

# Introduction to Emissions Trading Carbon Markets (Compliance)

*26 June 2024 Steve Tan*

# What are Compliance Carbon Markets

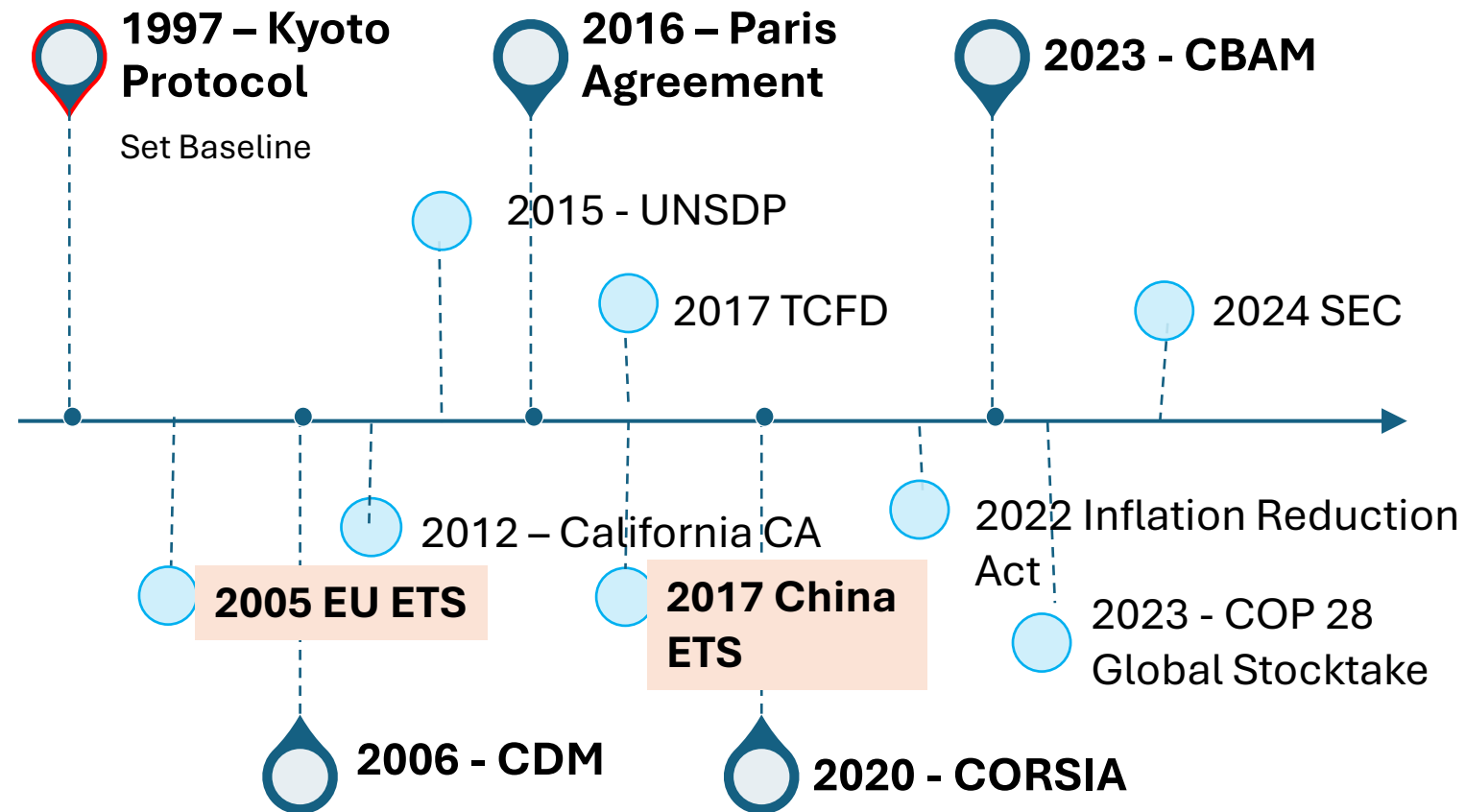
Compliance carbon markets are mandatory requirements imposed by Governments (national or regional) to reduce GHG emissions through limiting emissions and facilitating a framework of trade for those emissions. Carbon markets can be achieved through “cap-and-trade” schemes, or through carbon taxes.

They are typically aimed at energy intensive emitters in heavy industry, oil refineries, power generators, airlines and manufacturing.

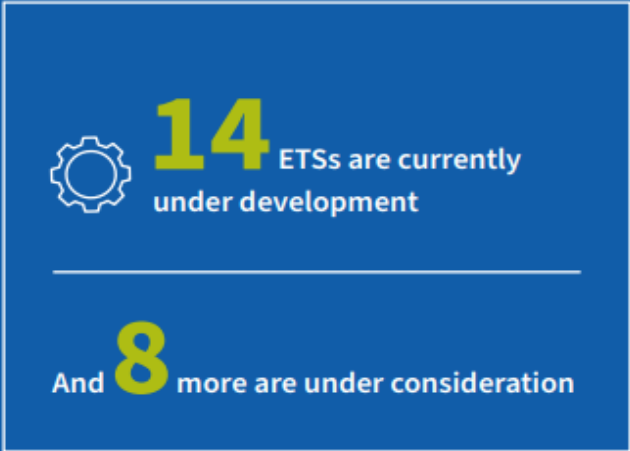
The compliance market aims to establish a carbon price by laws or regulations which control the supply of allowances that are then distributed by national, regional, and global regimes. This can be accomplished through either a carbon tax or a cap-and-trade scheme, shifting economic incentives by making 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.

