

# **Compliance Carbon Markets**

## **Consultation Report**



**OICU-IOSCO**

**The Board  
OF THE  
INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS**

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## Foreword

The Board of the International Organization of Securities Commissions (IOSCO) has published this Consultation Report with the aim of outlining recommendations for integrity and orderly functioning markets. The recommendations are addressed to relevant authorities and look to support jurisdictions seeking to establish compliance markets to do so in the most effective way possible, learning from the experience of others.

### How to Submit Comments

Comments may be submitted by one of the three following methods **on or before 10 February 2023**. To help us process and review your comments more efficiently, please use only one method.

**Important:** All comments will be made available publicly, unless anonymity is specifically requested. Comments will be converted to PDF format and posted on the IOSCO website. Personal identifying information will not be edited from submissions.

#### 1. Email

- Send comments to **k.nathanail@iosco.org**
- The subject line of your message must indicate '*Compliance Carbon markets – Consultation Report.*'
- If you attach a document, indicate the software used (e.g., WordPerfect, Microsoft WORD, ASCII text, etc) to create the attachment.
- Do not submit attachments as HTML, PDF, GIFG, TIFF, PIF, ZIP or EXE files.

#### 2. Facsimile Transmission

Send by facsimile transmission using the following fax number: + 34 (91) 555 93 68.

#### 3. Paper

Send 3 copies of your paper comment letter to:

Kris Nathanail  
International Organization of Securities Commissions (IOSCO)  
Calle Oquendo 12  
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Spain

Your comment letter should indicate prominently that it is a '*Public Comment on Compliance Carbon markets – Consultation Report.*'

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## **Executive summary**

Compliance Carbon Markets (CCMs), also called “cap-and-trade” or “Emission Trading Schemes (ETS)” markets, are set by “cap-and-trade” regulations. In these markets, carbon emission allowances for domestic firms and sectors are issued by governmental organisations. These allowances mandate the maximum amount of carbon that holders are permitted to emit. Each allowance (or emissions permit) typically allows its owner to emit one tonne of a pollutant such as CO<sub>2</sub>e. These may be subsequently traded in a secondary market, with corporations seeking to buy and sell allowances in accordance with their own organisational needs (for example, a corporation which has high emissions may seek to purchase additional allowances). There is a second type of compliance carbon market, the so-called “baseline-and-credit system” whereby there is no fixed limit on emissions but polluters that reduce their emissions more than they would otherwise be obliged to can earn credits that they can sell to others who need them.

Various jurisdictions have established compliance carbon markets since 2005, and, as a result of new commitments, additional jurisdictions are exploring the possibility of establishing compliance carbon markets. However, for these markets to be effective in meeting their environmental goals, it is important that they are underpinned by the same principles as any sound and robust financial market; namely orderly functioning, transparency, integrity and stability.

As such, this consultation report (thereafter “the report”) explores the functioning of existing and well-established compliance markets in order to gain an understanding of potential vulnerabilities in the functioning of these markets and how to mitigate these.

Building upon the lessons learned from existing compliance carbon markets and good practices in commodity derivatives markets, the document delves into both primary markets and secondary markets considerations, spot and derivatives trading.

On primary markets, the report highlights aspects related to the mechanisms to allocate allowances, in particular how free allocation, although intended to minimize the risk of carbon leakage, can at the same time disincentivise compliance entities from participating actively in secondary markets. The report also notes that some jurisdictions allow financial institutions to participate in the auction mechanisms. In addition, the report addresses historical challenges, such as oversupply of allowances, and describes market stability mechanisms that jurisdictions have implemented in response, which vary between price-based mechanisms and volume-based mechanisms. Finally, the report highlights the important function of ETS registries in avoiding double counting, in enhancing market monitoring and data quality, and in promoting transparency.

Once allowances have been distributed, via free allocation and/or auctioning mechanisms, entities can either use secondary markets for further trading or bank any surplus they have for future use. Therefore, the report also considers the functioning of secondary markets, spot and derivatives.

Here, the report suggests the same comprehensive oversight that promotes transparency and integrity in other commodities markets could be applicable to compliance carbon markets as well. Some jurisdictions, although not all, classify both spot allowances and allowances

derivatives as financial instruments meaning they fall within the scope of securities regulation – including with regards to market abuse and money laundering. Generally, regulatory frameworks seek to address concerns such as (i) conduct issues, including conflicts of interest, (ii) potential lack of transparency, oversight and monitoring of trades, and (iii) fraud, insider trading and price manipulation.

With those considerations in mind, the report proposes a set of recommendations for CCMs in addressing issues around integrity and orderly functioning. The aim of these recommendations is to support jurisdictions seeking to establish compliance markets to do so in the most effective way possible, learning from the experience of others.

The report includes a total of twelve recommendations relating to primary market functioning, transparency and predictability of primary market decisions; market structures for primary markets, covering allowance allocation mechanisms, market stability mechanisms and primary market access for non-compliance firms, (i.e., those companies for whom participation in ETS schemes is not mandatory); and secondary market functioning, with particular focus on market integrity, transparency and structure.

In addition, the report includes a section on international carbon markets and a unique carbon price, to consider mechanisms that would, over time, lead to a consistent price for carbon globally.

The report also poses questions to the readers about the benefits of global CCMs, noting that common approaches towards market functioning could lead to more linking up between CCMs, thereby leading a consistent price for carbon globally over time.

The report is structured around six chapters being Chapter 1 the introduction. Chapter 2 provides a general overview of primary markets functioning while Chapter 3 describes the current functioning of CCMs in the secondary markets. Both chapters include general challenges and best practices from jurisdictions that have implemented ETSS. Chapter 4 outlines current practices on cross-border and cross-market interconnections and Chapter 5 elaborates on the regulatory frameworks currently applicable to CCMs where these exist. Finally, Chapter 6 addresses recommendations to relevant authorities (securities market regulators, as well as public policy governmental organizations) to allow jurisdictions the flexibility they may require as they establish CCMs in their jurisdictions. Some of these recommendations will apply to the functioning of primary markets, while others will apply to the functioning of secondary markets; spot and derivatives; noting the IOSCO principles for commodities markets appear applicable to emission allowances markets.

## Chapter 1 - Introduction

Carbon markets put a price on the CO<sub>2</sub> that polluters can release to the atmosphere; with two types of instruments or assets: (i) carbon emission credits, which are allowance-based instruments, and (ii) carbon offset credits, which consist of project-based issuances. This distinction is important, in part because it affects the type of carbon “marketplace” in which a company may decide to trade. Indeed, there are different types of markets:

- (a) Compliance markets – There are two types of compliance markets: The first type is the so-called “cap-and-trade” or “Emission Trading Schemes (ETS)” markets, as they are set by “cap-and-trade” regulations at regional state and international levels. In these markets, carbon emission allowances for domestic firms and sectors are issued by regional, national, and international governmental organisations. These allowances mandate the maximum amount of carbon that holders are permitted to emit. Each allowance (or emissions permit) typically allows its owner to emit one tonne of a pollutant such as CO<sub>2</sub>. These are subsequently traded in a secondary market, with corporations seeking to buy and sell allowances in accordance with their own organisational needs (for example, a corporation which has high emissions may seek to purchase additional allowances).<sup>1</sup> The second type is what is called a “baseline-and-credit system” whereby there is no fixed limit on emissions but polluters that reduce their emissions more than they would otherwise be obliged to can earn credits that they can sell to others who need them.<sup>2</sup>
- (b) Voluntary markets – where entities buy credits generated from emissions-reduction projects to offset some or all of their own carbon emissions. Offset credits are generated by companies with operations that avoid or reduce carbon emissions or remove carbon already in the atmosphere – for example, by investing in renewable energy or planting trees. Offset credits may also be issued for projects that avoid emissions. These markets are largely unregulated at present.
- (c) There is a third type of market, which can be defined as compliance offset market. These are markets falling under Article 6.4 of the Paris Agreement<sup>3</sup>; with the United Nations acting as the supervisory authority. The Clean Development Mechanism under the Kyoto Agreement would previously have fallen into this category.

This Consultation Report will focus on compliance carbon markets understood as the trading of physical (spot) allowances in primary and secondary markets, and the trading of derivatives on carbon emission allowances.

