Primer on Article 6 markets

October 11, 2023

Carbon markets could leverage up to US$625bn per year in climate investments....

Carbon markets under the Kyoto Protocol

- generated over **$300 billion in clean investments since 2005** and reduced an estimated **two billion tons of GHG emissions**
- demonstrated a **1:5 investment leverage** (Clean Development Mechanism)

*Carbon markets could leverage up to **$375-625 billion** per year*

If **10% of global emissions** (50 bn tons today) can be mitigated via market mechanisms…

…At a price range of **$15-25/ton of CO_2**

Matching current annual volume of climate finance - US$653bn (CPI)

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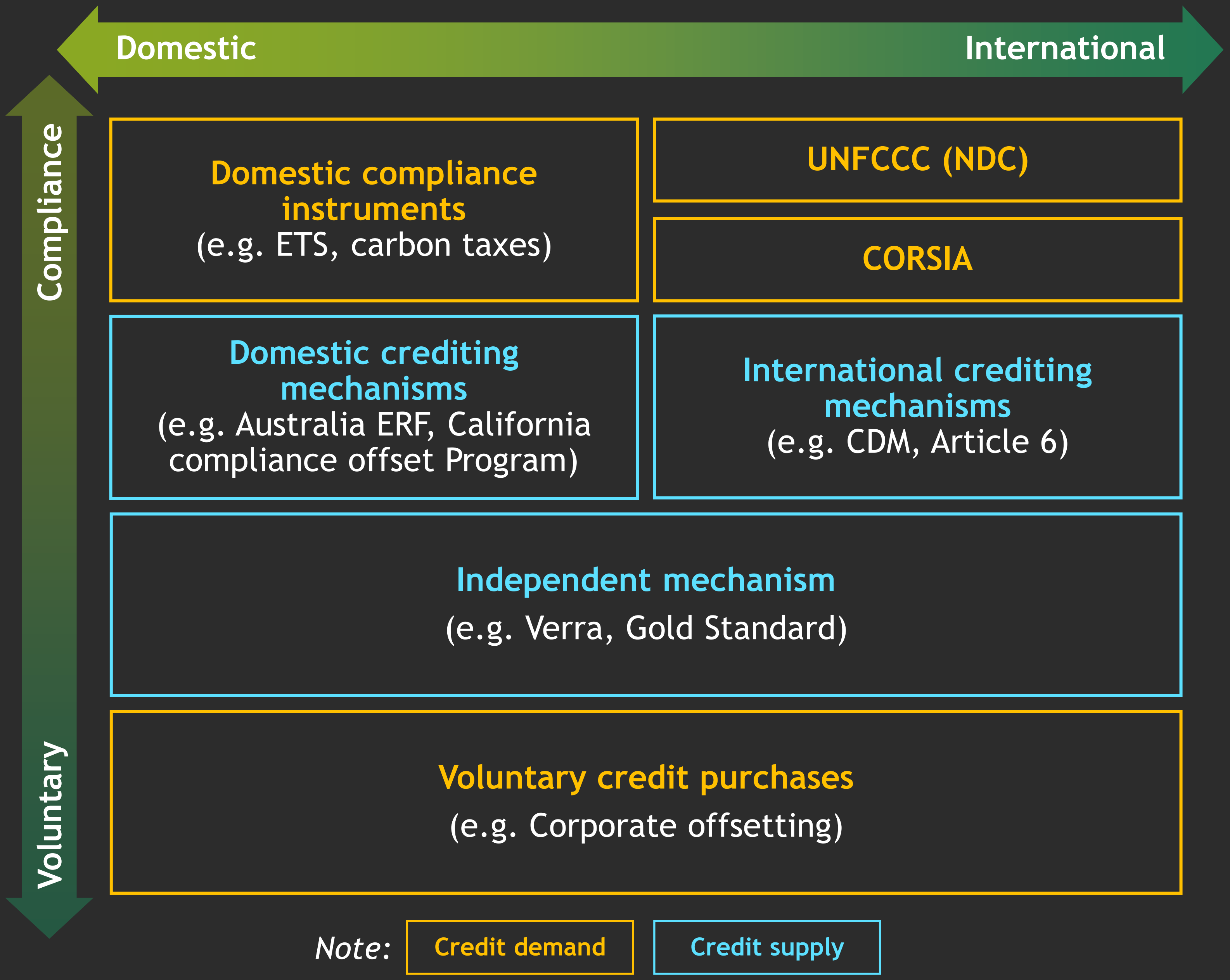
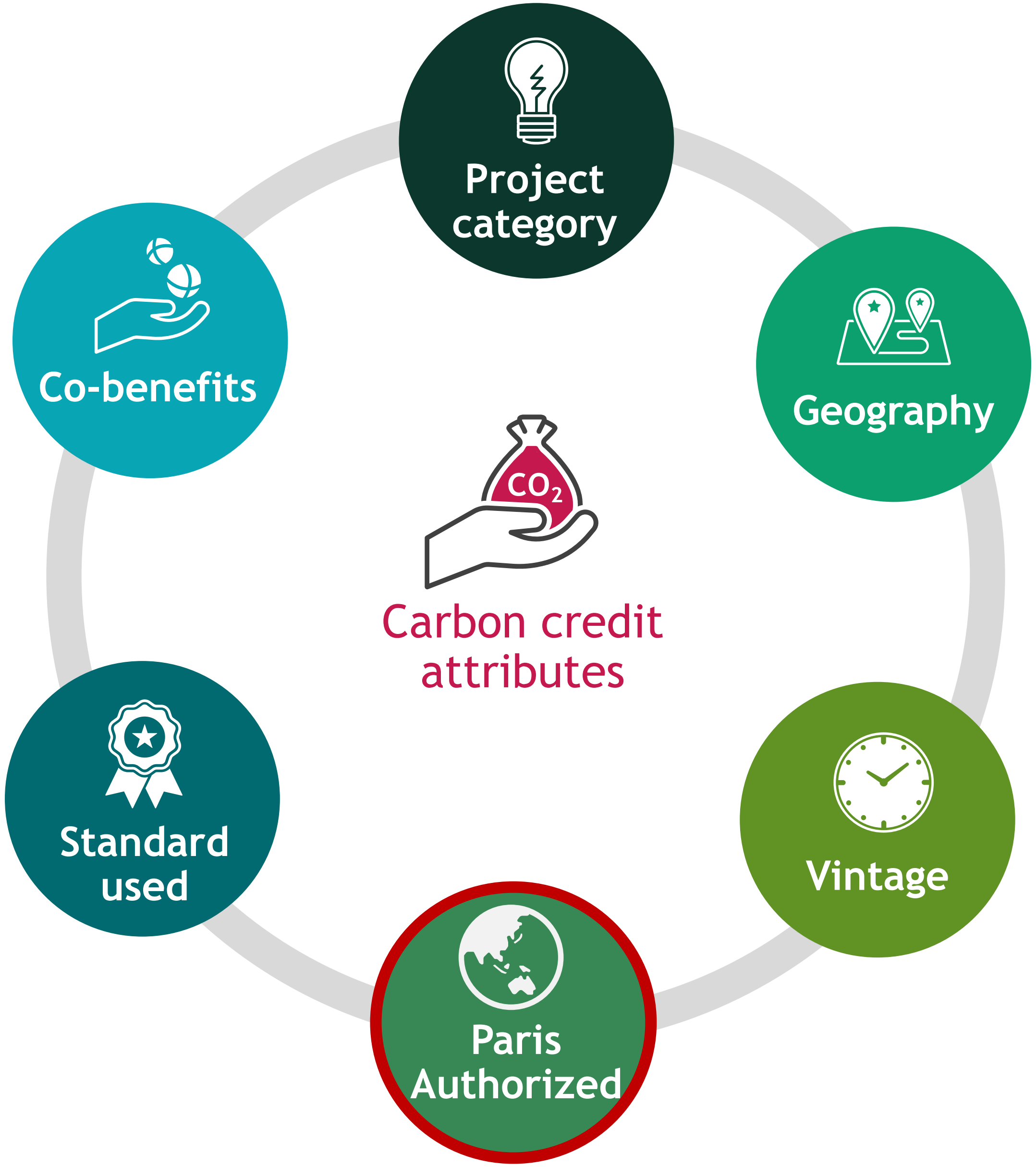
Carbon credit markets

