Primer on Article 6 markets

October 11, 2023
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 CO2**

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

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**Carbon credit attributes**

- Co-benefits
- Geography
- Vintage
- Standard used
- Paris Authorized
- Project category

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Article 6 markets
While Paris Agreements markets can draw on lessons from the Kyoto era, their guiding frameworks are different.

<table>
<thead>
<tr>
<th>Previously</th>
<th>Today</th>
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<tbody>
<tr>
<td><strong>Guiding Principle</strong></td>
<td><strong>Kyoto Protocol</strong></td>
</tr>
<tr>
<td><strong>Role of markets</strong></td>
<td>Reduce cost and raise additional capital towards mitigation activities</td>
</tr>
<tr>
<td><strong>Compliance</strong></td>
<td>CDM and JI had different regulators, but overall management by CMP</td>
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<tr>
<td><strong>Participants</strong></td>
<td>Annex I countries were buyers No mitigation obligation for developing countries</td>
</tr>
<tr>
<td><strong>Experience/market development</strong></td>
<td>Evolved on an ad-hoc basis</td>
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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

**Objectives**
Using cooperative approaches to enhance ambition under NDCs

**Governance**
Under bi- or plurilateral governance

**Characteristics**
Introduces “mitigation outcomes” (MOs) which can be produced from any mechanism/procedure/protocol recognized/approved as eligible by Parties to the cooperative approach

### Article 6.4

**Objectives**
Under the authority and supervision of the CMA

**Governance**
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$_2$e) 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$_2$e; 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$_2$e 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
(iii) 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.
Article 6 markets are also expected to grow rapidly in the coming years

- Increasingly more countries are expressing interest in participating in Article 6 markets
- According to the IETA, if the savings from cooperative implementation of NDCs using Article 6 were reinvested in increased ambition, emissions mitigation could be more than doubled
  - Article 6 carbon market transactions could surpass $100 billion / year by 2030 and $1 trillion/year by 2050 if all NDCs were implemented cooperatively.

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.

<table>
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<tr>
<th>Carbon Credit WITHOUT Authorization</th>
<th>Only Carbon Credits with authorization for Corresponding Adjustment (called Internationally Transferred Mitigation Outcomes or ITMOs under the Paris Agreement) can be traded</th>
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<tbody>
<tr>
<td>“Claimed”</td>
<td>“Contributed”</td>
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<tr>
<td>“Counted”</td>
<td>Article 6.4 Mitigation Contribution Emissions Reduction (Article 6.4 but not authorized)</td>
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Current issues with Article 6 and voluntary markets are likely to impact how quickly these markets grow and play a meaningful role.

<table>
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<tr>
<th>Compliance Markets under Article 6</th>
<th>Voluntary Markets</th>
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<tr>
<td>● Delays with finalization of rules</td>
<td>● Lack of standardization</td>
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<td>● Complex requirements for host countries</td>
<td>● Corresponding adjustments/two-tier market</td>
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<td>● Limited demand from ‘traditional’ buyer countries</td>
<td>● Lack of oversight</td>
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<td>● Lack of standardization for Govt-Govt transactions</td>
<td>● Transparency over ‘claims’</td>
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<td>● Limited host country capacities</td>
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<td>● Stringency vs scale</td>
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### Market infrastructure, transparency and integrity, and clarity on “rules of the game” needed for full potential to be unlocked

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<th>Transparency &amp; Integrity</th>
<th>Policy &amp; Institutions</th>
<th>Monetization</th>
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<td><strong>Methodologies for generating carbon credits</strong></td>
<td><strong>Country arrangements</strong></td>
<td><strong>Building capacity for monetizing MOs</strong></td>
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<tr>
<td>• New methodologies can expand access to carbon markets to a wider set of actions (e.g., coal decommissioning, battery storage)</td>
<td>• For markets under Article 6 to be scaled up, countries need to establish the necessary policy and institutional framework</td>
<td>• Countries require support to understand different options for raising revenues from credits – RBCF, VCM, compliance carbon markets</td>
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<td>• Scaled-up or programmatic approaches can reduce transaction costs and improve estimation of emission reductions</td>
<td>• Countries should build on existing systems and establish transparent processes</td>
<td>• Understanding opportunities and obligations associated with different markets, contract types, and platforms will help clients realize the greatest value</td>
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<tr>
<td><strong>Market infrastructure</strong></td>
<td><strong>Common understanding</strong></td>
<td><strong>Providing RBCF as countries get ready to access markets</strong></td>
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<td>• Open source MRV and registry systems can ensure countries have necessary infrastructure at a relatively low cost</td>
<td>• Capacity gap between potential buyers and sellers needs to be bridged for informed decision-making</td>
<td>• RBCF can provide a valuable source of financing to incentivize the establishment of country systems for participating in carbon markets</td>
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<td>• Digital MRV can enable generation of credits on a near real-time basis by reducing costs</td>
<td>• Consistency in participation requirements between voluntary and compliance markets needed</td>
<td>• 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</td>
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<td>• 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</td>
<td>• Independent bodies are working to establish global standards for high integrity VCM, and guidance across different entities needs to be harmonized</td>
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**CADT: Building an end-to-end digital ecosystem; integrating scaled-up carbon market approaches in MPAs**

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

**Innovation in delivery of cash flows from RBCF and carbon revenues**