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Article 6 of the Paris Agreement: Harnessing international markets for carbon management

Article 6 of the Paris Agreement provides the framework for verifiable cross-border carbon credit trading, connecting carbon management projects to global markets. This can significantly expand global demand and incentivise international capital investment for carbon capture and storage (CCS) and engineered carbon dioxide removal (CDR). Article 6 markets have transitioned from the negotiation phase to implementation, and development of operational rules and methodologies is a priority for the UNFCCC.

At a glance

Expanding markets:
Article 6 expands CCS and engineered CDR beyond voluntary corporate initiatives into compliance-aligned international markets.

Two tracks:
Article 6.2 provides a near-term bilateral pathway for countries with authorisation and registry arrangements in place. The Article 6.4 Supervisory Body is establishing centralised UN methodologies for a multilateral global market.

Investment opportunities:
Article 6 provides developers with new revenue streams, while enabling host countries to use their geological, energy, and infrastructure assets to attract international financing for carbon management projects that generate tradable credits.

Legal infrastructure:
Article 6 transactions require host-country authorisation, often formalised through a Letter of Authorisation (LoA), and, where CO_2 is physically exported for offshore geological storage, appropriate cross-border agreements/arrangements.

Why is Article 6 important?

Article 6 delivers benefits across the entire carbon management value chain by facilitating access to new global markets. For developers (regardless of which country they are based in), it enables them to sell credits generated by projects located in host countries. For host countries, it attracts foreign investment into regions with competitive advantages such as favourable geology, low-carbon energy, industrial infrastructure, and policy stability. For buyers, it expands access to compliance-grade credits.

Early regional opportunities for host countries

- Southeast Asia: Agreements linking compliance-driven demand with geological storage resources in the region.
- Europe: Connecting Icelandic, North Sea, and Mediterranean storage with continental European industrial capture projects.
- African Great Rift Valley: Leveraging geothermal energy and geological storage assets to host carbon management projects.

Impacts across suppliers and buyers

Project developers

- Expands market to international sovereign buyers (countries purchasing credits for NDC targets) and compliance buyers (companies purchasing credits to meet regulatory requirements) .
- Provides long-term revenue stream for qualified carbon management projects, but subject to LoA approval and terms set by host countries.

Host countries

- Attracts foreign capital, leveraging native geological, energy, and policy advantages .

Buyers (countries and corporations)

- Increases purchase options for compliance-grade credits, backed by host country authorisation and UNFCCC standards.
- Reduces double-counting and reputational risks through formal authorisation processes.

What is Article 6?

Article 6.2 allows individual governments to establish agreements to trade Internationally Transferred Mitigation Outcomes (ITMOs), where countries use existing crediting frameworks or create their own. Article 6.4 establishes the Paris Agreement Crediting Mechanism (PACM), a global carbon market overseen by a centralised UN body (the Article 6.4 Supervisory Body), which issues Article 6.4 Emission Reductions (A6.4ERs).[1]

Comparison of Article 6.2 and Article 6.4

	Article 6.2 (bilateral ITMOs)	Article 6.4 (centralised PACM)
Structure	Decentralised country-to-country government arrangements	UN Supervisory Body oversight of global market mechanism
Credit unit	ITMOs	A6.4ERs
Methodology	Flexible; countries can adopt existing voluntary market standards or use their own, which are reviewed by an independent Article 6 Technical Expert Review	Centralised UN methodologies drafted by the Methodological Expert Panel and approved by the Supervisory Body
Relevance for carbon management projects	Nearer-term route for bespoke cross-border CCS and CDR transactions, including projects linked to shared CO_2 transport and storage infrastructure	Longer-term, standardised UN pathway for eligible CCS and engineered CDR credits with broader access once methodologies are operational

Which projects are eligible?

Project eligibility for Article 6 markets is determined based on performance criteria, rather than a pre-approved list of technologies or approaches. Candidate projects must not negatively affect a host country's ability to meet their domestic NDC, avoid prolonging the lifespan or economic viability of unabated fossil fuel infrastructure, and meet permanence and additionality tests. Potentially eligible pathways include but are not limited to CCS from hard-to-abate industrial sectors (e.g., cement, steel, chemicals) and engineered CDR like direct air capture (DAC) and bioenergy with carbon capture and storage (BECCS). Pathways such as CCS on upstream oil and gas processes, including CO_2 capture from acid gas removal and CO_2-enhanced oil recovery, face eligibility challenges if the resulting fuel is subsequently burned unabated downstream.

What can be done now?

- Host countries can set up Designated National Authorities (DNAs) and define clear guidelines for issuing LoAs to attract foreign investment, following examples from Thailand, Indonesia, and other early movers.
- Developers, carbon crediting bodies, and technical experts can submit methodology proposals for CCS and engineered CDR like DAC and BECCS to the Article 6.4 Supervisory Body.
- Developers and sellers can engage host country DNAs on candidate projects early on to assess political alignment and test draft methodologies to demonstrate their projects' readiness for ITMOs or A6.4ERs.
- Buyers can coordinate with DNAs and developers to establish Implementation Agreements and execute early bilateral deals that establish price signals and de-risk future projects.
- Buyers can monitor methodology approvals and establish internal procurement strategies to prepare for the availability of A6.4ERs.

What is the current state of play?

Article 6 is moving into implementation, with bilateral carbon trading ongoing under Article 6.2, key standards being established under Article 6.4, and countries developing the authorisation and accounting systems needed to enable credible international carbon credit transfers.

- **Article 6.2:** Sovereign buyers (e.g., Singapore, Switzerland, Japan) are executing Article 6.2 agreements, ranging from Memoranda of Understanding to Implementation Agreements. These pave the way for CCS and CDR projects with host countries using mutually-agreed voluntary or national methodologies.
- **Article 6.4:** The Article 6.4 Supervisory Body has formally adopted core standards covering removals, additionality, and non-permanence, with further recommendations for the removals framework and transaction infrastructure forthcoming. Developing and approving dedicated methodologies for CCS, DAC, and BECCS remains an important next step.
- **Host country readiness:** Many developing host nations are still building out their domestic capacity to establish national authorisation frameworks and designate authorities to evaluate proposals and issue formal LoAs. Host authorisation remains a key supply bottleneck for Article 6 projects.
- **NDC accounting:** The legal requirement for Corresponding Adjustments is finalised, whereby the host country effectively adds the authorised mitigation outcomes that are first transferred back to its own emissions balance so that it cannot also count them towards its NDC. This prevents the same emissions reduction from being counted twice.
- **Cross-border CO_2 transport:** The London Protocol, aligned with early Article 6.2 projects, provides a legal framework enabling the export of CO_2 for sub-seabed geological storage, subject to the relevant conditions and agreements/arrangements between participating countries.

[1] Article 6.4 issues A6.4ERs categorised as either Authorized Emission Reductions (AERs) that are approved for export and subject to Corresponding Adjustments, or Mitigation Contribution Units (MCUs) that are not approved for export and contribute to the host country's NDC.