# | Legal

- Kyoto Protocol set binding emission reduction targets for 37 industrialized countries
- Paris Agreement set binding but voluntary targets for all countries NDCs, Stocktakes, Article 6
- CBAM aims to plug “Carbon Leakage”
- CORSIA – first internationally accepted standards for Carbon Offsets



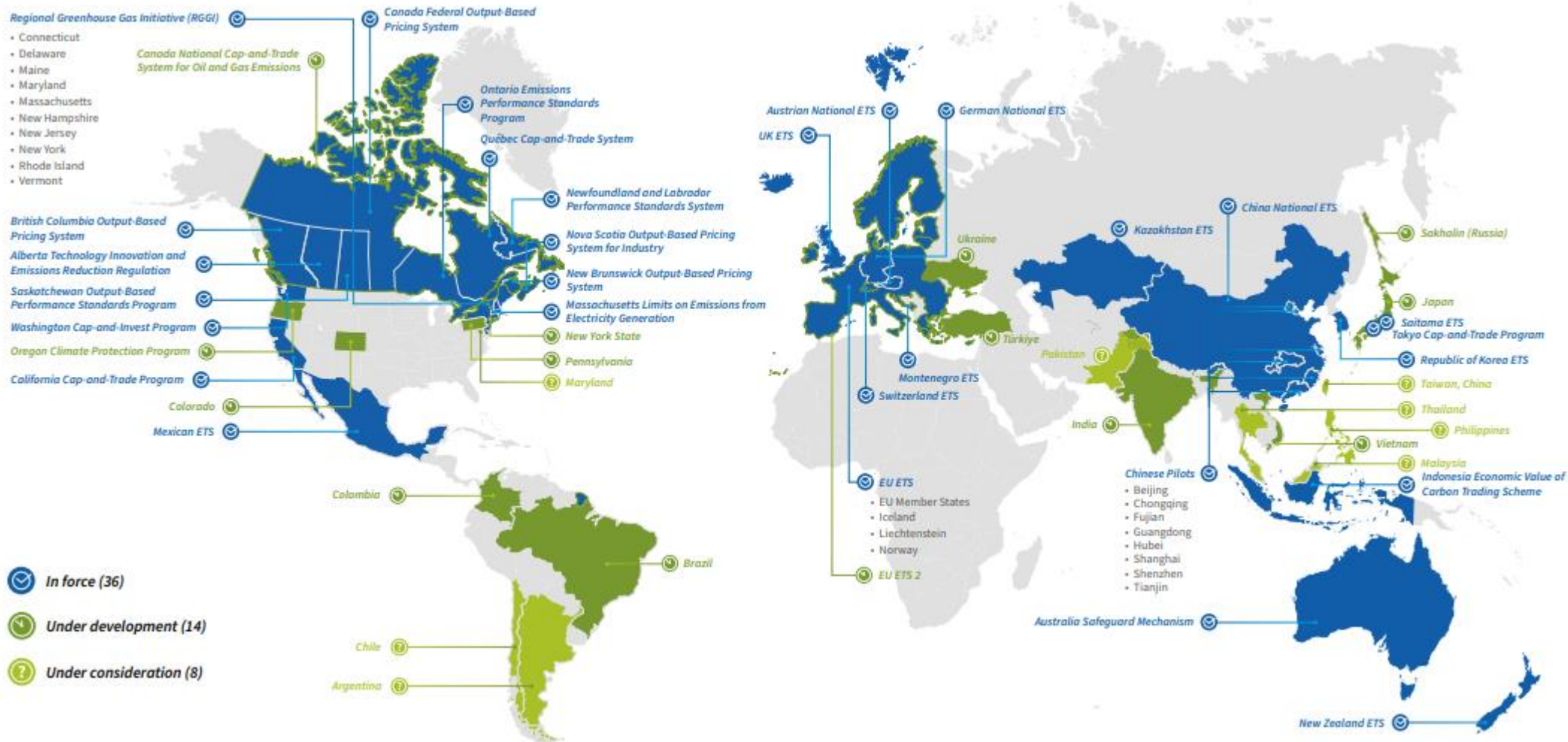
# Carbon Markets Summary





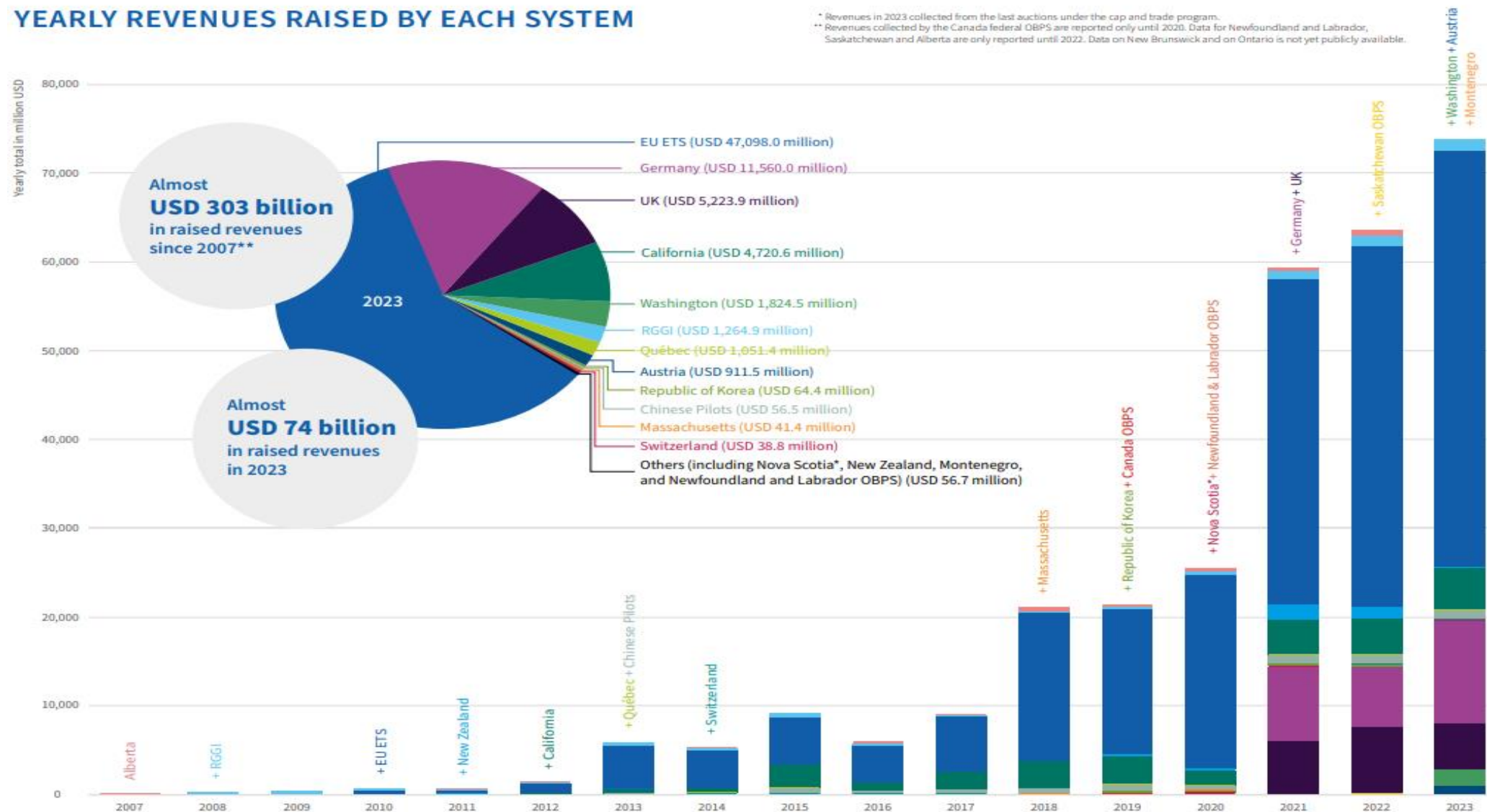
