includes corporates, multilateral development banks, state-backed entities, dedicated carbon market funds, private equity and impact investors.



Project Developers:

Develop carbon projects by securing financing, designing the project, completing the project registration process, and ensuring a project monitoring process is established.



Third Party Rating Agencies:

Critique project developers, review monitoring process and provide ratings.



Third Party Auditors:

Provides quality assurance, validation, verification and monitoring



Registries:

Set standards for quality, as well as certify, issue and track credits.



Intermediaries

Transactions for Positive Impact

Marketplaces & Exchanges

Brokers & Retailers

Advisors



Transactions for Speculation

Marketplaces & Exchanges

Trading Houses, Banks & Speculative Parties



Buyers

Corporates

For voluntary or compliance purposes.

Governments

To meet their NDCs/ Commitments.

Individuals

To offset their own footprint.

Investors

To speculate on market prices.



Carbon market transaction channels

OTC / Brokered

Negotiated off-screen

1

Bilateral or intermediated deal

Buyer & seller agree terms directly or via broker

Price

- Opaque
- Negotiated bilaterally
- Value driven by negotiation leverage

Demand certainty

High; buyer identified, terms agreed before transaction execution

Speed

Slow; KYC, commercial negotiations, contracting and settlement can be time consuming

Exchange / On-screen

Traded on-platform. Exchange is principal to all trades, i.e. Buyer and Seller each face Exchange as the counterparty

2

On-screen trading with firm bids/offers

Single project listings & standardised contracts

Price

- Transparent
- Market-representative prices
- Daily benchmarks

Demand certainty

Moderate; buyer participation driven by market liquidity and active order book

Speed

Fast; DvP settlement can be instantaneous (CIX standardised contracts) or within days (T+3 days for single project listings on CIX)

3

Auctions

Curated bidding event

Price

- Price discovery through competitive bidding;
- Possibility of achieving a clearing price above reserve price

Demand certainty

Moderate; known buyer pool, but final clearing price and volume known at event close

Speed

Moderate; fixed auction event date set in advance, fast post-auction clearing and settlement

CIX offers solutions across all channels



Compliance vs voluntary – buyer logic

Compliance Buyers

CORSIA airlines · Singapore Carbon Tax liable entities

“Are these carbon credits eligible for my compliance obligation?”

Environmental integrity is defined by the regulator



Policy Access

- Letter of Authorisation
- Corresponding adjustment (CA)
- Bilateral Implementation Agreement



Technical Eligibility

- Approved registry
- Eligible methodology
- Eligible vintage
- Insurance *(for CORSIA, if CA is pending)*

Voluntary Buyers

ESG-driven corporates

“Will these carbon credits hold up to scrutiny?”

Environmental integrity is self-assessed, defined by the buyer



Environmental Integrity

- Additionality
- MRV
- Permanence
- Leakage



Integrity Signals

- ICVCM CCP
- Third party ratings (e.g. BeZero, Sylvera, Calyx)



