

# Advancing Carbon Markets in Asia

## Compliance + Voluntary Initiatives

*31 Oct 2024 Steve Tan*

# STEVE TAN

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Steve Tan is the Vice-President for Energy Transition at price reporting agency, Argus. He has close to 29 years of experience, covering the petrochemicals, energy and commodities markets.

With a specific mission to enable market development through transparent information flow, Steve is keen to develop new markets in the energy transitions space. He started as a price reporter, focused on petrochemical markets including polyethylene, polypropylene, ethylene and propylene.

For the past five years as a business lead for energy transition, he has had the opportunity to engage with stakeholders in the energy transition space including carbon credits, compliance/emissions markets and renewable energy certificates (RECs).



# What are Carbon Markets (Compliance)

Compliance carbon markets are mandatory requirements imposed by Governments (national or regional) to reduce GHG emissions through limiting emissions and facilitating a framework of trade for those emissions. Carbon markets can be achieved through “cap-and-trade” schemes, or through carbon taxes. They are typically aimed at energy intensive emitters in heavy industry, oil refineries, power generators, airlines and manufacturing.

The compliance market aims to establish a carbon price by laws or regulations which control the supply of allowances that are then distributed by national, regional, and global regimes. This can be accomplished through either a carbon tax or a cap-and-trade scheme, shifting economic incentives by making it more expensive to pollute. Over 60 countries have to date implemented such mechanisms to meet their emissions reduction targets, known as Nationally Determined Contributions (NDC)<sup>3</sup>, set out in the Paris Agreement.

