

# Setting the Scene: A Carbon Credit Journey

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## **Agenda**

- Development of Carbon Markets
  - Kyoto Protocol and the Paris Agreement
  - Article 6 mechanisms
  - Domestic Emissions Trading Schemes
  - Voluntary Markets
- Interaction between Compliance and Voluntary Markets
- Methodologies and Eligibility
- Lifecyle of a Verified Carbon Credit
- Key Market Participants
- Market Places
- LOAs and Corresponding Adjustments

# ADB Workshop on Policy Architecture for High Integrity Carbon Markets under the Paris Agreement

10-11 December 2024 Aloft Singapore Novena



## **Development of Carbon Markets**

Carbon markets have emerged as critical tools in the global effort to mitigate climate change, driven by the objectives set forth in the Kyoto Protocol 1997 and the Paris Agreement 2015.

### **Concept – ONE ATMOSPHERE**

Aspect	Kyoto Protocol	Paris Agreement
Adopted	1997	2015
Objective	Emissions reductions (Annex 1 only)	Limit warming below 2 degrees
Commitments	Top down - binding targets	Bottom up - universal NDC, binding on transparency



## **Kyoto Protocol**

Kyoto Protocol introduced 3 market-based mechanisms

# International Emissions Trading (IET)

- Parties to the Kyoto Protocol allocated Assigned Amount Units (AAUs) representing their target cap
- transfer and acquire AAUs
- if such units were supplemental to their domestic actions

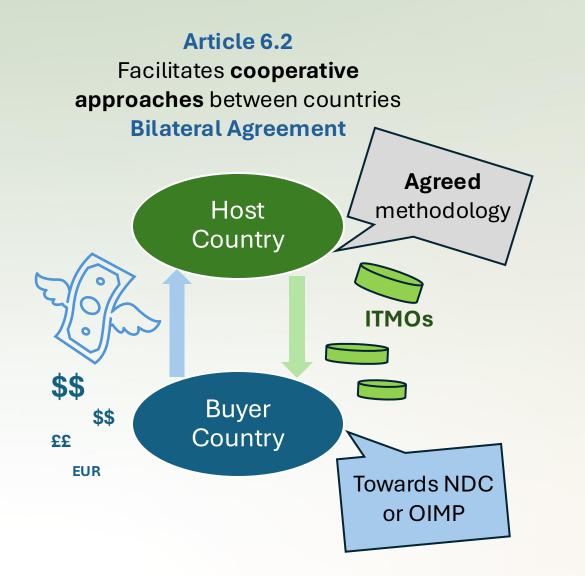
# Clean Development Mechanism (CDM)

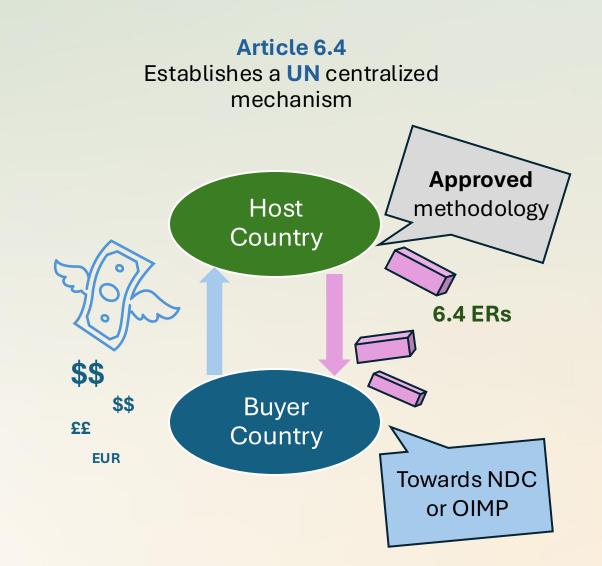
- enabled industrialized countries to invest in projects in developing countries
- earning certified emission reduction (CERs) credits
- used to meet their **own targets**