# Global Trends indicate significant adoption of ETS

Source – ICAP International Carbon Action Partnership



# Strong incentive for Governments to bolster revenues.

## YEARLY REVENUES RAISED BY EACH SYSTEM

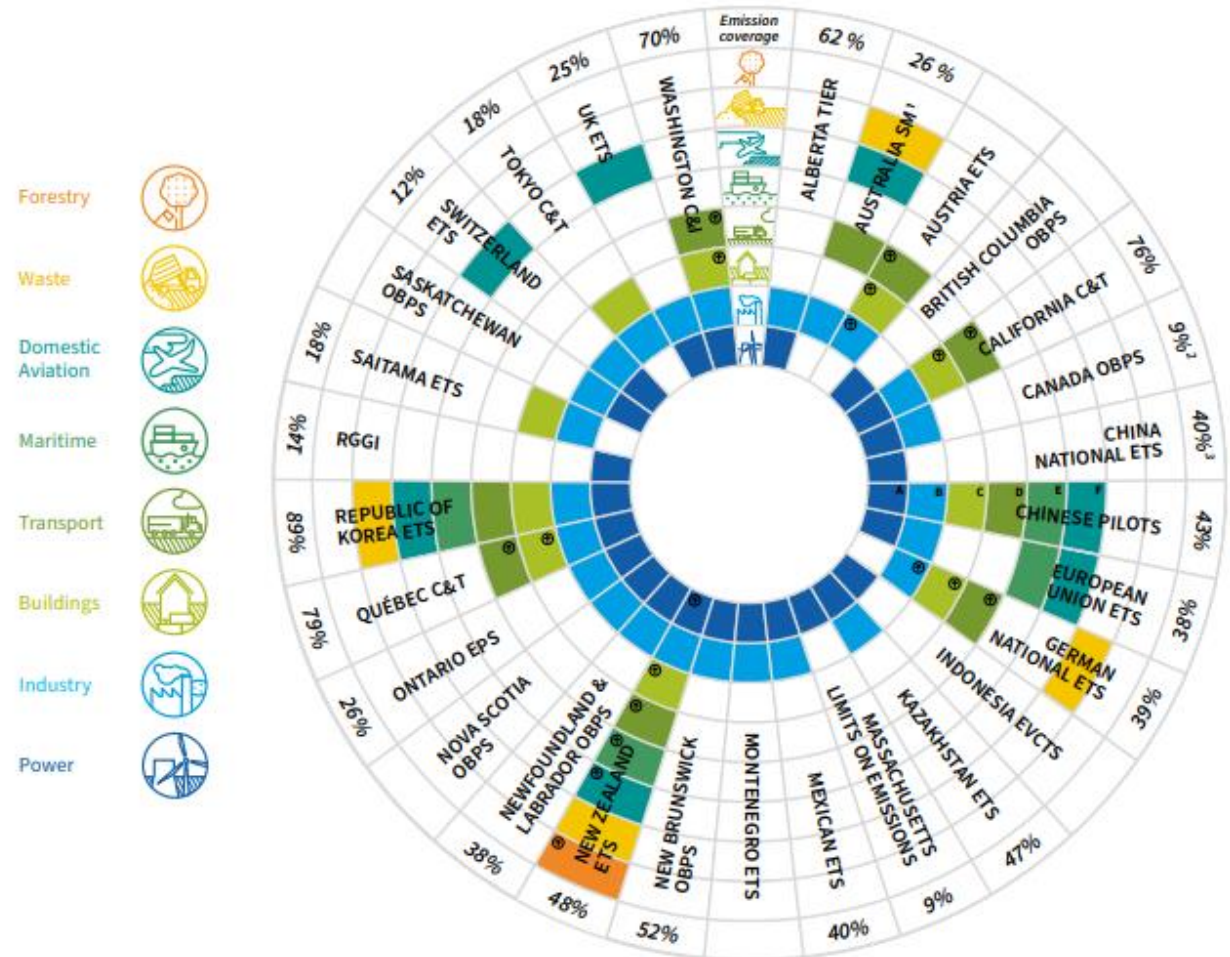


# Heavy emitters targeted for most initial ETS schemes, while the NZ ETS covers the most sectors including forestry and waste.