The spectrum of compliance-voluntary and domestic-international adds complexity to the markets for carbon credits



Carbon credit prices are determined by market, based on various drivers and credit attributes



Multilayered purchaser decisions shape diverse markets and prices

1. **Voluntary or compliance?**
   Voluntary market purchasers tend to have more diverse preferences than compliance purchasers

2. **Co-benefit or least cost?**
   Consumer-facing companies are more likely to seek credits from "marketable" projects with multiple co-benefits

3. **Contribution or compensation?**
   Purchasers seeking to offset their emissions may be more likely to seek credits with corresponding adjustments

4. **Removal or reduction/avoidance?**
   Purchasers seeking to comply with net-zero prefer carbon removal over emission reduction/avoidance

Article 6 markets

While Paris Agreements markets can draw on lessons from the Kyoto era, their guiding frameworks are different..

	Previously	Today
Guiding Principle	Kyoto Protocol	**Paris Agreement**
Role of markets	**Reduce cost and raise additional capital towards mitigation activities**	
Compliance	CDM and JI had different regulators, but overall management by CMP	**Bilateral or plurilateral agreement for 6.2; rules determined by the CMA for 6.4**
Participants	Annex I countries were buyers No mitigation obligation for developing countries	**Every country could be a buyer, a seller, or both** **Every country has a mitigation obligation (NDC)**
Experience/market development	Evolved on an ad-hoc basis	**More deliberate effort due to increased awareness, experience with CDM**

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Two different mechanisms under Article 6

Article 6 of the Paris Agreement sets out the framework for the regulated or compliance carbon market where ITMOs are traded internationally. Buyers include governments purchasing ITMOs to meet their Nationally Determined Contributions (NDC) as well as private sector entities.

- Articles 6.2 and 6.4 are two different mechanisms that enable generation of carbon credits.
- At COP26 in Glasgow, the rules on Art. 6 were finalized, but detailed modalities, procedures, and guidance still need to be provided for its operationalization.

	Article 6.2	Article 6.4
Objectives	Using cooperative approaches to enhance ambition under NDCs	
Governance	Under bi- or plurilateral governance	Under the authority and supervision of the CMA
Characteristics	Introduces "mitigation outcomes" (MOs) which can be produced from any mechanism/procedure/protocol recognized/approved as eligible by Parties to the cooperative approach	Generates "A6.4ERs" with a view to "contributing to the mitigation of GHG and supporting sustainable development" • Overall Mitigation in Global Emissions (OMGE) • Share of Proceeds (SoP) for Adaptation Fund