### Joint Implementation (JI)

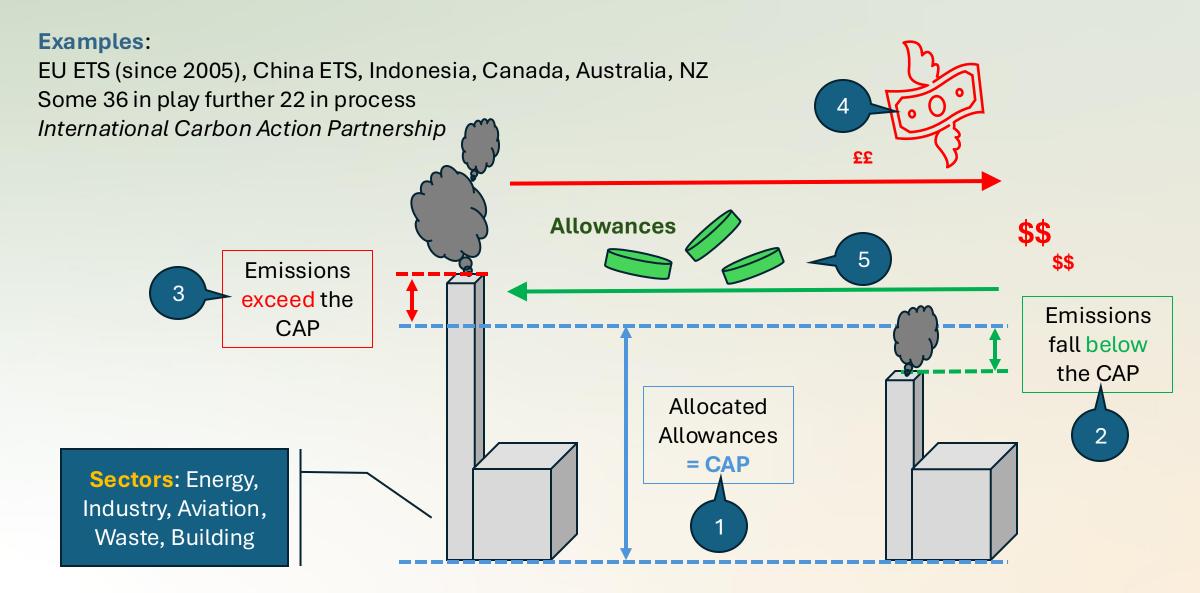
- industrialized countries earn emission reduction units (ERUs)
- investing in projects in other industrialized countries

## Paris Agreement Article 6

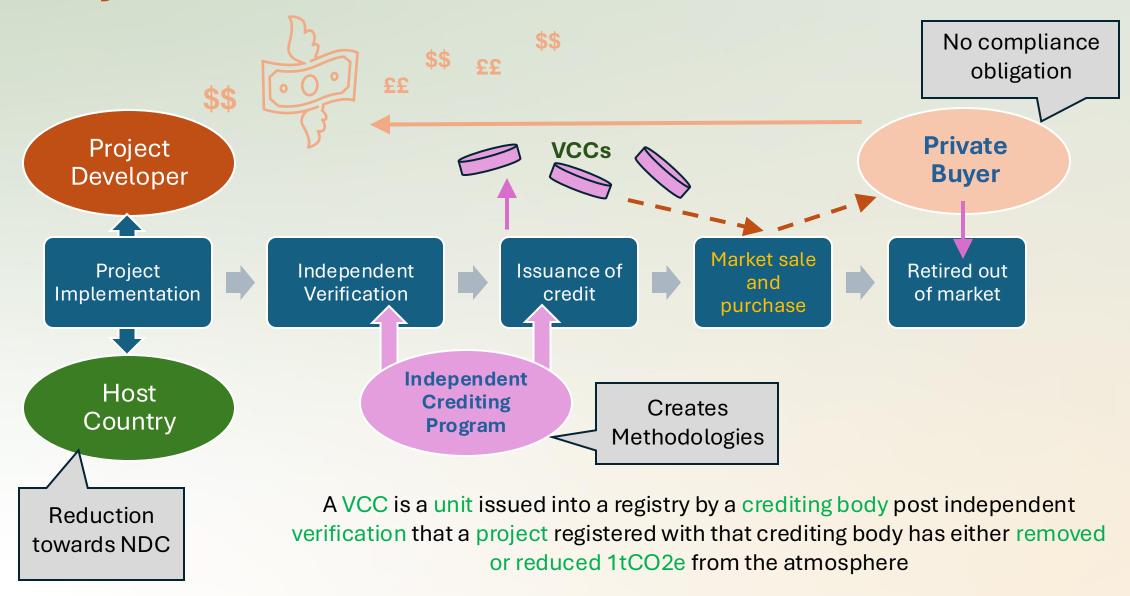




## **Domestic Emissions Trading Scheme**



## **Voluntary Markets in Verified Carbon Credits**





## **Carbon Market Instruments**

### **Domestic Compliance Markets/Emissions Trading Scheme (ETS)**

Allowances – allocated or auctioned

### **Domestic Crediting Mechanisms**

• Carbon credits issued through a government-controlled mechanism using local methodologies