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<sup>1</sup> <https://www.offsetguide.org/understanding-carbon-offsets/other-instruments-for-claiming-emission-reductions/allowances/>

<sup>2</sup> <https://www.oecd.org/env/tools-evaluation/emissiontradingsystems.htm>

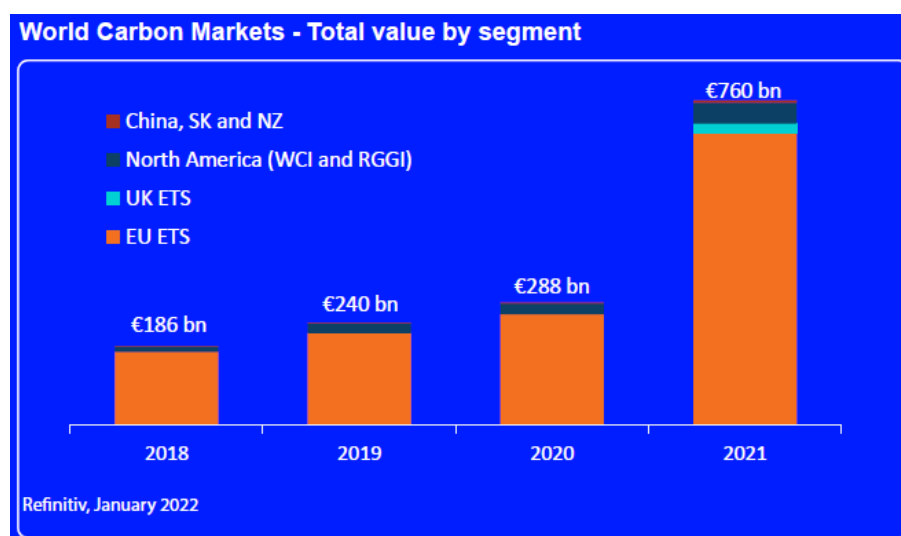
<sup>3</sup> [https://unfccc.int/files/essential\\_background/convention/application/pdf/english\\_paris\\_agreement.pdf](https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf)

While demand for voluntary carbon offsets is expected to grow substantially by 2030, with the market for offset credits expected to grow from \$1bn today to potentially to \$50bn by then<sup>4</sup>, offset markets are subject to a separate IOSCO Discussion Paper.

### The growth of compliance carbon markets

Carbon markets find their origins in the 1997 Kyoto Protocol, the first international agreement that sought to operationalise greenhouse gas (GHG) reduction actions. The Kyoto Protocol set a per-country cap for carbon emissions. Compliance carbon markets arose as the “trade” portion of an overall “cap-and-trade” framework, and have grown substantially, notably over the last decade.

*Chart 1: World carbon markets 2012-2021; total value by segment, total volume*



Source: Refinitiv<sup>5</sup>

The 2015 Paris Agreement<sup>6</sup> laid out further international CO<sub>2</sub> emission goals and regulations to achieve these goals.<sup>7</sup> Indeed, many government authorities committed to reducing greenhouse gas emissions by 2050, with the objective of limiting global warming to well below 2 degrees Celsius. Discussions at COP26 in November 2021 aimed to further improve these goals by turning into practice Article 6 of the Paris Agreement.<sup>8</sup>

<sup>4</sup> <https://www.mckinsey.com/business-functions/sustainability/our-insights/a-blueprint-for-scaling-voluntary-carbon-markets-to-meet-the-climate-challenge>

<sup>5</sup> <https://www.refinitiv.com/en/resources/special-report/global-carbon-market-report>

<sup>6</sup> [https://unfccc.int/files/essential\\_background/convention/application/pdf/english\\_paris\\_agreement.pdf](https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf)

<sup>7</sup> [https://unfccc.int/files/essential\\_background/convention/application/pdf/english\\_paris\\_agreement.pdf](https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf)

<sup>8</sup> The new rules are designed to avoid double counting of GHG emission reductions and limit the number of past projects that can be counted by a country toward its reporting under the Nationally Determined Contribution (NDC). They also establish a new international mechanism to oversee one portion of international carbon market activity.



Various jurisdictions have established compliance carbon markets since 2005 and, as a result of new commitments, additional jurisdictions are exploring the possibility of establishing compliance carbon markets. However, for these markets to be effective in meeting their environmental goals, it is important that they are underpinned by the same elements as any sound and robust financial market, namely orderly functioning, transparency, integrity and stability. This consultation report (thereafter “the report”) builds upon the lessons learned from existing compliance carbon markets and good practices in commodity derivatives markets with the aim of setting out a set of recommendations for the establishment of compliance carbon markets.

While overarching responsibility for aspects of these markets, notably as far as primary markets are concerned, resides at the level of governments, there is a role for securities regulators in promoting integrity and optimising effectiveness in carbon markets across the ecosystem – including both primary and secondary markets, spot and derivatives, noting this role is likely most prevalent in secondary markets.

To reach its recommendations, IOSCO has undertaken a fact-finding exercise as well as a literature review. In the first instance, IOSCO surveyed jurisdictions that form part of the Sustainable Finance Task Force as well as jurisdictions from its Growth and Emerging Markets Committee. Many financial regulators collaborated with environmental agencies in charge of supervising parts of their domestic markets in answering IOSCO’s survey. In addition, IOSCO organised a roundtable with participants from government agencies, the regulatory community, academics, trade associations, compliance firms as well as financial institutions who participate in these markets.

While the fact-finding exercise underpins the observations in this Consultation Paper and the ensuing proposed recommendations, the information provided may not be comprehensive and may benefit from further information on other markets. Therefore, IOSCO welcomes more input from a broader set of stakeholders through this public consultation.

## Chapter 2 - Primary Markets

Thus far, 29 compliance markets have been implemented globally.<sup>9</sup> Some examples include in the European Union (EU), the United Kingdom (UK), New Zealand, South Korea and Canada. China launched its national ETS in July 2021, after several cities and provinces had been operating pilot ETS programmes for several years. In the Americas, Mexico became the first country in Latin America to establish a national ETS in 2020. the United States does not have national regime. However, California operates a compliance market at state-level which is linked with Quebec in Canada to form the Western Climate Initiative; and the Regional Greenhouse Gas Initiative (RGGI) operates within about a dozen states along the East Coast of the US. Canada also currently lacks a national compliance market, but regimes are in place in the provinces of Quebec and Nova Scotia. Alternative regimes with some level of market mechanism are also in place in other provinces and territories alongside carbon taxes. The situation is similar in Japan, with regional schemes in Tokyo and Saitama; noting however that the Ministry of Economy, Trade and Industry has announced the establishment of a Green Transformation League as a forum consisting of companies that will start an ETS program to achieve their emission targets from April 2023 onward.

Generally, the implementation of these systems has been a progressive and phased process. In Europe, for example, the implementation of the EU ETS has taken place through five phases up until now.<sup>10</sup> The main evolutions from Phase 1 until now have been: (i) the inclusion of new entities under the compliance obligations, (ii) the reduction of the allowances allocated for free together with an increase of auctioned allowances, and (iii) the introduction of a mechanism to deal with structural differences between demand and supply. In the UK, the UK ETS Authority has also published a consultation paper on ‘Developing the UK Emissions Trading Scheme’<sup>11</sup> that sets out options to explore the expansion of carbon pricing and a call for evidence on the potential role of the UK ETS as a long-term market for greenhouse gas removals.<sup>12</sup> In the Tokyo Metropolitan Government Cap and Trade Program, there have also been phases while the Mexico scheme is currently in a three-year-pilot phase, with 2022 constituting the transition year in which the actual binding cap will be set and 2023 being the year in which compliance obligations will enter into force for all covered emitters.<sup>13</sup> Finally, China first organised pilot regional schemes before launching their national ETS scheme.

Compliance entities—those subject to the respective emissions reduction program—compose the majority of participants in the primary market, but the role of financial sector participants

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<sup>9</sup> <https://openknowledge.worldbank.org/handle/10986/35620>

<sup>10</sup> The first phase, from 2005 to 2007, was a pilot. The second phase covered the Kyoto Protocol commitment period, 2008 to 2012. The third phase started in 2013 and lasted until 2020. Every time, changes were made to the regime. The EU is currently in the fourth phase of the system, which covers 2021 to 2030.