Impact Premium

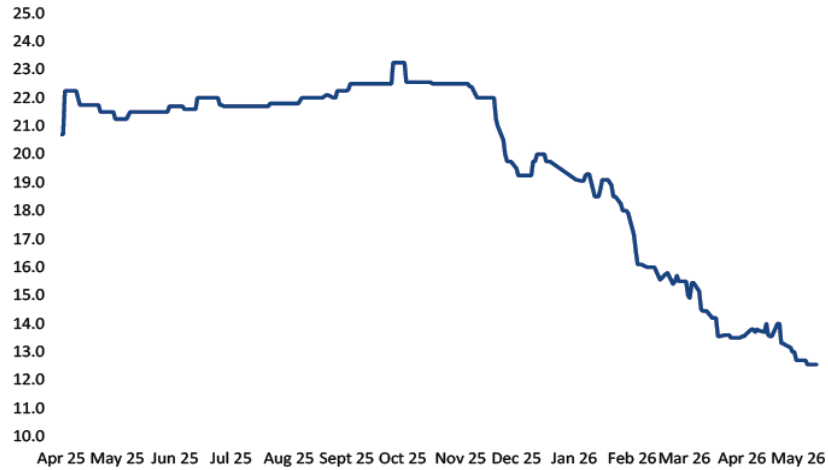
- CCB certification
- SDG alignment

What moves the price needle

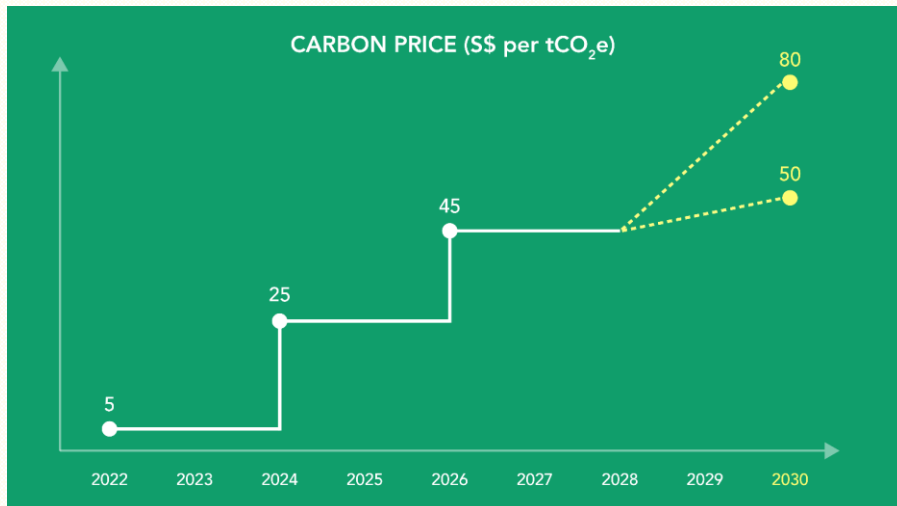


Compliance Markets

CIX CORSIA Phase 1 X – Global Markets (CIX CP1X-GM)



Singapore Carbon Tax



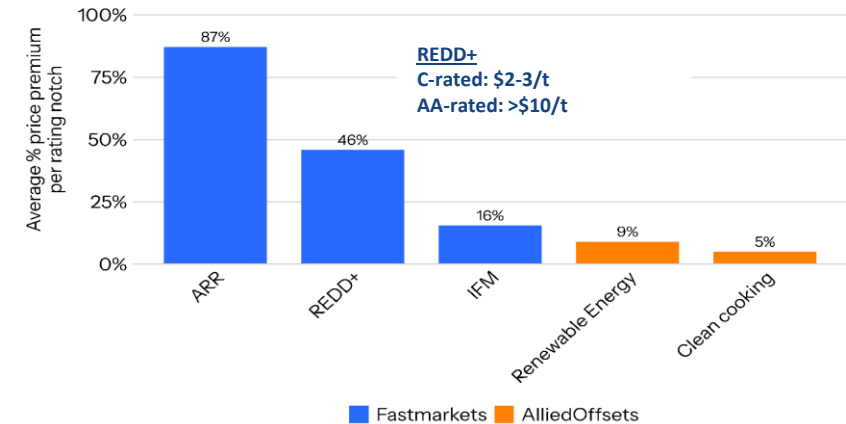
Voluntary Markets

VCM Transactions, Average Price



Source: Ecosystem Marketplace

Average % price premium per BeZero Carbon Rating notch



Source: BeZero Carbon



From bilateral deals to a financialised carbon market

Actualising a financialised carbon market is critical to supporting global climate ambition.





Implications for market participants



For Developers

Design projects for compliance-grade integrity

- Prioritise CCP-approved methodologies and robust MRV systems
- Engage host country governments early on LoAs and Article 6 authorisation
- Structure projects for international transferability – registry, vintage, authorisation requirements differ by market
- Quality drives price– CCP approval and independent ratings can improve price



For Buyers

Secure access early and pay for quality

- Integrate third-party ratings and integrity criteria into procurement upfront
- Engage the market early – compliance-ready supply is limited and the quality premium is growing
- High-integrity credits are increasingly a commercial differentiator



For Policymakers

Enable market access through authorisation frameworks

- Clear Article 6 frameworks unlock investment and give supply a competitive edge in international markets
- Move early on sector eligibility – the countries that authorise high-quality supply first will capture disproportionate market share
- Coordinate policy and project readiness

Thank you



Scan to register for
CIX Carbon Daily





Climate Impact X

Your trusted gateway to
global environmental markets

EXTENSIVE MARKET ACCESS

1,400+ customers trust us
17M+ tonnes CO2e facilitated

Stay competitive by leveraging our broad network of buyers and sellers across diverse markets, supported by our shareholders and partners that anchor a broader environmental markets ecosystem.