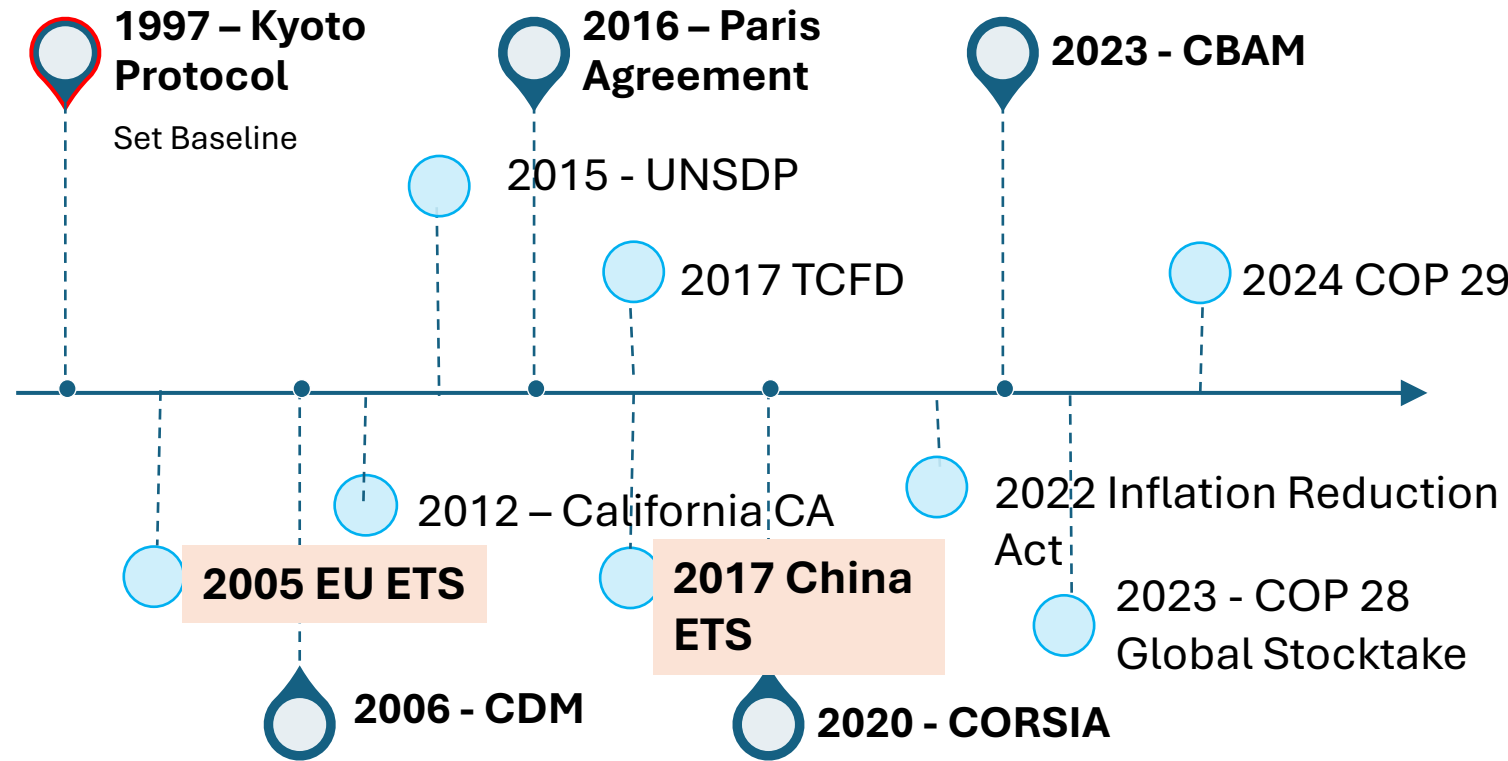
-Carbon Tax

-Carbon Emissions Allowances (Cap and Trade or Emissions Trading Schemes ETS)

Voluntary Carbon markets on the other hand provide a supplement and access to increase and accelerate decarbonization efforts where Governments are capped due to socio-economic restrictions.

# Global Policy Drivers

- Paris Agreement - Article 6
- NDC Stocktake – 10 Feb 2025
- Climate Finance – Loss and Damage Fund
- Scope Expansion + CBAM Factor
- Related Guidelines– Renewable Energy, UNEP Plastics Treaty, Biodiversity, EU Methane Regulation



# Carbon Markets Summary

## COMPLIANCE MECHANISMS

Instrument Detail	GHG Emissions Coverage	Price	Revenue
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## COMPLIANCE MECHANISMS

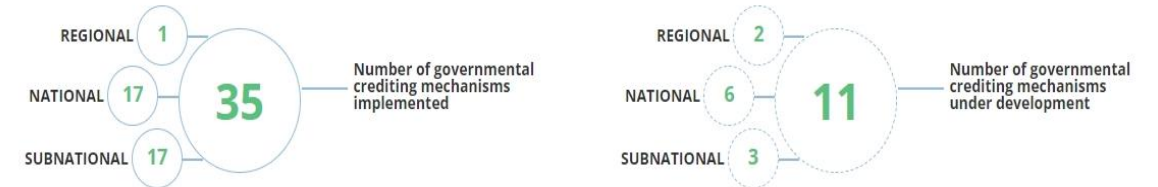
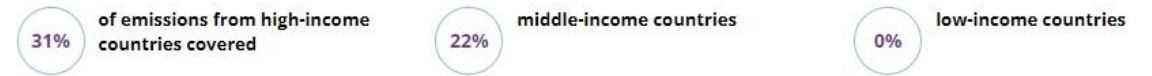
Instrument Detail	GHG Emissions Coverage	Price	Revenue
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## CARBON CREDIT MARKETS