<sup>11</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1067125/developing-the-uk-ets-english.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1067125/developing-the-uk-ets-english.pdf)

<sup>12</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1067125/developing-the-uk-ets-english.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1067125/developing-the-uk-ets-english.pdf)

<sup>13</sup> <carbon-market-year-in-review-2020.pdf> (refinitiv.com)

has also been increasing. In the EU for example, roughly 70% of the market participants in the EU allowances auctions are non-financial counterparties and the remaining 30% are financial entities.<sup>14</sup> It is also worth noting that compliance entities may decide to cover their exposure by taking long positions on the derivatives market rather than purchasing allowances directly through auctions or the spot market, to lower their capital costs and mitigate the financial liquidity restrictions associated with allowances. It is in this context in particular that financial institutions may decide to participate in the auctions, purchasing these allowances instead and taking short positions on the derivatives market.<sup>15</sup>

Despite differences between Emission Trading Schemes (ETSs) – for example, coverage varies across markets both in terms of sectors<sup>16</sup> and in terms of greenhouse gases<sup>17</sup> – some key principles underpinning compliance markets are similar across the most experienced regimes. We will explore some of these key principles below.

## **2.1. ETS functioning at primary market level**

At the outset, primary market issuance in compliance markets operates differently than in most other securities, as the primary market issuer is typically the state or an authority thereof.

Most ETSs work on a cap-and-trade principle, where a cap is set on the total amount of certain greenhouse gas that can be emitted by sectors covered by the scheme. This is intended to limit the total amount of carbon that can be emitted. If an entity creates emissions as part of its activities, it must procure an amount of emission allowances equal to its level of emissions. Allowances may be (i) obtained for free from the state or an authority under a free allocation regime; and/or (ii) purchased under an auction regime.

Equally, these entities must surrender allowances back to the governmental entity to cover the greenhouse gas emissions that they created. Companies must typically surrender a quantity of emission allowances equivalent to their greenhouse gas emissions from the previous year. In the EU, the CO<sub>2</sub> Registry states how many allowances must be surrendered, based on the emissions data that has been entered and confirmed by a verifier.<sup>18</sup> In the California ETS, covered entities must surrender allowances equivalent to 30% of their emissions from the previous year; while in RGGI every year regulated power plants must surrender allowances equal to one-half of their CO<sub>2</sub> emissions for that year. In both programs, entities are only required to surrender allowances equal to their full emissions, less those already surrendered, every three years at the end of a “compliance period”. Failure to surrender on time results in

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<sup>14</sup> [ESMA Final Report on Emission allowances and associated derivatives](#), 28 March 2022, p. 55

<sup>15</sup> <https://climatestrategies.org/wp-content/uploads/2015/02/Climate-Strategies-MSR-Report-Final.pdf>

<sup>16</sup> For example, The California program includes transportation and heating fuels whereas the EU and the UK have mostly focussed on electricity and heavy industry. RGGI and China are solely focussing on electricity. The NZ ETS covers a broad range of sectors, which were gradually phased in between 2008 and 2013. This includes forestry, energy, industrial processes, liquid fossil fuels, waste and synthetic emissions.

<sup>17</sup> For example, the EU ETS covers CO<sub>2</sub>, N<sub>2</sub>O, and PFCs whereas the China National ETS and Tokyo ETS only cover CO<sub>2</sub>. GHG coverage is material given growing concern about the potency of other GHG in particularly methane.

<sup>18</sup> <https://www.emissionsauthority.nl/topics/year-end-closing-ets/surrendering-allowances>

an immediate surrender obligation equivalent to four times the covered entity's missing balance. Other schemes also have specific penalties for non-compliance. For example, penalties for non-compliance with respect to RGGI is set by each participating state, while in the UK, the excess emissions penalty is £100 multiplied by the inflation factor (a measure of the growth in the consumer price index) for each allowance that the operator fails to surrender. In the national Chinese schemes, competent authorities will reduce the emission quota for the misleading compliance entity for the next year by an equal amount to the falsely stated amount in the year in which the false statement was made, by way of penalty.<sup>19</sup> In addition, failure in reporting and failure in compliance obligations will attract fine of CNY10,000 to 30,000 and CNY20,000 to 30,000 respectively.<sup>20</sup>

### *2.1.1. Allocation methodologies*

Jurisdictions typically have two methods for allocating emission allowances: free allocation and auctions. Independently from the mechanism for allocating them, there is typically an absolute cap which underpins allocation – this is the case for schemes such as those in the EU, UK and in the Americas. China, on the other hand, has a cap based on emissions intensity rather than an absolute cap.

Most compliance markets, such as the California, EU, and UK schemes, operate with similar structures in place. All have a free allocation for specific industries, typically industries where carbon leakage may otherwise happen – while other industries are generally required to purchase allowances, either on the primary market via auctions or on the secondary market.<sup>21</sup> Other jurisdictions however currently operate on the basis of free allocations only. This is for example the case in the China national ETS, where benchmarking is used to allocate allowances to covered entities, namely those in the power sector.<sup>22</sup>

#### *2.1.1.1. Free allocation mechanism*

Some allowances are handed out for free to some entities, i.e., entities in industries where emissions are harder to abate, such as energy-intensive industries. The aim is to assist them with competitiveness issues stemming from the activities of industry participants from outside their jurisdictions and in doing so, minimizing the risk of carbon leakage.<sup>23</sup>

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<sup>19</sup> [Dentons - The institutional framework for national ETS is coming - the Administrative Measures for Trading of Carbon Emission Rights \(for Trial Implementation\) promulgated](#)

<sup>20</sup> <https://chinaenergyportal.org/en/administrative-measures-for-carbon-emissions-trading-trial-implementation/>

<sup>21</sup> In the EU ETS, industries not on the carbon leakage list receive 30% of their allowances for free until 2023; they need to make up for the remaining 70% by acquiring EUAs either through primary or secondary markets.

<sup>22</sup> [carbon-market-year-in-review-2020.pdf \(refinitiv.com\)](#)

<sup>23</sup> “Carbon leakage” is a term used to describe the transfer of industrial production to countries with laxer constraints on GHG emissions, due to additional costs resulting from emission abatement activities”. <https://climatepolicyinfohub.eu/carbon-leakage-and-industrial-innovation.html>

However, roundtable participants suggested that providing free allocations can disrupt market functioning as it may disincentivise these entities from participating actively in secondary markets. In addition, roundtable participants noted that there may be little incentive for them to invest in ways to reduce their emissions.

Some jurisdictions are exploring other mechanisms to avoid carbon leakage. For example, in 2021 the European Commission proposed the Carbon Border Adjustment Mechanism (CBAM). Through this mechanism, EU importers would have to buy carbon certificates corresponding to the carbon price that would have been paid, had the goods been produced under the EU's carbon pricing rules. Conversely, once a non-EU producer can show that they have already paid a price for the carbon used in the production of the imported goods in a third country, the corresponding cost can be fully deducted for the EU importer. This mechanism has been designed in compliance with World Trade Organization (WTO) rules and is currently being discussed by European co-legislators, i.e. the European Parliament and the European Council.

#### *2.1.1.2. Auctioning mechanism*

Allowances not allocated for free are auctioned. The frequency of the auctions varies depending on the jurisdiction. The EU auctioning system is based on daily auctions via the EEX platform.<sup>24</sup> In the UK, the auctions are held every two weeks on the ICE Futures Europe platform.<sup>25</sup> The California and Quebec ETS as well as the RGGI program, in turn, hold auctions on a quarterly basis, as does the New Zealand ETS via EEX.

Participation in the auctions can either be limited to compliance entities or open to non-compliance companies. This means that financial institutions (banks and investment firms), as well as non-financial counterparties without compliance obligations, may be allowed to participate in the auctions subject to meeting entry requirements that vary depending on the jurisdiction.