### International and Independent Crediting Mechanisms

 Carbon credits issued through independent bodies e.g. Verra, Gold Standard or the United Nations under Article 6.4 Paris Agreement Crediting Mechanism, (PACM)

### **Internationally Transferred Mitigation Outcomes (ITMOs)**

 Carbon credits issued through independent bodies or domestic crediting mechanisms and authorised for use under Article 6.2 towards other countries NDCs or Other International Mitigation Purposes (OIMP) such CORSIA

## Interaction of Voluntary Market and Compliance Markets

Some Verified Carbon Credits are eligible for use in certain Compliance Schemes. Eligibility is set by the rules of the scheme and usually specifies certain crediting standards and certain methodologies and certain jurisdiction of projects.



- Obligation imposed by law to measure and account for emissions
- National or regional schemes
- CORSIA for airlines
- Sector specific primary emitters
- Allowance (EU ETS) Singapore, Tax (Singapore),
   Incentive (IRA USA), Hybrid
- Price range \$1.22 Kazakhstan \$90 EU ETS
- Proof of compliance submitted to relevant Government body

#### **Verified Carbon Credits**

- Project Based
- Methodology carbon Reduction or Removal
- Measure, Report, Verify (MRV Process)
- **Issued** by:
  - Independent Standard e.g. VERRA, Art Trees, Climate Action Reserve, PURO. OR
  - **Host** Country under own scheme e.g. UK Woodland Code, or 6.2 OR
  - UN 6.4
- Used up by being **retired** from the relevant registry

End User in
Compliance Market
subject to eligibility
criteria set by the rules
of that scheme



Carbon Market DEMAND SIDE



**End User in Voluntary Market - Integrity** 

**VCCs** 



Independent/ Host Country/ UN

**Verified Carbon Credit Issued by Crediting Standard Body** 

Clean Energy and Energy Efficiency Fuel Switching Weatherising Buildings Gas Leakage – HF, CH,

Reduced methane from Ruminants

TECH

Nature

Reduction

Biochar
Carbon capture and
storage (CCS)
Bioenergy and carbon
capture (BECCs)
Direct Air Capture (DACs)
Enhanced weathering

**TECH** 

Afforestation and reforestation
Soil carbon sequestration
Biochar
Enhanced weathering