Source – ICAP International Carbon Action Partnership

## Sector Coverage

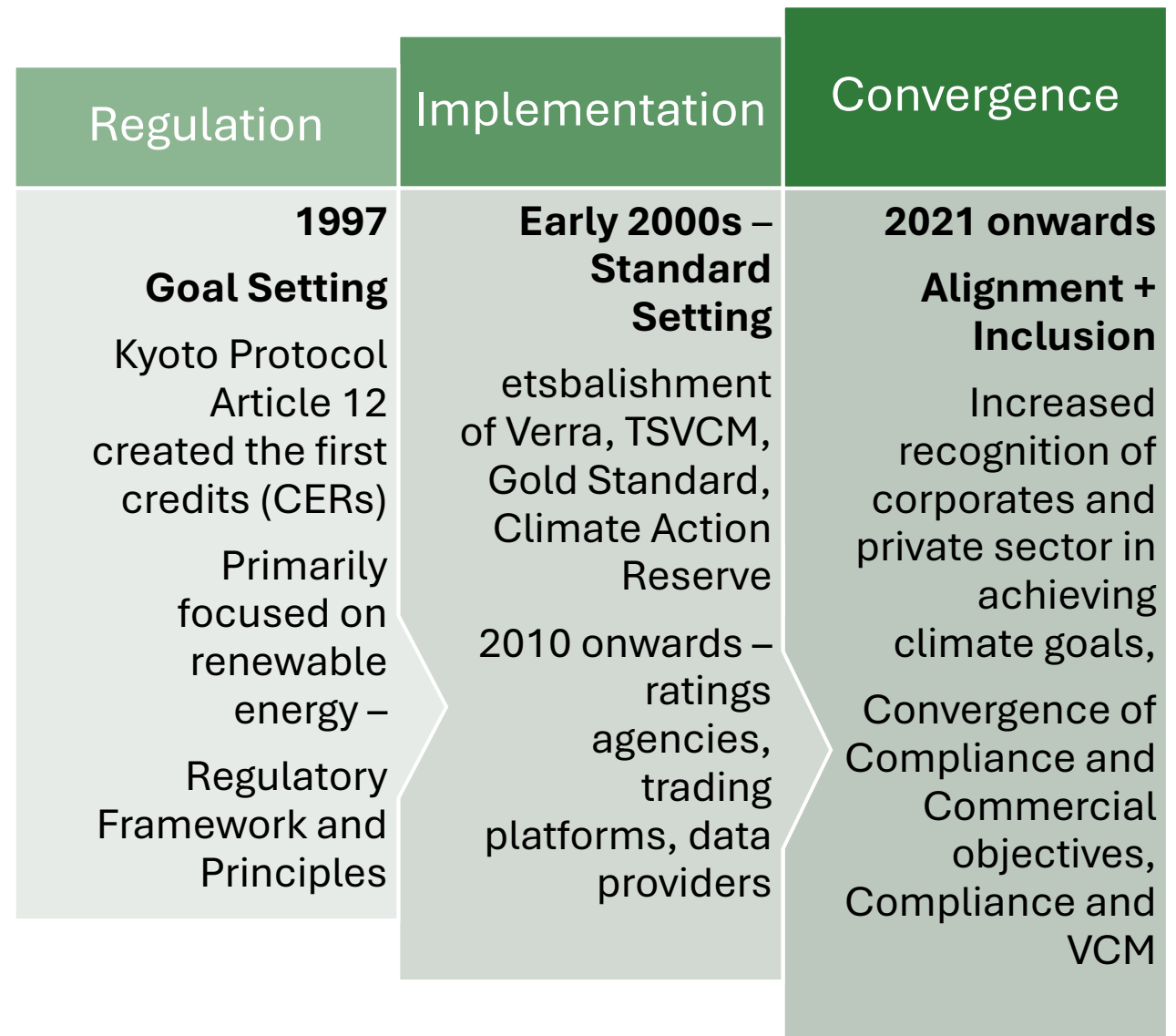
- Power (23)
- Industry (24)
- Buildings
- Transport
- Maritime (Kore/China/EU ETS)
- Domestic Aviation
- Waste
- Forestry