The requirements to participate in auctions typically include opening an account in the relevant registry and other financial security requirements. In the EU, these requirements are set out in the European Auctioning Regulation and include, amongst other things, opening an account in the Union Registry, being established in the EU, appointing at least one bidder representative, and complying with the admission requirements of the auction platform.<sup>26</sup>

Generally, success in an auction bid will depend on the price and the number of allowances auctioned. In the EU, by way of example, auction clearing prices are determined by the following process:<sup>27</sup>

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<sup>24</sup> <https://www.eex.com/en/markets/environmental-markets/eu-ets-auctions>

<sup>25</sup> <https://www.theice.com/futures-europe/faq>

<sup>26</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32010R1031>

<sup>27</sup> The auctioning process described is based in the EU Auction Regulation (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32010R1031>)

- the auction clearing price is determined as the price at which the sum of volumes bid matches or exceeds the volume of allowances auctioned.
- All bids with a price higher than the auction clearing price are successful. Execution of bids made at the auction clearing price depends on their ranking in the random selection (i.e. all bids at the same price are not executed following an order based on their timestamp, but according to the order given by the platform's algorithm).
- All successful bids pay the same auction clearing price even if they bid higher.

Other jurisdictions work on the basis of minimum reserve prices to control auction prices. A minimum reserve price is the floor at which allowances can be sold at auction. In the California and RGGI programs, any bids lower than the auction reserve price will not be considered. California set a price floor at \$10 per ton in 2012, which increases 5% annually plus inflation; the 2022 price floor is \$19.70 (the price floor (or minimum reserve price) at RGGI in 2022 is \$2.44). All allowances sold at any one auction are sold at the same price. In addition, RGGI limits the number of allowances that anyone can purchase to 25% of the allowances offered for sale in that auction. The UK ETS auction regulations also sets an Auction Reserve Price (ARP); the minimum price for bids in UK ETS auctions is at £22 in 2022.

In the New Zealand ETS, there is a confidential reserve price that prevents the sale of units at auction significantly below prevailing secondary market prices. The confidential reserve price is calculated for each auction using a methodology based on recent secondary market price(s) and considering market volatility. Both the methodology and resulting reserve prices are kept confidential, so as to prevent the confidential reserve price from becoming the target of strategic bidding behaviour.

Auction revenues from existing ETSs are used predominantly to tackle climate change. Under the EU ETS, Member States are required to spend at least half of their auction revenues to support greenhouse gas emissions reductions, to deploy renewables and carbon capture and storage, and to improve energy efficiency and district heating. In the California program, revenue generated through the auctions is returned to utility ratepayers through the California Climate Credit and funds the Greenhouse Gas Reduction Fund and the California Climate Investments program, which supports investments in energy efficiency, clean transportation, solar energy, and other greenhouse gas-reducing projects. RGGI states have individual discretion over how they invest auction proceeds. The participating states generally invest the proceeds to benefit consumers (e.g., direct bill assistance), improve energy efficiency, and accelerate the deployment of renewable energy technologies.

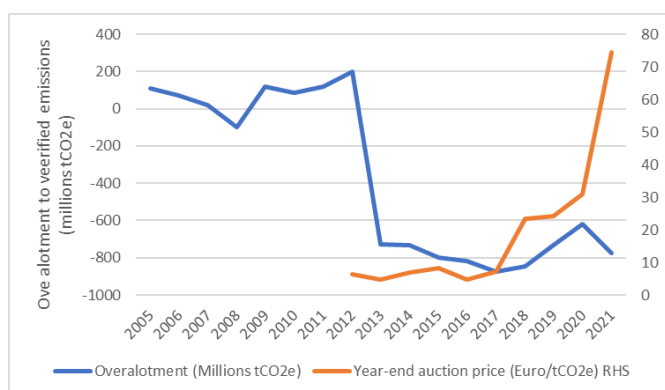
#### Market stability mechanisms

In some circumstances, allowable emissions targets in primary markets have exceeded actual emissions, leading to oversupply issues in the market. This has meant the demand for emissions allowances was lower than the supply, which removed the need for abatement. In response, some markets have moved to a very low or zero carbon price.

The EU ETS, for example, has experienced several episodes of oversupply over the years. In phase I (2005-2008), the cap was 118.2 million metric tonnes of CO<sub>2</sub> (MtCO<sub>2</sub>) (roughly 2%)

above calculated, verified emissions. This surplus was observable in the first two years of the mechanism and only exhibited a shortfall in 2007 (of 11.5 million MtCO<sub>2</sub>).<sup>28</sup> Consequently, the primary market auction price did not move from zero for the first three years of the mechanism (see Chart 2). Additionally, emissions allowances allocated in phase I were not transferable to phase II of the mechanism. Although secondary market prices peaked at close to EUR30 per MtCO<sub>2</sub>, when it was announced that European Union Allowances (EUA) contracts were not transferable, the secondary market price for EUA also fell to zero in the first 6 months of 2007 (see chart 3), with little to no trading volume in those same months. In phase II (2008-2012), a surplus was still observable, at a total of 102 million MtCO<sub>2</sub>. The main reason for this oversupply was the European sovereign debt crisis as economic activity declined, thus leading to a drop in verified emissions. Again, this led to a primary auction price of zero, except for the final year where the price was EUR5 per MtCO<sub>2</sub>. Much of the oversupply carried over into phase III (2013-2020), which depressed secondary market prices for several years, even though more ambitious emissions caps were put in place.

Chart 2: Allowances Supply and impact on price



Source: EEA, EEX, IOSCO Calculations

Notes: 1) Interpretation of the chart is as follows. “Overallotment” refers to the number of emissions allowances over and above the verified emission within the EU. A positive number highlights a greater allowance to emit CO<sub>2</sub> than actual emissions. A negative number highlights that emission allowances were less than actual emissions.

Chart 3: Evolution of European Union Allowance prices



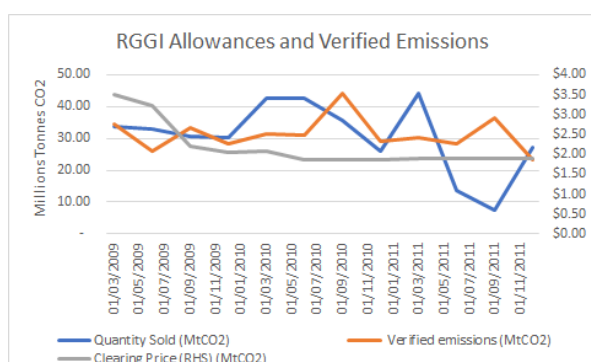
Source: Investing.com

The RGGI ETS experienced a similar issue. Emissions caps were initially calculated on power station emissions between 2000-2004 and a “standard error” was added to the cap to allow for

<sup>28</sup> The oversupply of allowances was the result of several factors. Firstly, member states generally lacked verified baseline emissions data when establishing their caps in their national allocation plans (NAPs), and baseline emissions were generally overstated. Secondly, there was no emission reduction target for member states in the EU; at that time, caps were largely established against a business-as-usual basis with limited ambition. Thirdly, the decentralised approach to cap setting meant that member states had an incentive and flexibility to seek to protect their own industries, and retrospectively, allocations appeared generous relative to emissions.

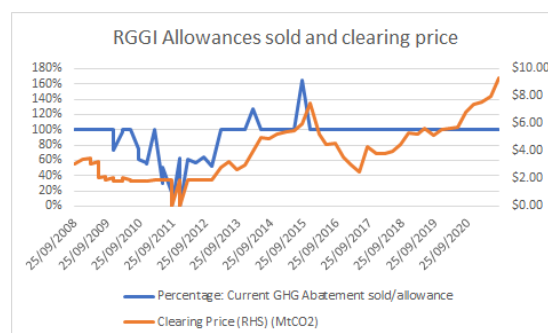
an anticipated increase in emissions before the scheme went live. Soon after, however, verified emissions were found to be much less than the expected level. As a result of the overly generous cap, a surplus of emission allowances accumulated during the control period and manifested itself as a "cache" of unsold allowances. While between 2008 and 2010, most allowances on offer were sold, only 50% sold in 2011. By 2012, the amount of oversupply manifested itself in several periods where abatement allowances were then sold. The accumulated unsold allowances reached 200 million by 2012. As a result of the oversupply and the resulting lack of need for abatement, carbon prices remained low (around \$2 per MtCO<sub>2</sub>) and close to the floor price. Although the cap has been reduced systematically since 2014, even today, the resulting oversupply in the initial stages affects the current primary market clearing price. The current clearing prices move in lockstep with the increase with the price floor.