**Nature** 

Removal

Nature

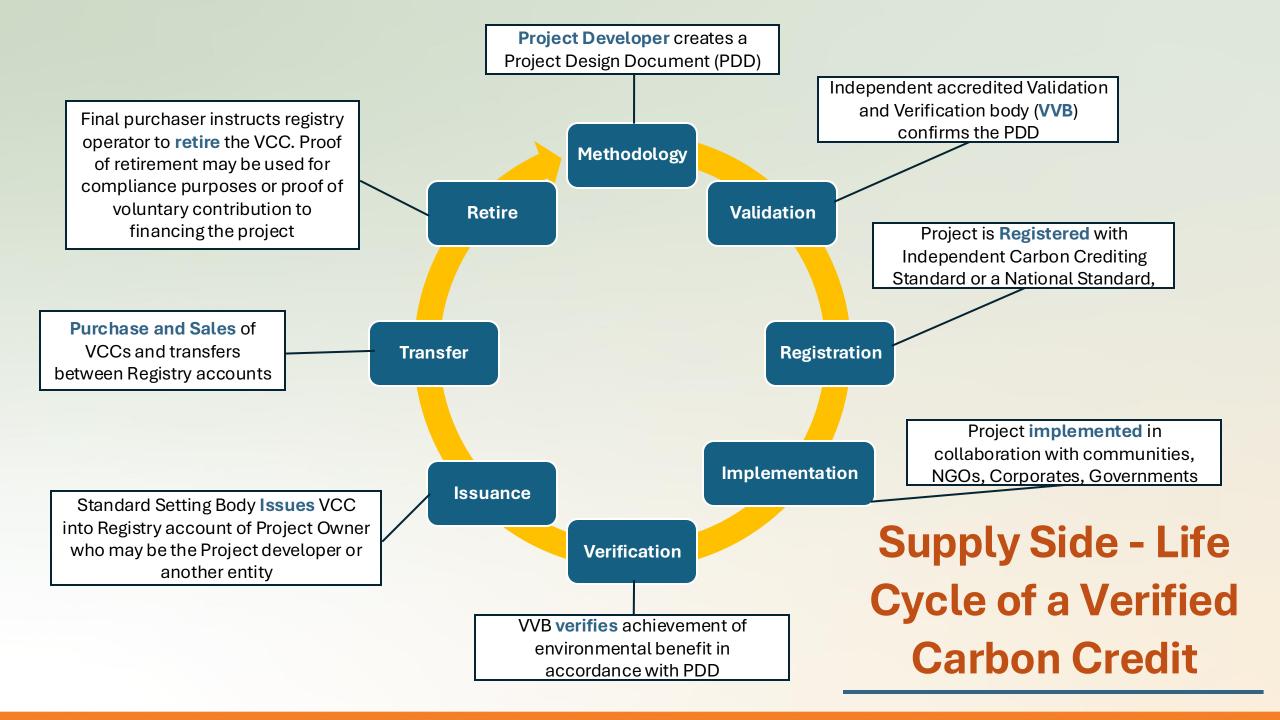
**Preservation** of Sinks

Methodologies Permanence and Cost

#### **Project**

1 Ton CO2e reduced or removed in the Host Country

**Host Country** 



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## **Key Market Participants**

Investment	Project developers	Many
	Financers	Banks, funds, private investors, Gov, IBRD and other supranational funds
Standard setters	Independent Crediiting Programs	Verra, GS, Art, Puro etc
	Rating Agencies	BeZero, Sylvera, Calyx, Trove, CCQI
	Claims integrity setters	SBTI, ICROA, Regulators (Eu Green Claims Directive, Code, US [?]
	Accreditation bodies and principles	ICROA, ICVCM, Integrity Council, ACMI, IOSCO, UNIDROIT
	VVBs	TUV Nord, Earthhood get from Verra
Operations	Registries	Host Country, UN, Independent
Risk management	Insurers	Kita, Oka, Howden, MarshMcLenan
	Private Law	Contract and transactions, legaly nature of a VCC
	Price and delivery risk management	Banks and traders
Sales	Exchanges	Xpansiv, CME, ACX, Climate ImpactX, Carbon Trade Xchange
	BI-LATERAL Market	
	Brokers	Respira, Southpole, STX, Vertree, Carbonaires
	Traders	Trafigura, Gunvor, Vitol, Shell, EDF, Mercuria, Banks, BP
		Ecosecurities, Forest Carbon, Carbon direct, Rubicon, Abateable,
	Retailers and consultants	cloverly, CEEZER, NCX, Klimate.co
	Tokenised credits	Toucan, Flowcarbon, Single Earth



## **Markets and Transactions**

#### **Primary Market**

- Project developer and first offtaker or investor
- Bespoke project finance style agreement
- Participation Agreement or Benefit Sharing Agreement
- HC LOA for project and export of VCC

#### **Secondary Market**

- **Bi lateral B2B** (Business to Business) transactions
- Between market intermediaries which may include final purchasers
- Bespoke/Standard SPAs
- Settled in relevant Registry
- SPOT or Forward

# On-exchange or other trading platform

- "Tertiary" market
- Listed Standard Contracts for SPOT or Futures delivery usually cleared
- "OTC" transactions are SPOT or forward agreements <u>uncleared</u> settled on exchange
- Purpose, hedging, liquidity, price transparency to support Secondary Market



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## LOA and Corresponding Adjustments

- Project implemented in Host Country reducing or removing carbon within that country
- Reduction or removal is counted by the Host Country towards its NDC
- Must avoid Double Counting i.e. counting the reduction or removal across more than one NDC
- Where the credit is exported for use by another country that will count the reduction or removal towards
  its NDC the Host Country must make a Corresponding Adjustment to its own NDC to avoid such reduction
  or removal being Double Counted
  - use towards NDC or Other International Mitigation Purpose (OIMP) e/g/ CORSIA must be Correspondingly Adjusted

 use in the Voluntary Market do not need to be Correspondingly Adjusted as not being used for another NDC

#### **Letter of Authorisation**

- **Authorising activity**
- Authorising Use Case