# 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





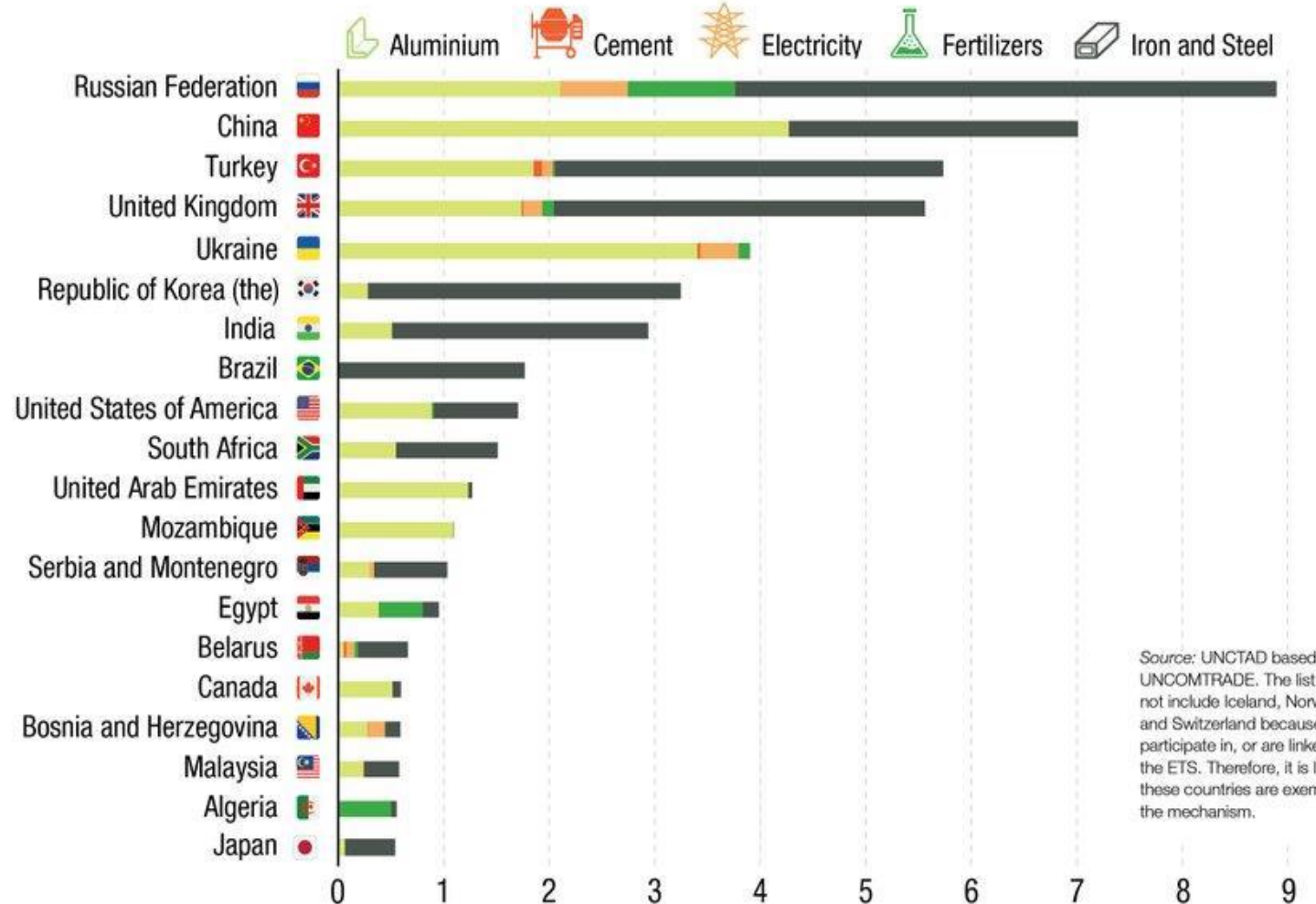
# CBAM expected to impact exports from 2027 onwards.

- Phased approach – 8 years from 1 Oct 2023 starting with a transitional period
- Free allowances phased out from 2026
- CBAM Certificates
- Declare Emissions embedded
- Declare carbon price paid



## 20 countries most exposed to an EU carbon border adjustment

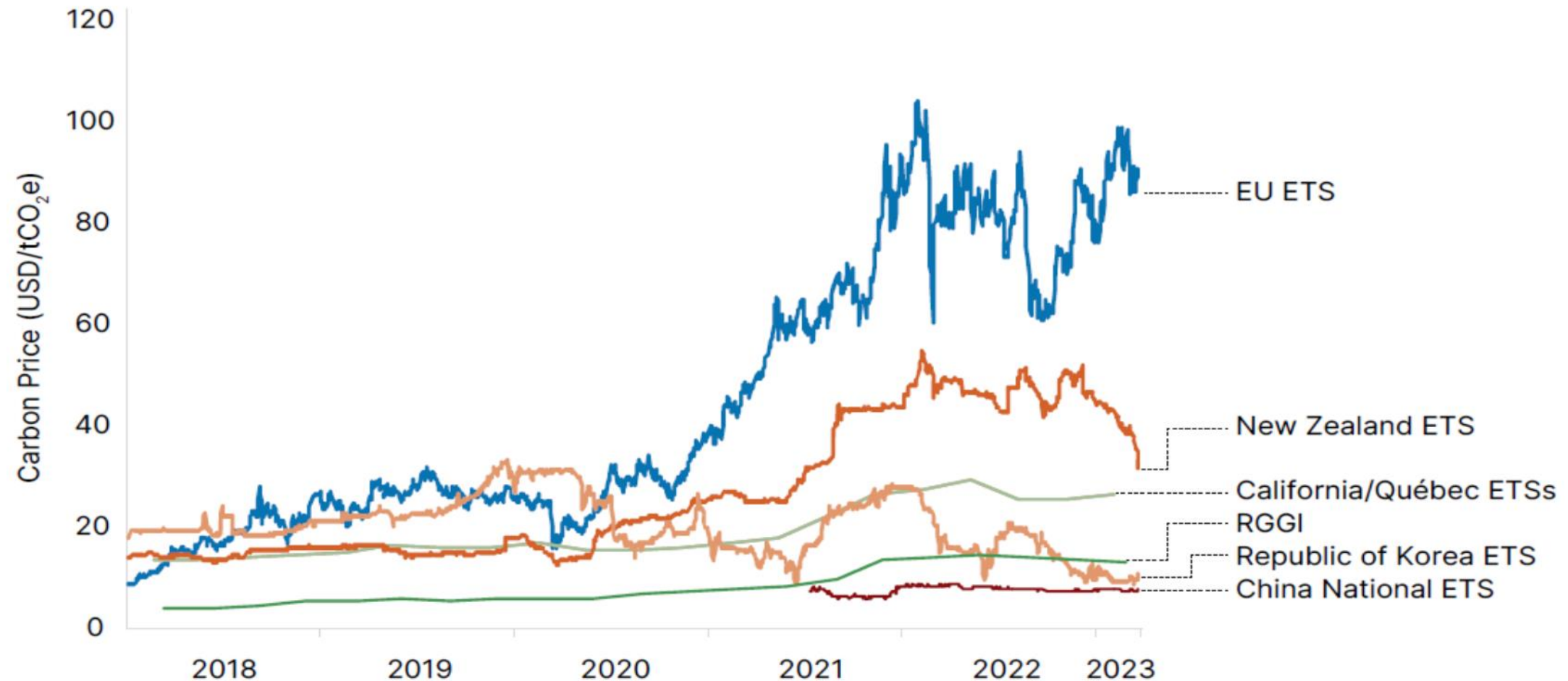
Exports in energy intensive sectors in 2019, (billions \$)