Chart 4: RGGI Allowances and verified emissions



Source: Regional Greenhouse Gas initiative (rggi.org)

Chart 5: RGGI allowances sold and clearing prices



Source: Regional Greenhouse Gas initiative (rggi.org)

Several lessons can be taken away from these examples:

- First, compliance carbon markets are dependent on a consistent and accurate calculation of emissions, from which artificial scarcity is created by setting legal allowances below that of recorded emissions. Where allowances exceed actual emissions, the demand and supply dynamics of price setting can no longer function, even with the inclusion of a price floor.
- Second, policy decisions affecting the issuance of allowances and the debates which precede them can cause price volatility.
- Finally, macro-economic conditions are crucial in determining several key factors in the design of any market - unexpected downturns can make absolute cap metrics look overly generous, which can take many years to unwind and depress auction prices.

As a result, many jurisdictions have implemented mechanisms to guard against excessive market instability, especially in the early years of functioning; noting however that not all compliance markets have these mechanisms in place. For example, there is no such mechanism



in the Tokyo cap-and-trade scheme. These mechanisms vary between price-based mechanisms and volume-based mechanisms.

One example of a volume-based mechanism is the EU ETS with the implementation of the “Market Stability Reserve” (MSR) system. The MSR system adjusts auction volumes, by placing allowances in the reserve or by releasing them from the reserve, according to predefined thresholds of the total number of allowances in circulation (TNAC). In any given year, when the TNAC is above 833 million, 12% (and up to 24% until 2023) of the surplus is withheld from auctions; when it is below 400 million, 100 million allowances are taken from the MSR and added to auction volumes the following year.

In the UK, NZ, California and RGGI systems, the ETSs apply a price-based mechanism to intervene and stabilize the market. These mechanisms include an Auction Reserve Price (ARP), which, as indicated above, sets a price floor over the price at which an allowance can be sold at the auction. Price floors do not prevent market participants from trading allowances in the secondary market for a lower price. For example, the price stabilisation mechanism implemented by RGGI is voluntary for its member states and is called the “Emissions Containment Reserve” (ECR). The ECR is triggered if emission reduction costs are lower than projected – with a trigger price at \$6.42 in 2022 with an anticipated increase by 7% every year thereafter.

Other mechanisms include a Cost Containment Mechanism (CCM) which enables relevant authorities to amend the distribution or volume of allowances to be auctioned in any one year if the carbon price exceeds specified limits. These limits are relative to historic carbon prices. This mechanism guards against sustained high price extremes in the ETSs, providing an avenue for intervention in limited and specific circumstances.

In the UK, if the CCM is triggered, the UK Treasury may authorise:

- Changes to the distribution of auctioned allowances within a calendar year.
- Increases to the volume of allowances to be auctioned in a given year by bringing auctioned allowances forward from future years.
- The release of up to 25% of the allowances held in the New Entrants Reserve <sup>29</sup>for auction in that calendar year. or
- The release of allowances from the market stability mechanism account for auction in that calendar year.

The RGGI states also have established a Cost Containment Reserve (CCR) which consists of a quantity of allowances in addition to the cap which are held in reserve. These are made available for sale at auction only if the allowance price would otherwise exceed a set trigger price (\$13.91 in 2022). The CCR is replenished at the start of each calendar year and the trigger price is also increased by 7% per year going forward. California has also established an Allowance Price Containment Reserve (APCR), under which allowances are set aside into tiers for use if the price hits certain levels. In 2022, the Reserve Tier 1 and Tier 2 prices are set at

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<sup>29</sup> The New Entrants Reserve is a set aside of allowances, reserved for new operators or existing operators who have significantly increased capacity.

\$46.05 and \$59.17 per allowance, respectively. California is also transitioning to a hard price ceiling of \$65; an unlimited supply of allowances will be available at this maximum price.

In New Zealand, the CCR replaces a fixed price option to provide the government with more control over the number of NZ allowances (NZUs) available to the market, as there is a limit on NZUs available through the reserve. This limit is part of the overall limit on allowances supplied into the scheme. In addition, since 2009, the NZ ETS has had a de facto price ceiling known as the fixed price option (FPO). The FPO allows NZ ETS participants to pay \$35 per tonnes of CO<sub>2</sub> to the government instead of purchasing units from the secondary market. This provides participants with a guaranteed maximum compliance cost. ETS participants can only use the FPO when they have a surrender or repayment obligation. The FPO does not create NZUs that can be traded in the market, and there is no limit on the number that can be purchased. When FPO units are purchased, it indirectly adds to the supply of NZUs in the market because its use means that other NZUs will not be surrendered.

Finally, in China, upper and lower caps are applicable to the trading price for a specific trading day – determined by reference to the closing price on the previous trading day. However, the regional schemes' mechanisms are different from that of the national schemes. In Guangdong and Hubei, some allowances are held back to be released into the market and apply downward pressures. The mechanism for the national scheme currently does not have a comparable feature where reserves are set aside for market stability purposes; instead, there are provisions for competent authority to respond to abnormal fluctuation in trading prices through open market operations and making adjustments to rules related to the use of China Certified Emission Reduction (CCER).<sup>30</sup>

### *2.1.2. ETS Registries*

Beyond mechanisms to ensure market stability, many jurisdictions have also set up ETS registries. These are used to ensure that all allowances issued as part of the schemes are properly accounted for and double counting is avoided. They track ownership of allowances held in electronic accounts, much like a bank record all of its customers and their accounts and transactions.

In doing so, registries contribute to enhanced market monitoring and data quality by keeping track of the acquisition, transfer, retirement, and surrender of allowances. In addition, in some jurisdictions, information on program data and market activity is accessible publicly, adding to transparency.

Normally, ETS registries record the accounts of the legal or natural persons (including governments) which are necessary to obtain and transfer allowances. They include the transactions between account holders, a list with the compliance companies, and the number of allowances allocated for free; and details of all verified CO<sub>2</sub> emissions and reconciliation of allowances surrendered.

Every significant ETS has a registry in place. In 2012, the European Commission established the Union Registry to ensure the accurate accounting of European allowances issued under the

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<sup>30</sup> [NewsletterAddin \(linklaters.com\)](http://linklaters.com)

EU ETS. In the UK, allowances are held in the UK ETS Registry administered by the Environment Agency. In the RGGI program, the acquisition, transfer, retirement, and surrender of allowances is tracked on the RGGI CO<sub>2</sub> Allowance Tracking System (RGGI COATS) platform. In the California program, a web-based reporting tool called the California Electronic Greenhouse Gas Reporting Tool (Cal e-GGRT) manages the reporting, certification, submission, and verification of emissions data. All entities participating in the California program are also required to have an account with the Compliance Instrument Tracking System Service (CITSS). CITSS tracks compliance instruments from the point of issuance by jurisdictions, to ownership, transfer, and finally retirement.

### *2.1.3. Transparency in Primary Markets*

As noted above, these registries play an important role in promoting market integrity and allowing authorities to monitor the good functioning of compliance markets. However, they can also play an important role in promoting transparency to the public on activities in primary markets.

For example, in the EU an essential part of the registry is the EU Transaction Log, which automatically checks, records, and authorises all transactions that take place between accounts in the Union Registry. All information contained in the Union Registry is confidential, but this information becomes freely accessible to the public after three years. The UK also has similar arrangements.<sup>31</sup>

In the RGGI, an independent monitor, Potomac Economics, undertakes a quarterly market monitoring public report designed to shed light on the holdings of CO<sub>2</sub> allowances and allowance derivatives and the demand for these allowances with the aim of identifying firms that might acquire a position that raises competitive concerns.

In California, the authority provides a wide range of information on every aspect of its cap-and-trade program. The available information ranges from the verification of greenhouse gas emissions through allocation, offsets, compliance, auction announcements and results, use of auction proceeds, market data, and enforcement. Among the publicly available reports are allowance allocation summaries, offset credit issuance tables, summaries of compliance instruments held in CITSS, and summaries of the transfers of allowances and offsets between entities in CITSS. It should be noted however that information on market share per type of entity at any given time is not readily accessible.