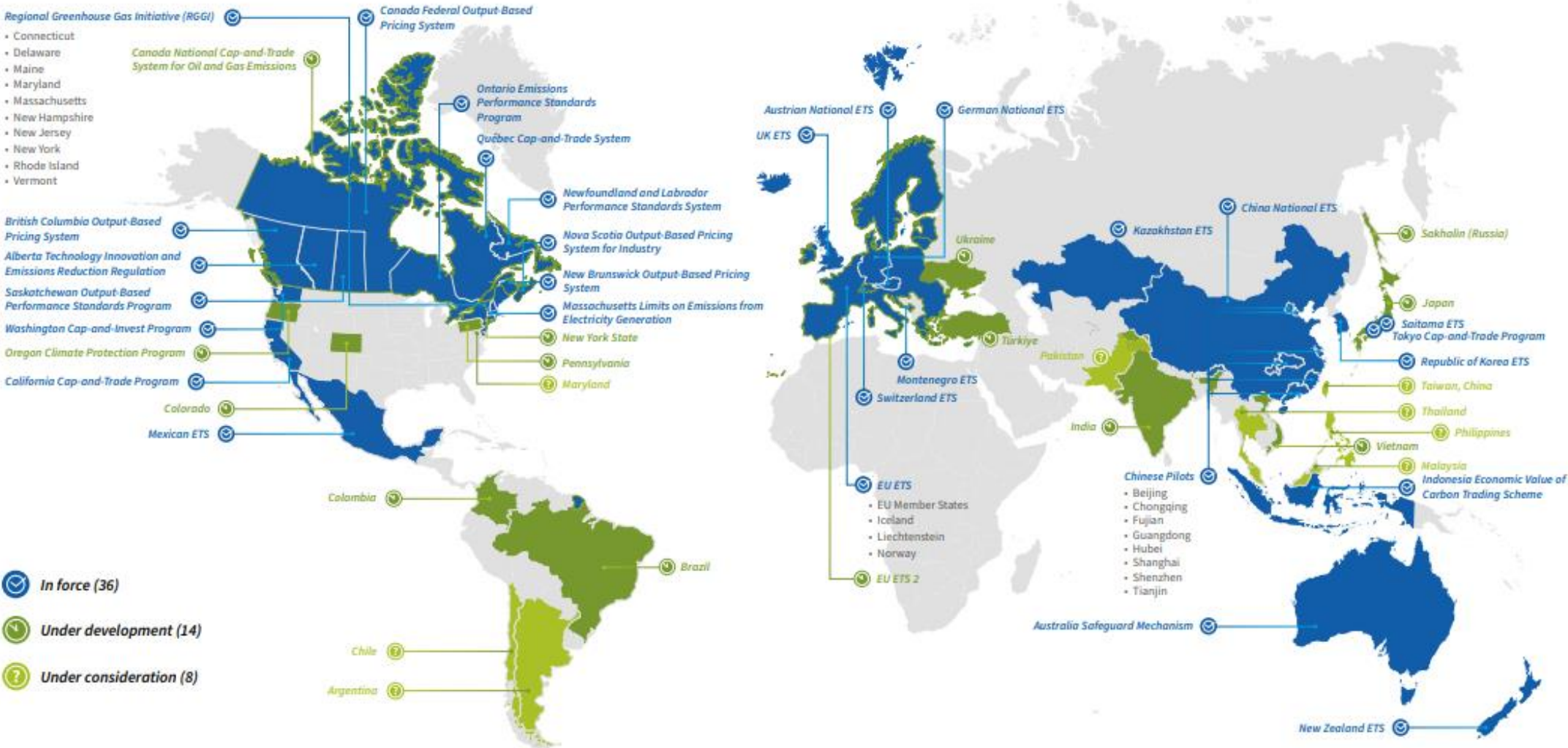
Instrument Detail	Issuance	Cooperative Approaches
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### Share of emissions covered by income group



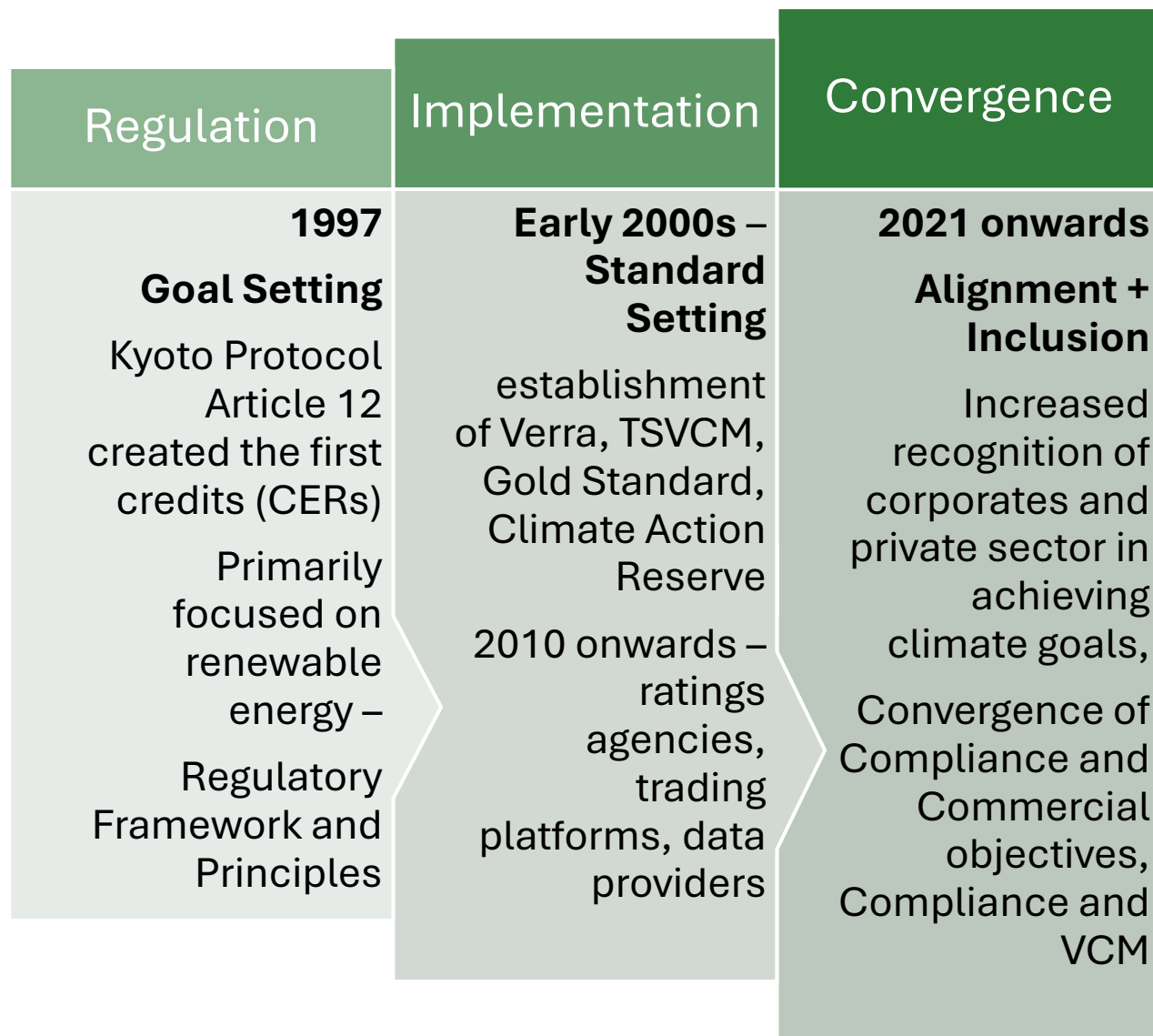
# Global Trends indicate significant adoption of ETS