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

# Challenges and Considerations

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Record Temperature

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GHG Emissions rise

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High Inflation

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Energy Security

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Govt Tax Revenues Increase

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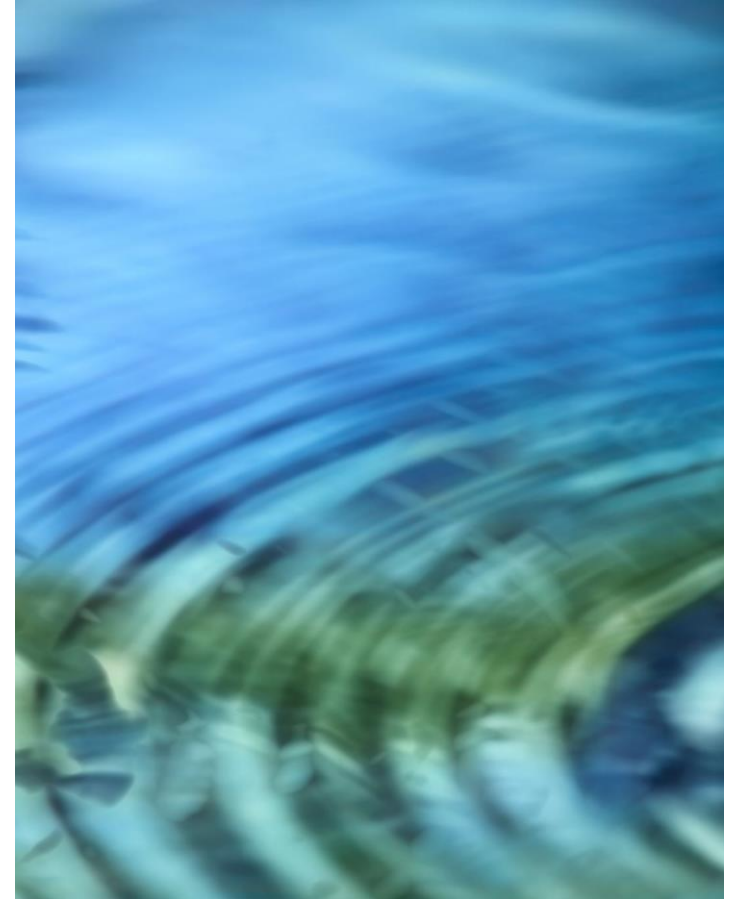
Voluntary demand drives markets

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Regulatory + Market Alignment

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Confluence of Compliance and Voluntary markets





# **China**

## **China National Emissions Trading System**

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

**Intensity based**

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

•2,257 entities

**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)**





# Korea

## Korea Emissions Trading Scheme (ETS)

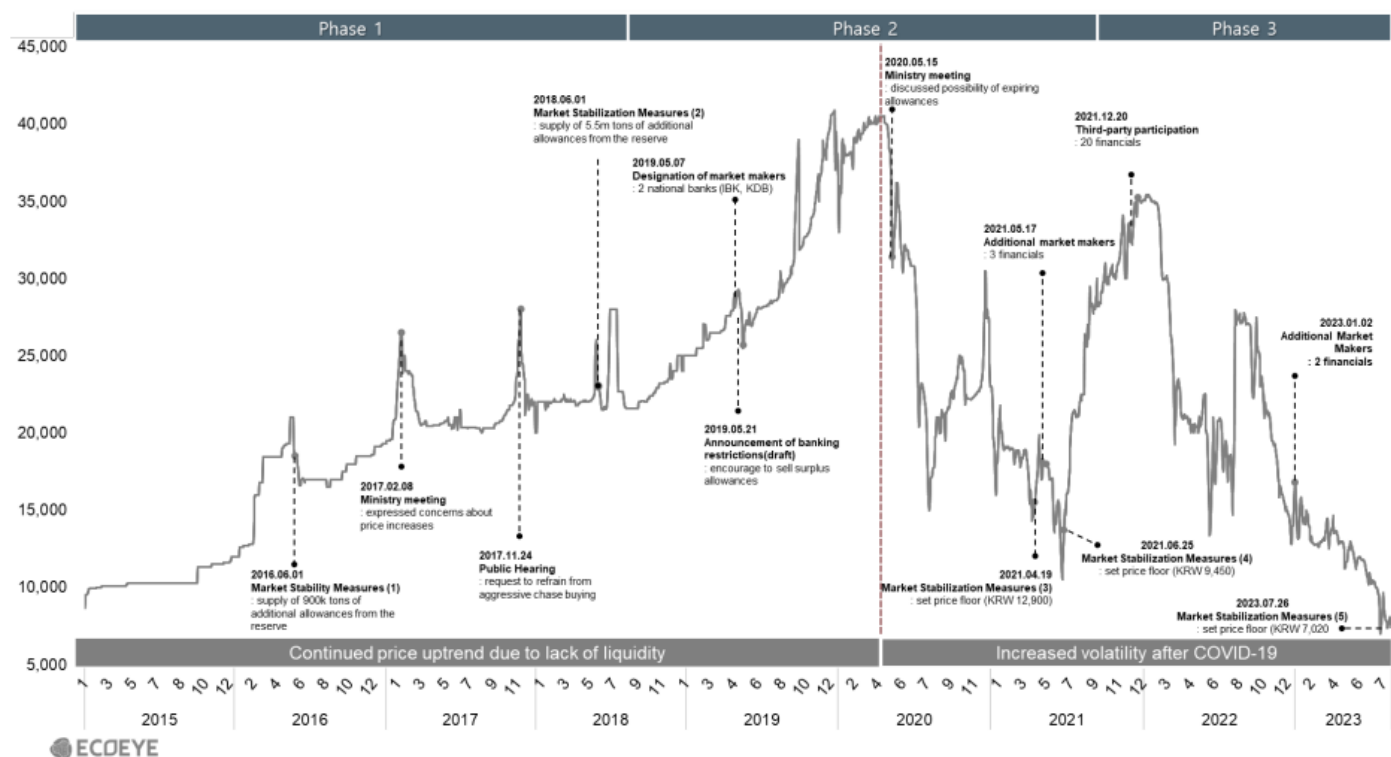
Second largest in scale after EU ETS covering 74% GHG emissions