In New Zealand, public reports also detail the emissions and removal of greenhouse gas as reported by participants for their registered activities in the NZ ETS. This information is published in the ETS Participant Emissions report that covers the reporting period for the reporting year from 1 July to 30 June. Publication of this report was introduced in 2020 to help improve transparency of the ETS. In addition to this public reporting, information about each NZ ETS carbon auction is published by the NZX in the form of an information sheet providing key statistics about price, participants, units sold, etc. (NZX Managed Auction Service (etsauctions.govt.nz)). This information sheet also compares some secondary market price

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<sup>31</sup> <https://reports.view-emissions-trading-registry.service.gov.uk/ets-reports.html>

information against the auctions clearing price. Information about secondary market trading comes from CommTrade, an online commodity pricing facility which allows registered users to post bids and offers as an extension of Jarden's existing over-the-counter commodity business.<sup>32</sup> Information regarding transaction trends, volumes, transfers, privately held units and historical data is also published by the Environmental Protection Authority from the ETS register. These are aggregate transaction trends for the domestic market.

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<sup>32</sup> Jarden is a private company that provides financial services and broking services for retail and wholesale investors and market investment banking.

## Chapter 3 - Secondary markets

### 3.1. ETSs functioning at secondary market level

Once allowances have been distributed, via free allocation and/or auctioning mechanisms, entities can either use secondary markets for further trading or bank any surplus they have for future use. The “banking” option is, however, sometimes subject to holding limits to prevent any abuse in the market – as is the case in California. Indeed, holding limits incentivise entities to reduce emissions early on, while leaving some flexibility in managing future business needs.

Participants use secondary markets, where spot allowances are resold, to purchase further allowances or sell their own surplus depending on their needs and objectives. Participants may also use derivatives markets to manage price risks associated with allowances. The derivatives market for emission allowances consists of futures on emission allowances with various maturities; and options on futures on emission allowances.<sup>33</sup> Physically-settled futures contracts, if held to expiry, will result in physical delivery of allowances or offsets within the relevant accounts. Some schemes only allow trading of spot products, as is the case with the Chinese national ETS for example.<sup>34</sup>

Participation in the secondary markets still includes compliance entities but appear to be broader than in primary markets. Unsurprisingly, financial participants play a key role; notably as intermediaries allowing compliance entities to fulfil their regulatory obligations, by facilitating the trading of emission allowances in spot and derivative markets. There appears to be an increase in participation by types of financial participants beyond banks, such as high frequency traders or hedge funds who can assist with market depth and liquidity without holding significant positions in the market. By way of example, a recent report<sup>35</sup> by ESMA shows an increase in the types of participants in the EU, as highlighted in chart 5 below; however, this trend appears to be taking place across markets. For example, in the US, one program monitor has identified the increased participation from financial investors and passive investment funds in derivatives markets. For example, the KraneShares Global Carbon ETF tracks most globally traded carbon futures contracts and uses the IHS Markit’s global carbon index as a pricing benchmark. These types of investment funds also exist in other jurisdictions, albeit in a more limited manner at this stage. However, some jurisdictions, such as the China national ETS, appear to only allow compliance entities to trade, at least in the initial phase of their schemes.<sup>36</sup>

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<sup>33</sup> <https://www.isda.org/a/soigE/Role-of-Derivatives-in-Carbon-Markets.pdf>

<sup>34</sup> [https://lpscdn.linklaters.com/knowledge/-/media/digital-marketing-image-library/files/06\\_ckp/2021/august/210819\\_llzs\\_china-launches-its-first-national-carbon-emission-trading-scheme.ashx?rev=425b463c-770e-4785-95a6-968d39d8d059&extension=pdf](https://lpscdn.linklaters.com/knowledge/-/media/digital-marketing-image-library/files/06_ckp/2021/august/210819_llzs_china-launches-its-first-national-carbon-emission-trading-scheme.ashx?rev=425b463c-770e-4785-95a6-968d39d8d059&extension=pdf)

<sup>35</sup> [https://www.esma.europa.eu/sites/default/files/library/esma70-445-38\\_final\\_report\\_on\\_emission\\_allowances\\_and\\_associated\\_derivatives.pdf](https://www.esma.europa.eu/sites/default/files/library/esma70-445-38_final_report_on_emission_allowances_and_associated_derivatives.pdf)

<sup>36</sup> <https://chinadialogue.net/en/climate/the-first-year-of-chinas-national-carbon-market-reviewed/>

Chart 5: Participants in EU carbon markets

EEX	Compliance Entities and Other Non-Financials	Funds and Other Financials	Investment Firms	Total
2018	38	0	10	48
2019	44	0	16	60
2020	56	0	16	72
2021	68	1	24	93
2022*	63	0	33	96

\* Data until 4 March 2022

Increase between average 2018 and average 2022*	65.8%	0.0%	230.0%	100.0%
Increase between average 2021 and average 2022*	-7.4%	-100.0%	37.5%	3.2%

**Table 4.** Average number of position holders on EUA futures, per category of counterparties, on EEX (source: EEX weekly position reports)

ICE	Compliance Entities and Other Non-Financials	Funds and Other Financials	Investment Firms	Total
2018	140	206	38	384
2019	154	248	41	443
2020	162	278	42	482
2021	301	368	100	769
2022*	301	374	116	791

\* Data until 4 March 2022

Increase between average 2018 and average 2022*	115.0%	81.6%	205.3%	106.0%
Increase between average 2021 and average 2022*	0.0%	1.6%	16.0%	2.9%

**Table 5:** Average number of position holders on EUA futures, per category of counterparties, in ICE (source: weekly position reports of ICE Futures Europe and ICE Endex. Weekly reports of 11 and 18 June 2021 are not available)

Source: ESMA

The secondary market is important for several reasons. First, it provides the ability for non-compliance firms to access emission allowances. Second, it provides a hedging mechanism for firms and energy generators against future price volatility. Third, by allowing hedging of risks, it aids in the deepening of market liquidity in such products. Fourth, it signals a price that allows for firms to make more informed investment decisions on their carbon output.

### 3.2. Trading activity in secondary markets

Trading in the secondary markets can be done on-exchange or over-the-counter (OTC). Both exchange-traded contracts and OTC contracts are an essential feature of financial markets generally, although the safeguards in terms of transparency, integrity and risk-management are generally higher on-exchange compared to OTC markets.

In the EU, trading takes place on three venues: EEX (DE), ICE Endex (NL) and Nasdaq Oslo (NO). All derivatives have a standardised contract size of 1,000 allowances (i.e., 1,000 tonnes of CO<sub>2</sub>).<sup>37</sup> OTC trading appears to be limited<sup>38</sup> unlike in other markets such as New Zealand where much of the trading appears to take place OTC.

In the UK, ICE Futures Europe hosts secondary trading on its market in both UK emission allowance (UKA) futures and UKA daily futures.<sup>39</sup> In the US, several exchanges, including ICE Futures, CME, and Nodal Exchange, offer futures and options contracts on California carbon allowances (CCAs), California offsets, and RGGI allowances.

While there is little data on spot markets, futures and options markets provide interesting insights into how secondary markets are developing. Indicators of growth are volumes traded and open interest, which are outlined below. For EUA contracts, there has been a consistent increase in the volume traded in both options and futures contracts of this asset over the last five years. While there is seasonality in the open interest, the trend is clearly upwards.