Source – ICAP International Carbon Action Partnership



# Carbon Markets have been in effect 25 years

- Market cycle transitioning from “Inception” to “Growth”
- Layered market, increased fragmentation but the general trend is aligned in terms of development and implementation with sights on Paris Agreement Goals
- Record Revenues for ETS / Taxes
- Article 6, CORSIA, EU ETS/CBAM will facilitate international trade and retirement activity



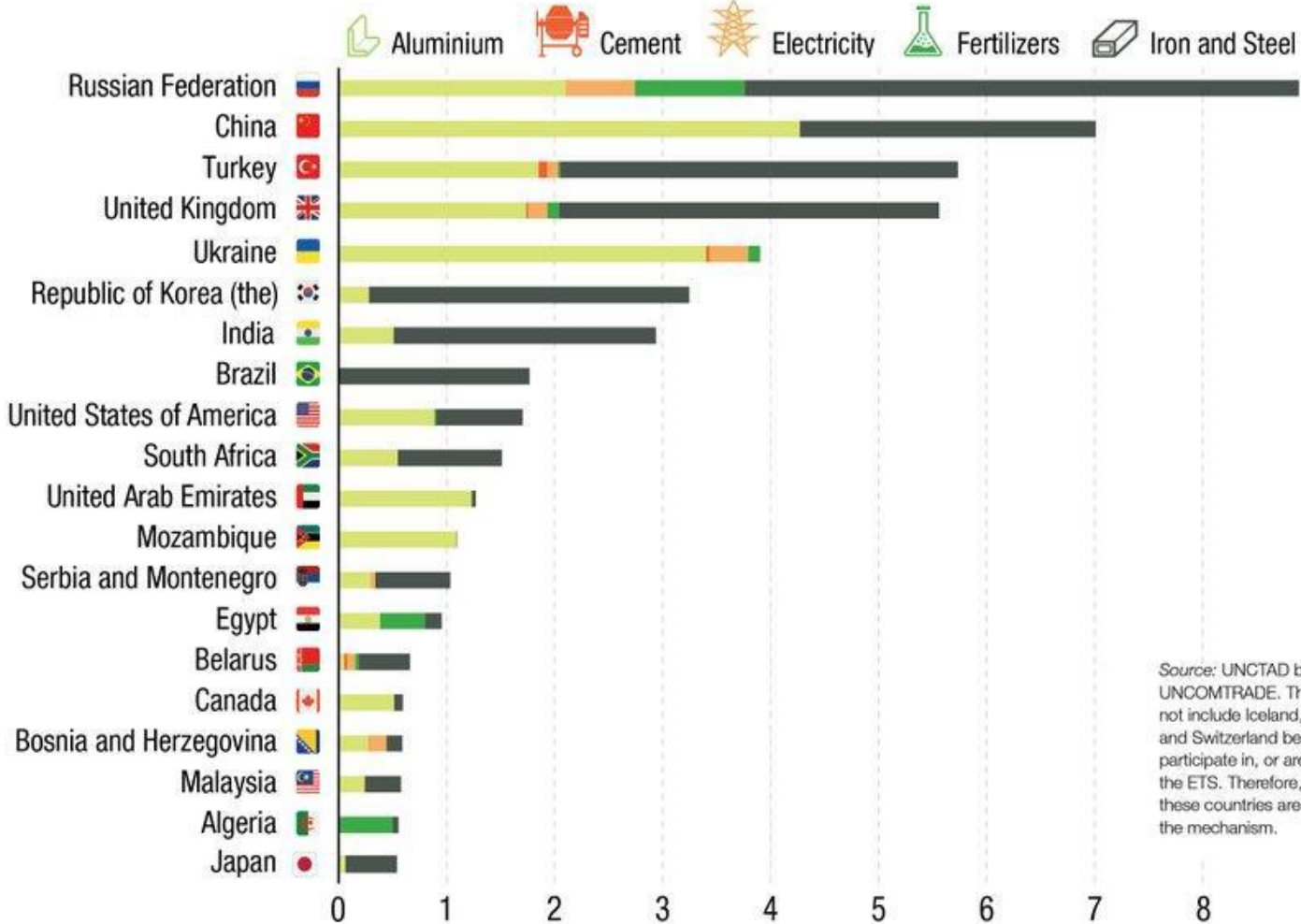
# CBAM expected to impact exports from 2027 onwards.