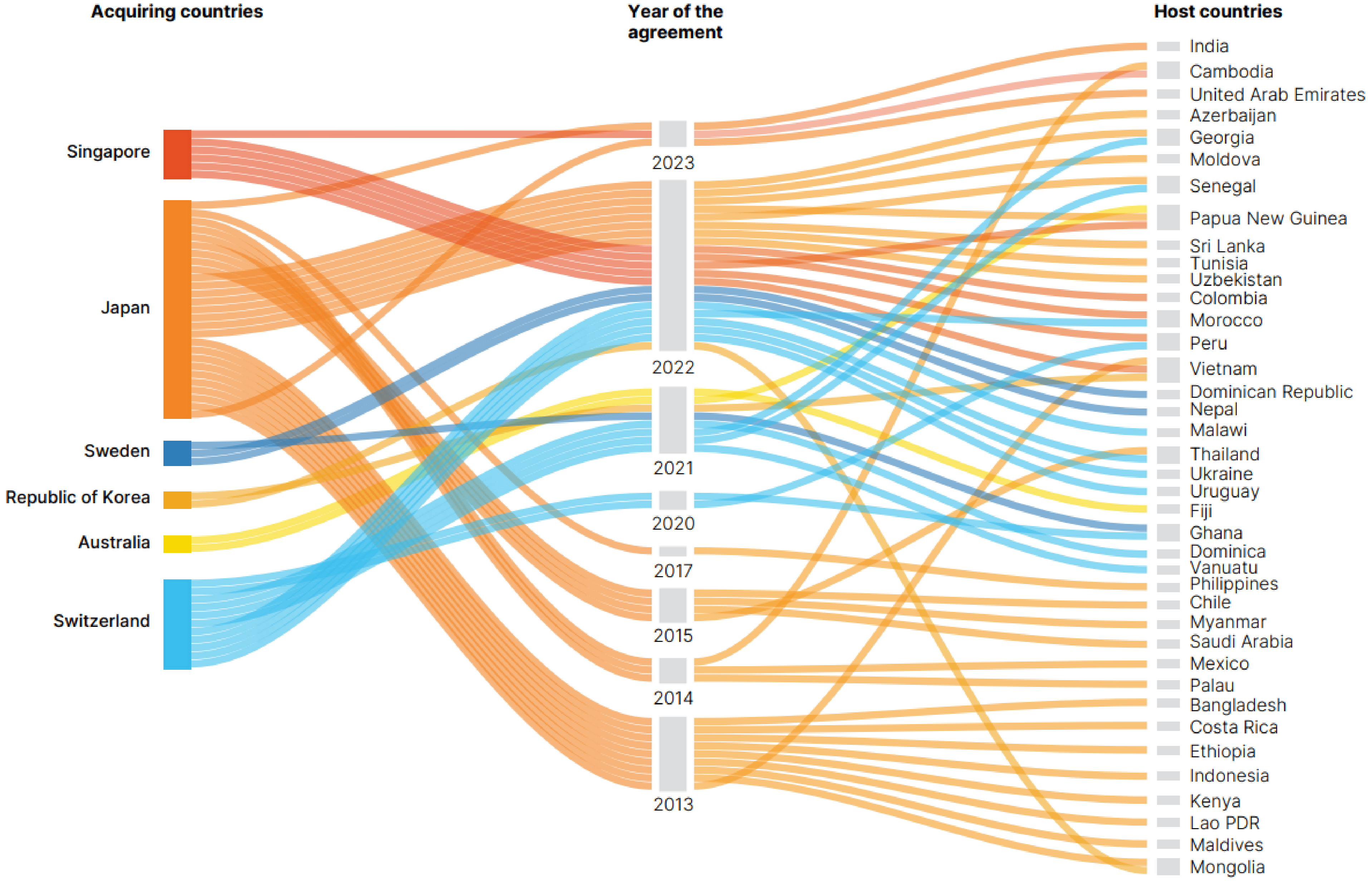
Guided by Article 6 of the Paris Agreement, all countries can now participate in carbon markets as buyers & sellers of carbon credits

- Even though further guidance for Article 6.2 is still being developed at the international level, countries are nevertheless pushing forward with implementation
- Several countries have signed bilateral Article 6.2 cooperative agreements for the international transfer of mitigation outcomes

Switzerland	Between 2021 to 2030, Switzerland intends to offset 10% of its GHG emissions abroad (54 $MtCO_2e$) and has signed MOUs with 11 countries for Article 6.2 trading*
South Korea	Intends to use international credits to offset 4.5% of its GHG emissions or about 16.2 $MtCO_2e$; has signed an agreement with Vietnam & Laos and is actively exploring cooperation with several other countries
Japan	Aims to achieve accumulated GHG reductions of 50-100 $MtCO_2e$ through the JCM; has signed agreements with 25+ countries as part of JCM
Sweden	Committed to reach net zero emissions by 2045; has signed agreements with Dominican Republic, Ghana and Nepal
Singapore	Announced to utilize the international carbon market as one of climate actions to meet its goal and has signed agreements with Colombia, Morocco, Vietnam, Papua New Guinea, Peru, Cambodia, Bhutan, Mongolia & the Dominican Republic
Australia	Pledged to net zero by 2050 and as part of the Indo-Pacific Offset Scheme, has signed agreements with Fiji and Papua New Guinea for Article 6 trading