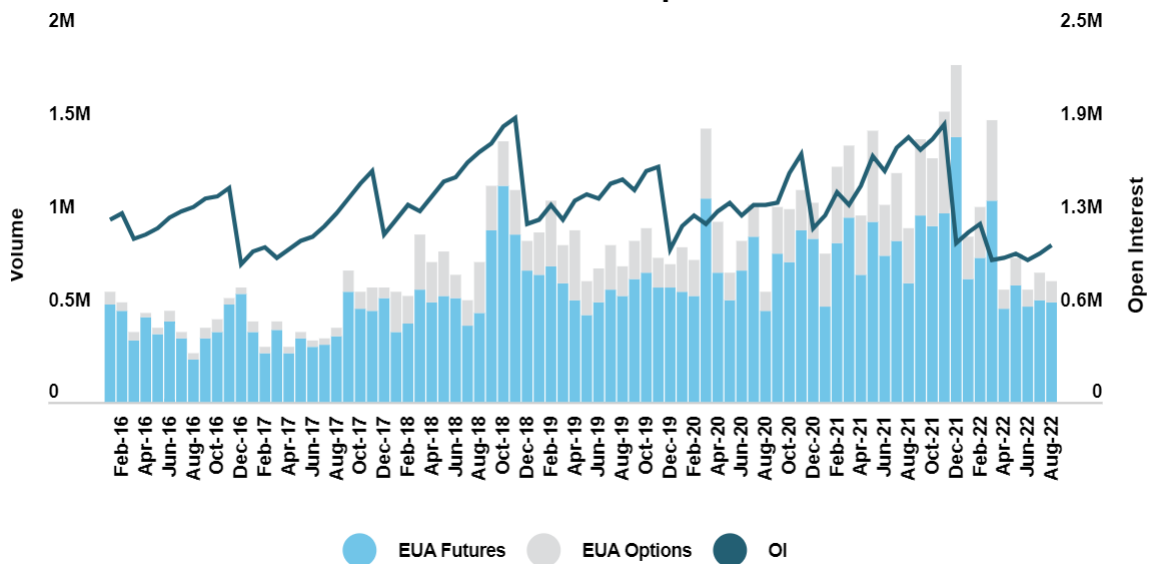
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<sup>37</sup> [https://www.esma.europa.eu/sites/default/files/library/esma70-445-7\\_preliminary\\_report\\_on\\_emission\\_allowances.pdf](https://www.esma.europa.eu/sites/default/files/library/esma70-445-7_preliminary_report_on_emission_allowances.pdf)

<sup>38</sup> [https://www.esma.europa.eu/sites/default/files/library/esma70-445-38\\_final\\_report\\_on\\_emission\\_allowances\\_and\\_associated\\_derivatives.pdf](https://www.esma.europa.eu/sites/default/files/library/esma70-445-38_final_report_on_emission_allowances_and_associated_derivatives.pdf)

<sup>39</sup> Whilst there is no spot contract listed, the UKA daily futures act in a very similar capacity to a spot contract through end of day delivery.

Chart 7: EUA Futures and Options



Source: ICE Group

Similarly, the trading in secondary markets in North America CO<sub>2</sub> markets has seen a consistent increase since 2016, across both the California and RGGI schemes. Futures and options trading volumes have seen a four-fold increase, while open interest, in aggregate, has increased three-fold (from 2016 to Dec 2021). As reported by Potomac Economics, increased futures trading and open interest has coincided with increasing participation of money managers and swap dealers in the futures market.<sup>40</sup>

Chart 9: North America Contracts

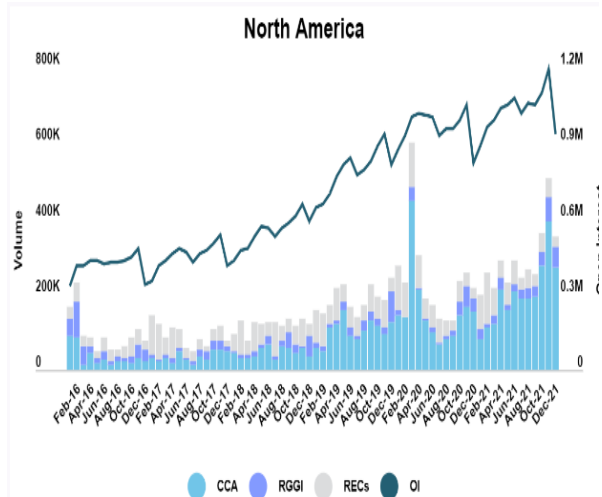
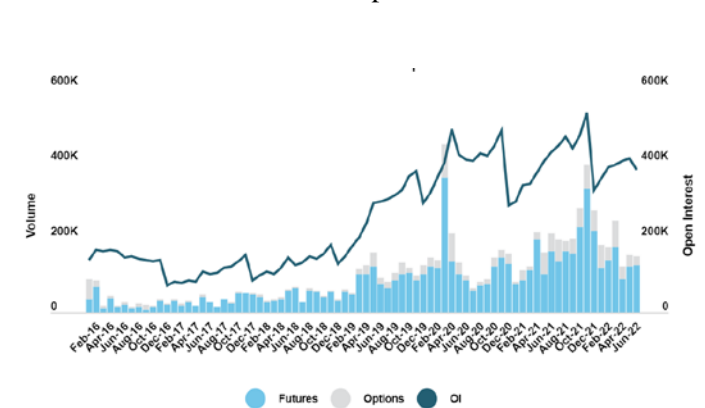


Chart 10: CCA Futures and Options

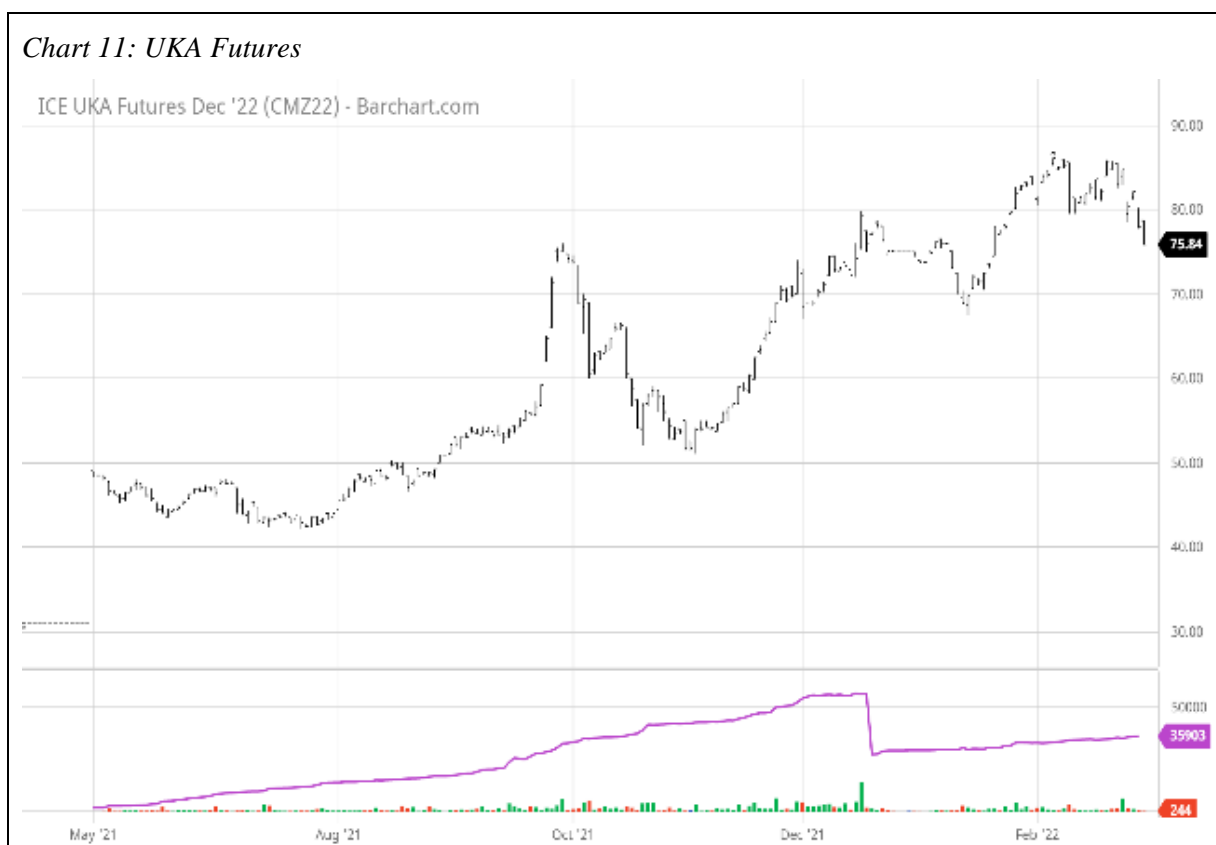


Source: ICE Group (<https://www.theice.com/microsite/usenvironmentalmonthlymarketreport>)

<sup>40</sup> Potomac Economics (2022): report on the secondary market for rggi co<sub>2</sub> allowances: fourth quarter 2021



Since launching, the secondary market pricing mechanism in the UK has been functioning well through ICE futures contracts. Options trading will be launched in October 2022. This can be seen in Chart 11 which show that the volume and open interest in UKA contracts has been increasing since the markets' inception.