# 20 countries most exposed to an EU carbon border adjustment

Exports in energy intensive sectors in 2019, (billions \$)

- Phased approach – 8 years from 1 Oct 2023 starting with a transitional period
- Free allowances phased out from 2026
- EU ETS under Review + Scope expansion
- Expansion to possibly include semi-finished products, Petchems, Refined Oil products



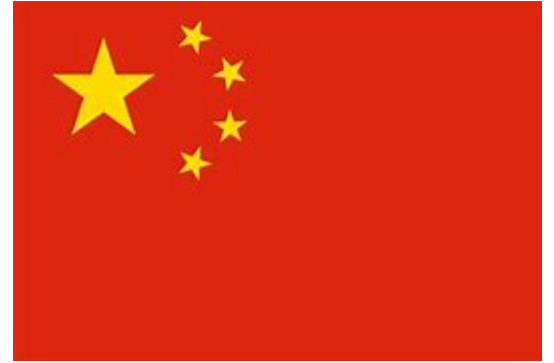
Source: UNCTAD based on UNCOMTRADE. The list does not include Iceland, Norway and Switzerland because they participate in, or are linked to, the ETS. Therefore, it is likely that these countries are exempt from the mechanism.

# CBAM is expected to close the gap in Pricing especially for export driven economies.

FIGURE 1  
PRICE EVOLUTION IN SELECTED ETSs FROM 2018 TO 2023



Note: Based on data from ICAP Allowance Price Explorer. Prices for the RGGI Initiative and for California and Québec CaT, come from the primary market, whereas for the other systems the prices reflect the secondary market



# China

## China National Emissions Trading System

**2021 – world’s largest ETS, targets 2060 carbon neutrality**

**Intensity based – 2025 revisions**

**Power Sector (78%), Industrial Processes (14%), Agriculture, Waste – 13,000m tonnes.**

- 2,257 entities Power sector
- Expansion to Cement, Steel and Aluminium (+ 1,500 entities) by 2027

**Ministry of Ecology and Environment (MEE)**

**Use of Offsets allowed (5%) CCERs from projects not covered by ETS**

**China Carbon Emissions Registration and Clearing (CEA Registry)**

**Shanghai Environment Energy Exchange (SEEE)**

**Beijing Green Exchange (CCER)**

**Allowances are considered assets in financial statements (not financial instruments)**



# | ASEAN

**GDP Additional Value USD 3-3.5t**

**Jobs – 49-66m by 2050**

**Green Investment USD 3.7-6.7m**

**Legal and Policy Shifts**

**Carbon Taxes + ETS – implementation 2019-2030**

## **8 Pillars of Green Economy Development**

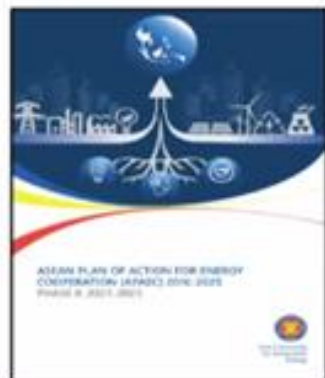
- Accelerate Green Value Chain
- Regional Circular Economy Supply Chains
- Connect Green Infrastructure + market
- Inter-operable Carbon Markets
- Credible and Common Standards
- Attracting and Deploying Green Capital
- Green Talent Development
- Green Best Practice