FLEXIBLE TRANSACTION EXECUTION

12 registries connected
Diverse transaction options

Leverage CIX as your single port of call for procurement and trading. Our suite of transaction modalities, best-in-class physical settlement mechanism and custody capabilities eliminate the hassle of managing multiple service providers or registry accounts.

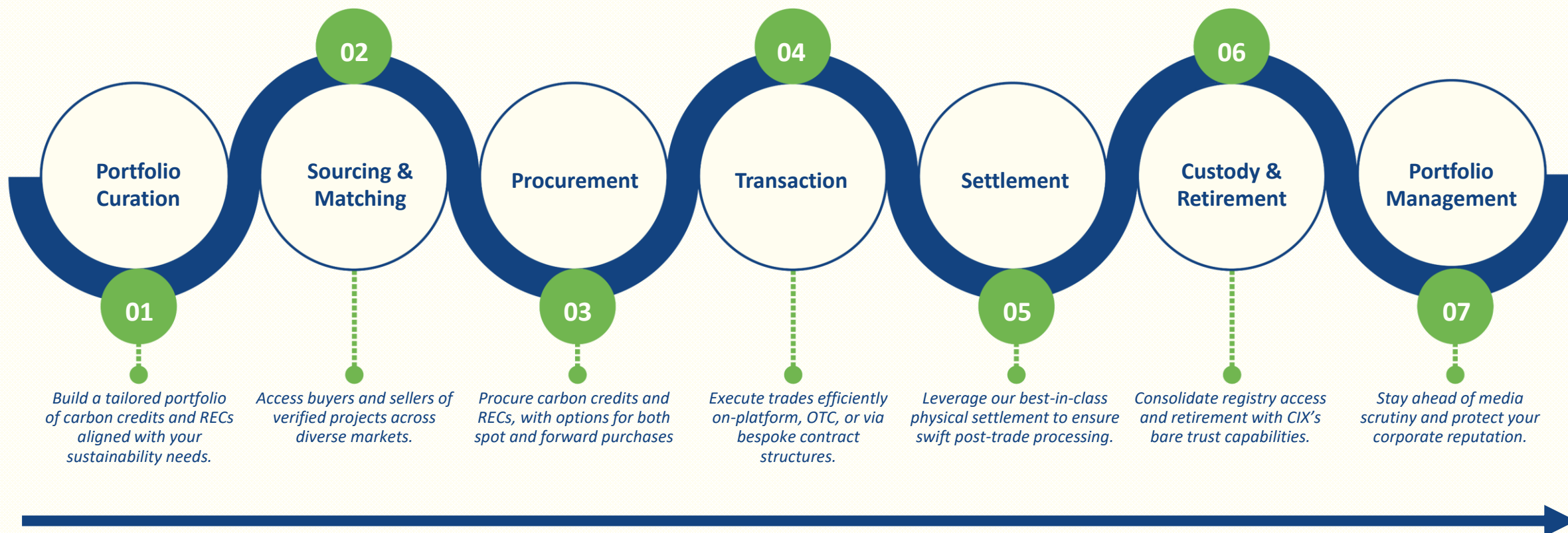
ACTIONABLE MARKET INTELLIGENCE

55K+ transactional data points
~50 credit types across 90+ markets

Unlock pricing insights to make informed decisions with the richest trove of real transactional data; and pricing trend visibility at the credit type and project level.



Whether you're **buying, selling** or seeking market **insights**, our team is here to help.



Power every decision with trusted pricing data and market insights.