*Switzerland-Ghana and Switzerland-Thailand agreements have also been bilaterally authorized for transfer of ITMOs

ARTICLE 6.2 BILATERAL AGREEMENTS AS OF APRIL 1, 2023[xli]



(xli) Reflects bilateral agreements that have been signed between national governments related to cooperation under Article 6 (as of April 1, 2023). The agreements have differing objectives and legal statuses. For Japan, bilateral agreements are intended to establish the Joint Crediting Mechanism, which includes activities that pre-date the Paris Agreement. For Australia, it includes Australia's partnerships with Fiji and Papua New Guinea announced under the Indo-Pacific Carbon Offsets Scheme.

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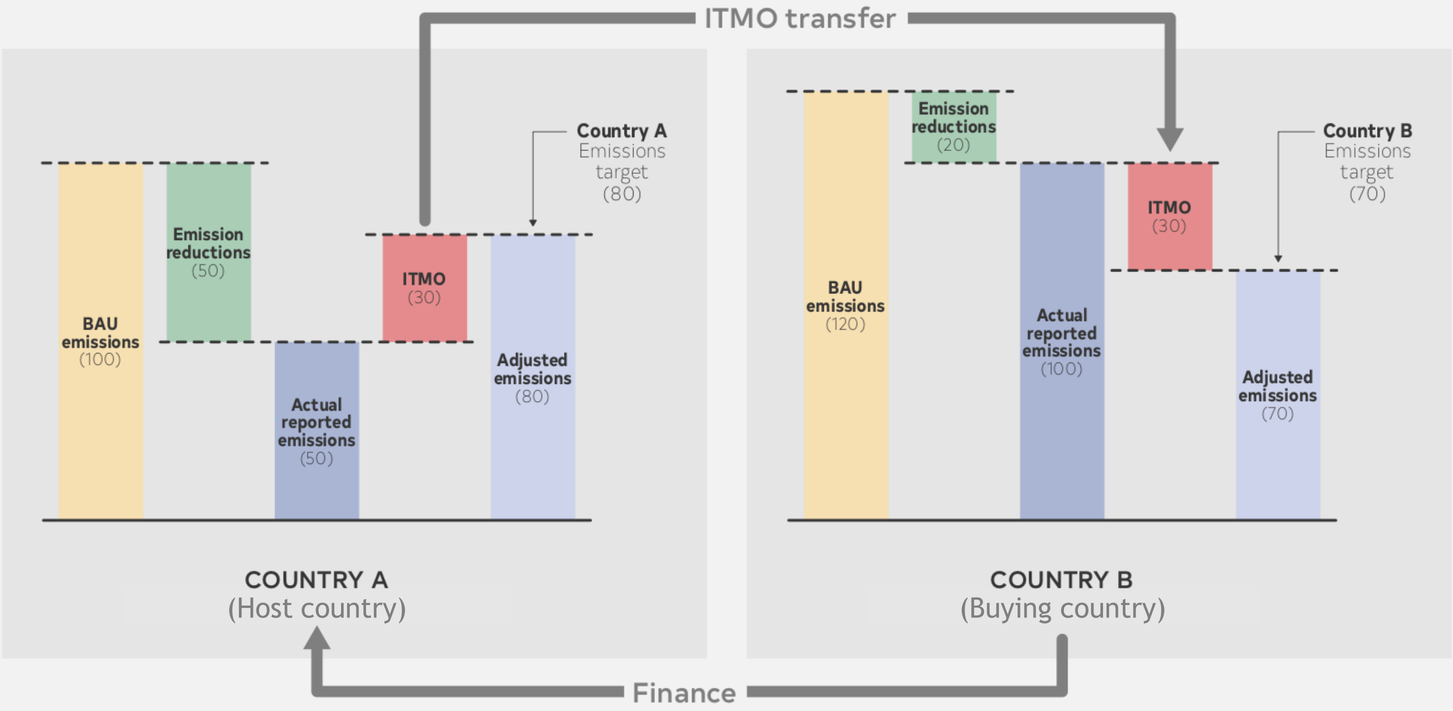
Article 6 and Corresponding Adjustments

Corresponding adjustment (CA) is a mechanism established under Article 6 of the Paris Agreement to ***avoid double counting***. A selling (host) country that ***authorizes*** the transfer of mitigation must increase its reported emissions by the amount transferred.