# Energy efficiency and conservation is key priority of ASEAN's regional energy cooperation



## ASEAN Plan of Action for Energy Cooperation (APAEC)

### Phase II: 2021-2025



- Enhancing Energy Connectivity and Market Integration in ASEAN to Achieve Energy Security, Accessibility, Affordability and Sustainability for All
- Accelerating Energy Transition and Strengthening Energy Resilience Through Greater Innovation and Cooperation

## APAEC Programme Areas



## Outcome-Based Strategies (OBS)

**OBS1:**  
Expand, harmonise, and promote EE S&L (energy efficiency standards & labeling)



**OBS2:**  
Enhance participation of private sector, financial institutions and clusters

**OBS3:**  
Strengthen sustainability of EE in buildings



**OBS4:**  
Pursue energy efficiency in transport sector



**OBS5:**  
Advance energy efficiency and energy management in industry

# Types of Voluntary Carbon Credits

## Ecological/Nature-based Solutions

Prevention of deforestation

REDD +

Carbon sequestration (agriculture)

Carbon sequestration (Blue Carbon)

Ecosystem Restoration

ARR

(Afforestation/Reforestation)



## Technological Solutions:-

Landfill Gas Capture + Ozone  
Depleting Substances

CDR (Carbon Dioxide Removal)

BECCS

DACs (Direct Air Capture)