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SESSION B5

KNOWLEDGE MARKETPLACE



YOUR ACCOMPLISHMENTS & FEEDBACK



COUNTRY CLIMATE TOOLBOX



TOWARD SUSTAINABLE GROWTH AND CLIMATE RESILIENT ECONOMIES

A COUNTRY CLIMATE TOOLBOX

I4C 2026

GKF 2026

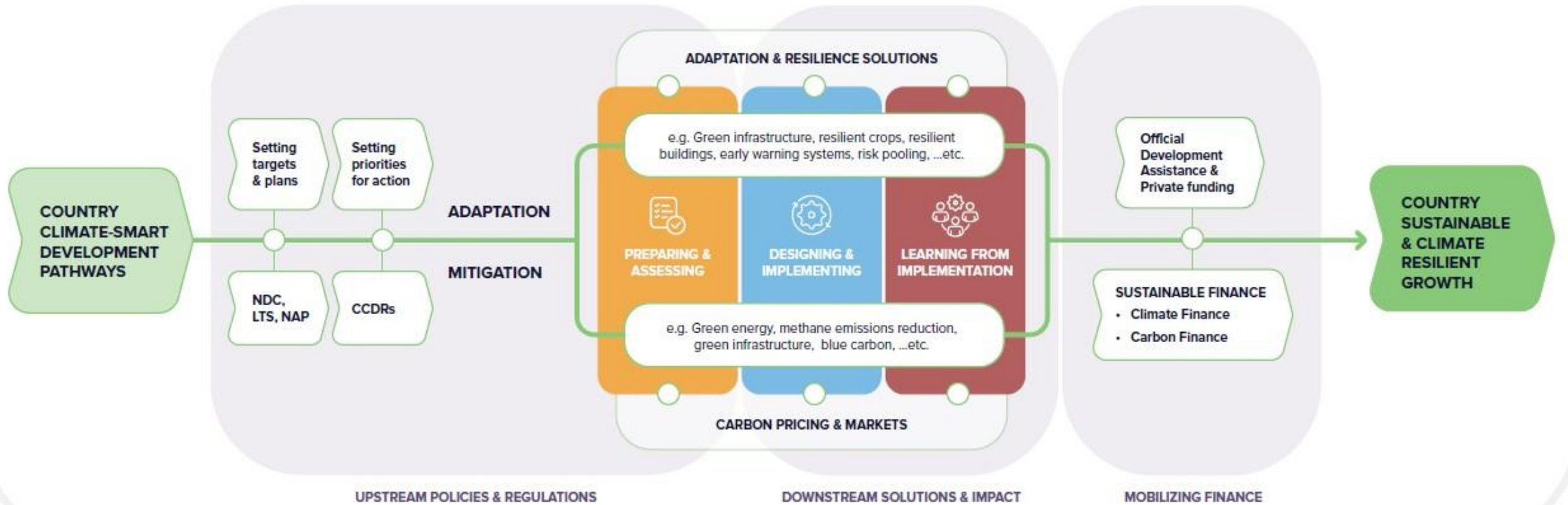


Table 1 (Shreya Rangarajan) - Guidance for Policymakers on the Role of Carbon Pricing and Markets in NDC-LTSs;

Table 3 (Hari Gadde) - Country Guidance For Navigating Carbon Markets; Letter of Authorization and Acknowledgement template

Station 5 (Fabiano De Andrade Correa and Loren Atkins) - Legal & Regulatory Reforms for Toolkit High-Integrity Carbon Markets;

Station 7 (Gemma Torras and CADT) – Carbon Markets Infrastructure (d-MRV)

Table 9 (Hugh Salway) – Gold Standard: Authorization, Registries and Credits in Compliance Markets

Table 11 (Lorna Ritchie and Zhen Chong) – ICVCM: How CCPs Empower Governments to Engage in Carbon Markets

Table 13 (Fenella Aouane and Marshall Brown) – GGGI - Tools and Resources for Article 6 Readiness to Results

Table 15 (Andrea Bonzani and Nadine LIM Shu Yan) – IETA: Tracking Article 6 Implementation

Table 16 (Leticia Guimaraes) – UNDP: National Registries, Article 6 training, and High Integrity Carbon Markets Toolkit

Table 18 (Lydia Sheldrake) – VCMI : Carbon Markets Access Toolkit and the Coalition to Grow Carbon Markets’ Shared Principles to grow corporate demand

Table 20 (Diana Khan) - A6IP: Navigating Article 6 Through Country Support and Knowledge Sharing

Table 22 (Tamiksha Singh) – ADB: Operationalizing Carbon Markets: Bridging Readiness to Investment

Table 24 (Seoyoung Lim) Expert corner: UNFCCC



CLOSING REMARKS

Partnerships for Development