Carbon credits transferred with a CA ***cannot*** be counted toward the host country's NDC



How CA is priced

- The cost of a credit with CA equals the **cost to deliver the mitigation plus the opportunity cost of meeting future NDC target**
- Opportunity cost reflects that the selling country must meet its NDC with **alternative abatement options, which are usually more expensive**
- A more ambitious NDC means higher cost of compliance and a **larger opportunity cost**

Many facets of authorization..

Voluntary Carbon Markets (VCM)

- Corporates use VCM to "pledge and comply", i.e., demonstrate achievement of their Voluntary Commitments. e.g., net-zero goals.
- Market for Emission Reduction ("Carbon") Credits (ERCs) with and without seller country authorization ("corresponding adjustment"), depending on buyer preferences.

Compliance Carbon Market

Used to achieve compliance with NDC or another compliance requirement (CORSIA, Emission Trading System like Korea, Article 6)

- Only ERCs with authorization can be traded

Carbon Credit WITHOUT Authorization

"Claimed"

Carbon Credit WITH authorization

"Counted"

"Contributed"

Article 6.4 Mitigation Contribution Emissions Reduction (Article 6.4 but not authorized)

Only Carbon Credits with authorization for Corresponding Adjustment (called Internationally Transferred Mitigation Outcomes or ITMOs under the Paris Agreement) can be traded

Current issues with Article 6 and voluntary markets are likely to impact how quickly these markets grow and play a meaningful role

Compliance Markets under Article 6

- Delays with finalization of rules
- Complex requirements for host countries
- Limited demand from 'traditional' buyer countries
- Lack of standardization for Govt-Govt transactions
- Limited host country capacities
- Stringency vs scale

Voluntary Markets

- Lack of standardization
- Corresponding adjustments/two-tier market
- Lack of oversight
- Transparency over 'claims'

Market infrastructure, transparency and integrity, and clarity on "rules of the game" needed for full potential to be unlocked

Transparency & Integrity

Methodologies for generating carbon credits

- New methodologies can expand access to carbon markets to a wider set of actions (e.g., coal decommissioning, battery storage)
- Scaled-up or programmatic approaches can reduce transaction costs and improve estimation of emission reductions

Market infrastructure

- Open source MRV and registry systems can ensure countries have necessary infrastructure at a relatively low cost
- Digital MRV can enable generation of credits on a near real-time basis by reducing costs
- A full digital ecosystem for carbon markets can increase transparency, reduce costs associated with generating credits, and enable a broader set of players to participate in markets

CADT: Building an end-to-end digital ecosystem; integrating scaled-up carbon market approaches in MPAs

Policy & Institutions

Country arrangements

- For markets under Article 6 to be scaled up, countries need to establish the necessary policy and institutional framework
- Countries should build on existing systems and establish transparent processes

Common understanding

- Capacity gap between potential buyers and sellers needs to be bridged for informed decision-making
- Consistency in participation requirements between voluntary and compliance markets needed
- Independent bodies are working to establish global standards for high integrity VCM, and guidance across different entities needs to be harmonized

Climate Market Club developing policy approaches; Carbon Market Forum for transaction level issues

Monetization

Building capacity for monetizing MOs

- Countries require support to understand different options for raising revenues from credits – RBCF, VCM, compliance carbon markets
- Understanding opportunities and obligations associated with different markets, contract types, and platforms will help clients realize the greatest value

Providing RBCF as countries get ready to access markets

- RBCF can provide a valuable source of financing to incentivize the establishment of country systems for participating in carbon markets
- RBCF can also help test payment for emission reductions for new sectors or through new approaches, creating a pathway for their inclusion in carbon markets in the future

Innovation in delivery of cash flows from RBCF and carbon revenues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