BioChar

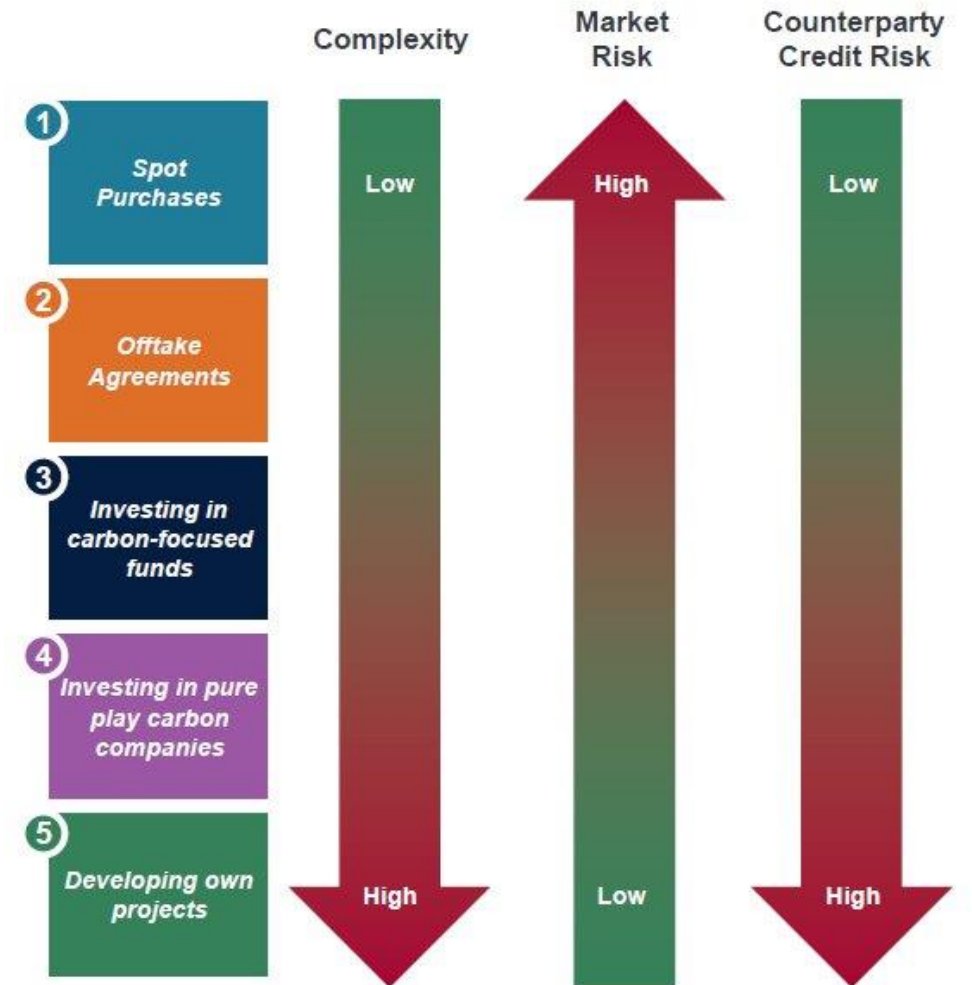
Renewable Energy



# Building a portfolio of carbon offset assets

- Consider Strategic goals and establish risk/reward profile
- Establish clear timeline and goals
- Adapt and evolve considerations based on changing (regulatory) landscape both domestic and regional
- Integrate and align business actions
- Co-ordinate and Collaborate on building industry consensus on Reporting Standards
- Second mover advantage – learn from peers
- Work with Suppliers and Buyers to consider Carbon Insetting and other Environmental Attribute Certificates (EACs)

## AVAILABLE APPROACHES TO CARBON OFFSETTING



# Argus Environmental Commodities market coverage

## Argus VCM Report

- Weekly publication
  - Weekly prices / News

## Argus EU Emissions Report:

- Daily Publication
  - Prices / News

## Argus Air Daily:

- Daily Publication
  - Prices / News

## Argus Global Energy Certificates

- Weekly Prices / News



## Argus European Emissions Markets

Daily European greenhouse gas markets, news and analysis

Issue 24-116 | Monday 17 June 2024

### MARKET COMMENTARY

#### UK discount to EU narrows further

EU emissions trading system (ETS) allowances continued to edge lower on Monday, while UK carbon prices rebounded to cut their discount to the EU market to its narrowest in over a year.

The EU ETS December 2024 contract closed at €68.25/t of CO<sub>2</sub> equivalent (CO<sub>2</sub>e), having fallen by a further €0.28/t CO<sub>2</sub>e from the end of last week to take its cumulative losses over the past two sessions to €2.70/t CO<sub>2</sub>e.

The front year appeared to track movements in European gas prices early on Monday. The product rose to what would prove to be an intraday high of €69.30/t CO<sub>2</sub>e 15 minutes after the opening of trading – marking the first session since 1 May during which it had not broken above €70/t CO<sub>2</sub>e.

But it reversed direction sharply from here to tumble to €67.51/t CO<sub>2</sub>e half an hour before the first primary market allowance auction of the week at 10:00 BST (09:00 GMT). This was the lowest the product would trade throughout the day, and it had rebounded to €68.15/t CO<sub>2</sub>e by the time of the sale.

The EU-wide auction for some 3.1mn permits drew bids for 4.68mn allowances, producing a bid-to-cover ratio of 1.51. This was down from 1.78 in the previous such sale, but the second-highest ratio in any EU-wide auction since 6 June. The sale cleared at €66.66/t CO<sub>2</sub>e, comfortably above trades of €66.16/t CO<sub>2</sub>e seen on the spot product in the secondary market in the half hour before the auction's close.

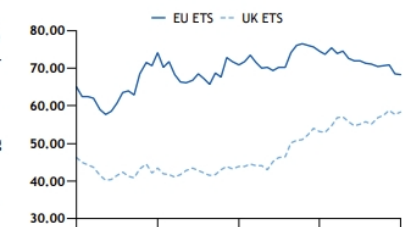
The sale's mixed results failed to provide clear direction for the front year, which edged lower over the next two hours before recouping these losses at around midday, rising back as high as €68.72/t CO<sub>2</sub>e at 14:00 BST. The product declined again from here, but appeared to find technical support around the €68/t CO<sub>2</sub>e mark in the final two hours of trading.

### PRICES

EU allowances				€/t CO <sub>2</sub> e
Scheme	Period	Bid	Offer	+/-
EU ETS	Spot	66.79	66.81	-0.27
EU ETS	Dec 2024	68.24	68.26	-0.28
EU ETS	Mar 2025	69.04	69.06	-0.30
EU ETS	Dec 2025	70.94	71.04	-0.30
EU ETS	Dec 2026	73.40	73.90	-0.28
EU ETS	Dec 2027	75.88	76.88	-0.28