Covers **804** emitters in Power, industry, waste and transport

Started 2015 – currently in Phase 3 targeting 589m tonnes Co2

KAU (Korean Allowance Unit), KCU (Korean Credit Unit), KOC (Korean Offset Unit)

Figure 1. KAU Developments (2015 – 2Q 2023)

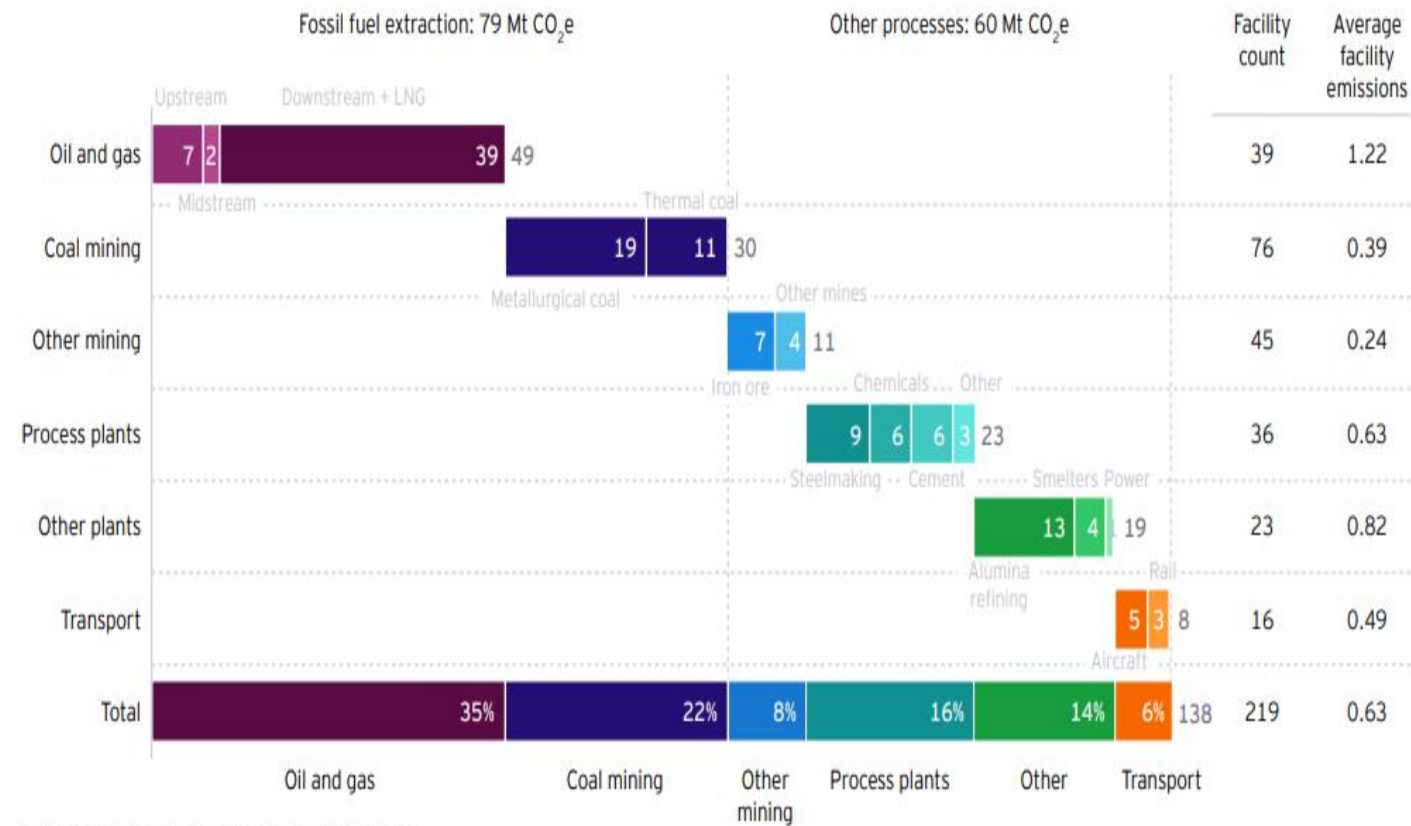




# Australia

## Safeguard Mechanism

- Mandatory emissions baselines
- Intensity-based system, regulating Industrial emitters
- Industry, Transport, Aviation, Waste
- Covers **215** emitters – oil & gas, mining and heavy industry