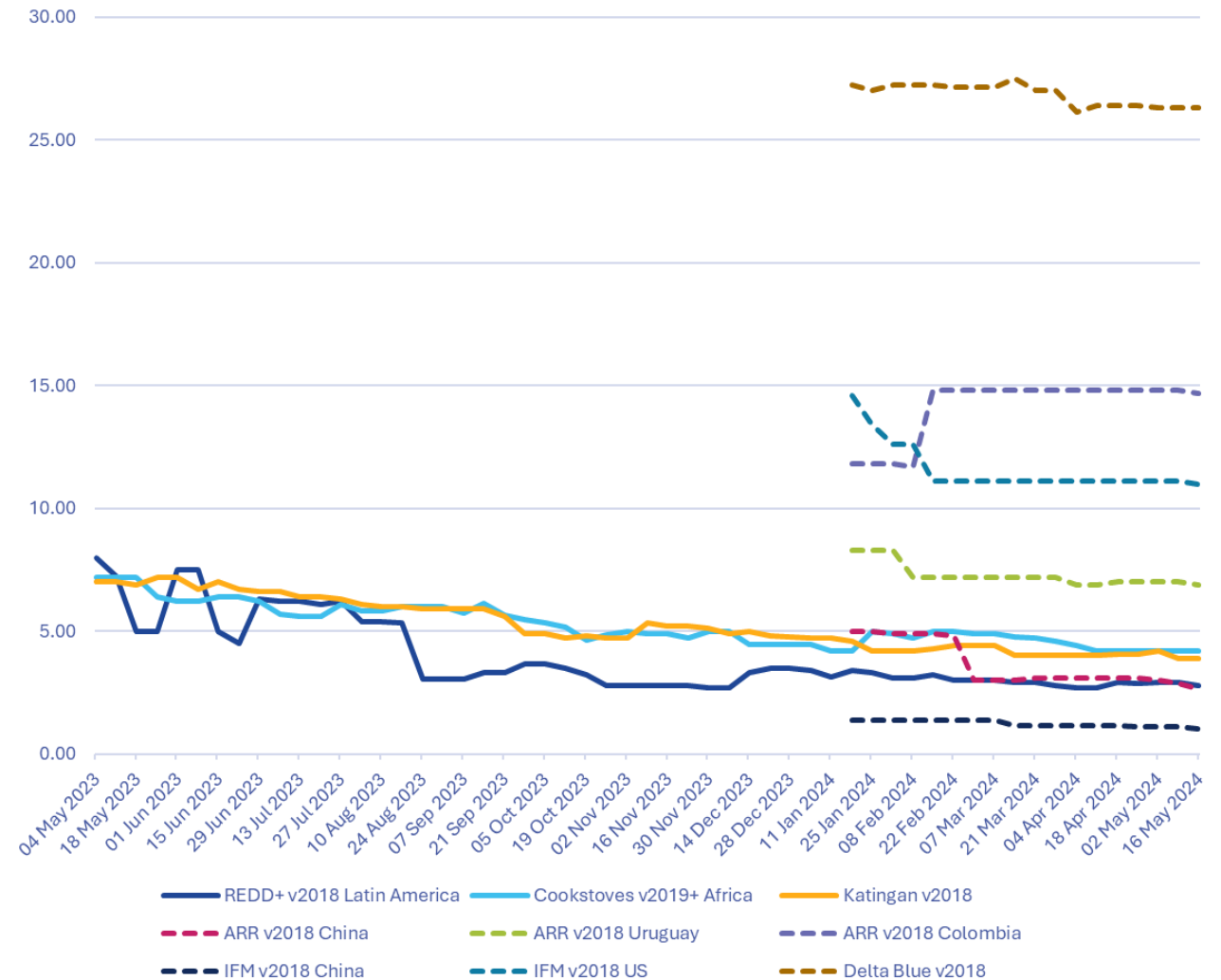
UK allowances				€/t CO <sub>2</sub> e
Scheme	Period	Bid	Offer	+/-
UK ETS	Spot	47.84	47.94	+0.74
UK ETS	Dec 2024	49.34	49.36	+0.74
UK ETS	Mar 2025	49.65	50.65	+0.74
UK ETS	Dec 2025	51.47	52.47	+0.74
UK ETS	Dec 2026	53.87	54.87	+0.74
UK ETS	Dec 2027	56.37	58.37	+0.74

EU ETS Dec 2024 vs UK ETS Dec 2024 €/t CO<sub>2</sub>e



# Argus covers Nature / Tech / RE based VCM

- REDD+ still dominating the market in terms of retirements, amid/despite disparate allegations.
- It remains the easiest type of credits to market internally and externally.
- Top retirees such as Shell and Eni continue retiring mn of credits annually.
- New standards emerge to drive fresh demand in sector led initiatives
- Cost premium on risk profile, co-benefits/additionality, vintage, quality, volume and market applications





# 谢谢大家

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