Source: Clean Energy Regulator Emissions Reporting, 2021-22; EY PJP analysis



# 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.

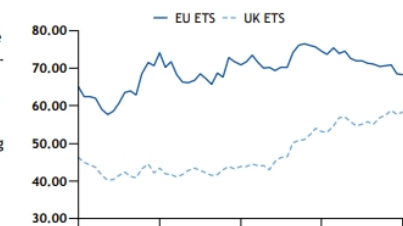
The sale's mixed results failed to provide clear direction for the front year, which edged lower over the next two hours before recouping these losses at around midday, rising back as high as €68.72/t CO<sub>2</sub>e at 14:00 BST. The product declined again from here, but appeared to find technical support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



# 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:-

Basis – **1 metric tonne** Carbon

Renewable Energy

Cookstove Technology

CDR (Carbon Dioxide Removal)

BECCS

DACs

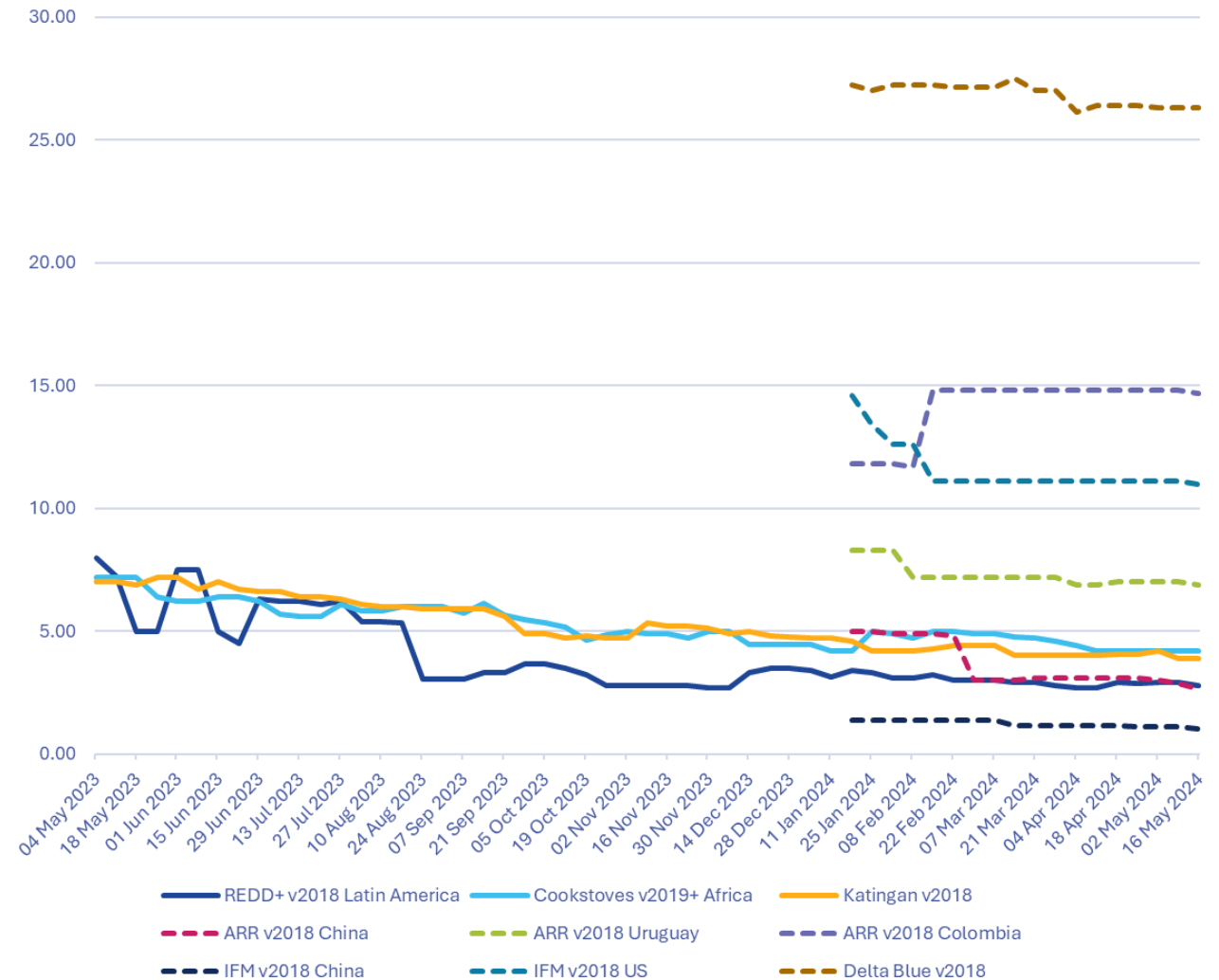
BioChar













# 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.
- Verra new REDD+ Methodology sets to reshape the market in terms of supply.
- Credits from ART & ACR registries can be purchased for Corsia.



# Sector Specific Demand – Oil/Gas lead the way in retirements (Shell + ENI)

	Sector	Retired volume, 1Q24 share	Volume change from 1Q23	Average credit integrity 1Q24	Change from 1Q23
	Fossil fuels	52%	↑ +102%	3.2	↑ +0.1
	Services	10%	↓ -56%	3.0	↑ +0.4
	Biotech, health & pharma	10%	↑ +1,807%	3.6	↑ +0.8
	Manufacturing	8%	↓ -4%	2.9	↑ +0.3
	Transportation	5%	↓ -61%	2.9	↑ +0.2
	Financial services	4%	↑ +5%	3.1	—
	Retail	3%	↓ -43%	3.0	↓ -0.1
	Power generation & utilities	2%	↑ +95%	2.7	—
	Other	6%	↓ -52%	2.7	↓ -0.5

MSCI Carbon Markets

Source: MSCI Carbon Markets analysis of disclosed retirements on tracked registries. Retirements have been matched to a company where disclosure allows. Carbon Credit Integrity scores are a weighted average by volume, using a 'Balanced' weighting.



# Thank you Q + A