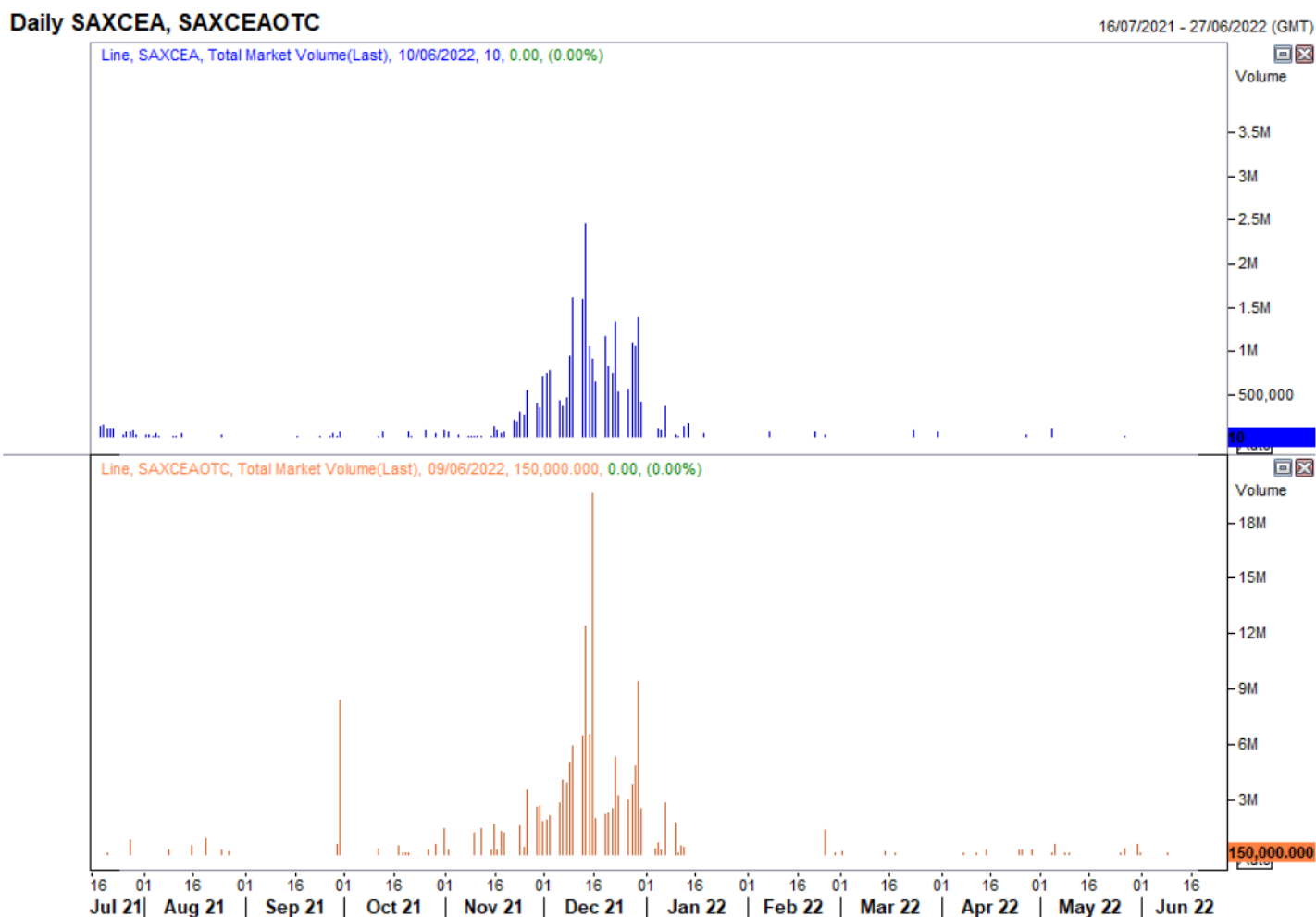


Source: ICE Group (<https://www.theice.com/microsite/usenvironmentalmonthlymarketreport>); barchart.com

In China, the national market is relatively new. While it was announced in 2017, it officially launched in January 2021 when the Chinese Ministry of Ecology and Environment (MEE) published the policy documents underpinning the functioning of the market. Trading commenced in July 2021 on a platform operated by the Shanghai Environment and Energy Exchange, with a temporary registry of transactions and holdings established under the China Hubei Carbon Emissions Exchange. At this stage, it is worth noting that there is currently no derivatives market for the national scheme, with legislation currently only allowing spot trading.

The national Chinese market also operates mostly OTC, as can be seen from the chart below, with volumes of OTC trading reaching 83% of total trades in 2021. Indeed, 148 million tonnes were traded OTC out of the 179 million tonnes traded.

Chart 12: China national carbon market on-screen and OTC trading volumes in tonnes



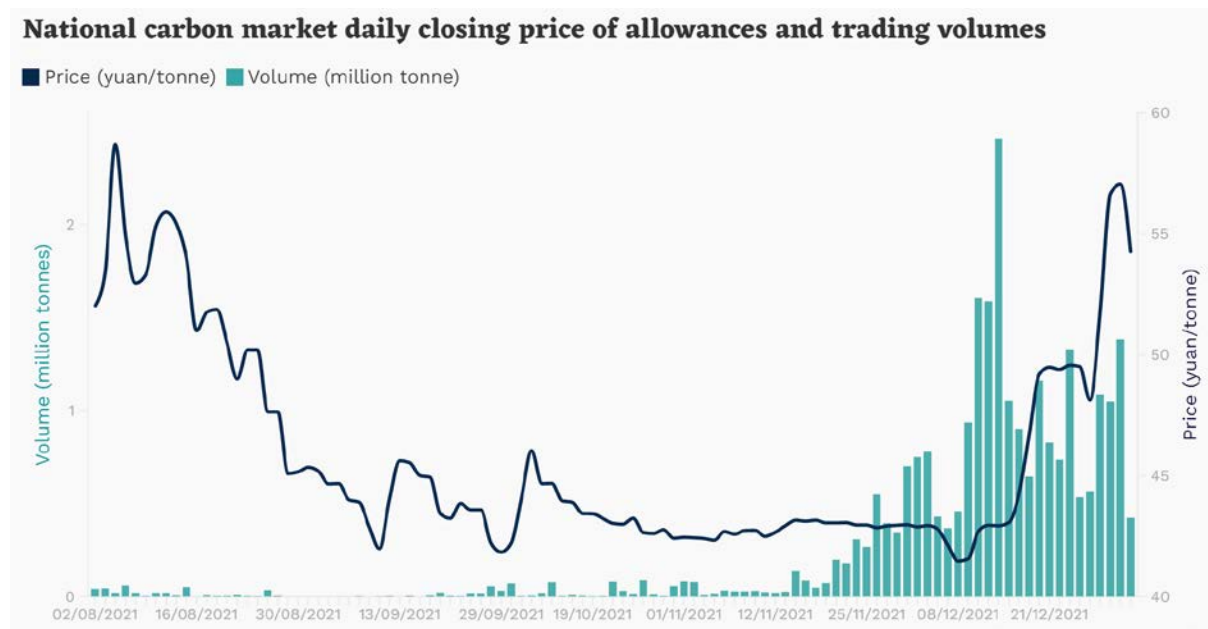
Source: Refinitiv

The mostly OTC market – and the trading pattern – may be explained by the fact the national Chinese ETS only allows participation by compliance entities at the moment. These compliance entities are big utilities companies which are likely more willing to trade near final compliance dates hence the spike in trading towards the end of the year.<sup>41</sup> Indeed, as these entities received their allowances gradually from the MEE over the course of the year, some compliance entities may have realised towards the end of the year that they were going to face a shortage, thereby searching for additional allowances. Available supply was limited, as most surplus holders did not want to part with their extra allowances, thereby leading to an increase in the price of allowances as can be seen from the chart below.<sup>42</sup>

<sup>41</sup> <https://www.refinitiv.com/perspectives/market-insights/one-year-in-chinas-national-emission-trading-system/>

<sup>42</sup> The first year of China's national carbon market, reviewed | China Dialogue (<https://chinadialogue.net/en/climate/the-first-year-of-chinas-national-carbon-market-reviewed/>)

Chart 13: National carbon market daily closing prices of allowances and trading volume



Source: Refinitiv

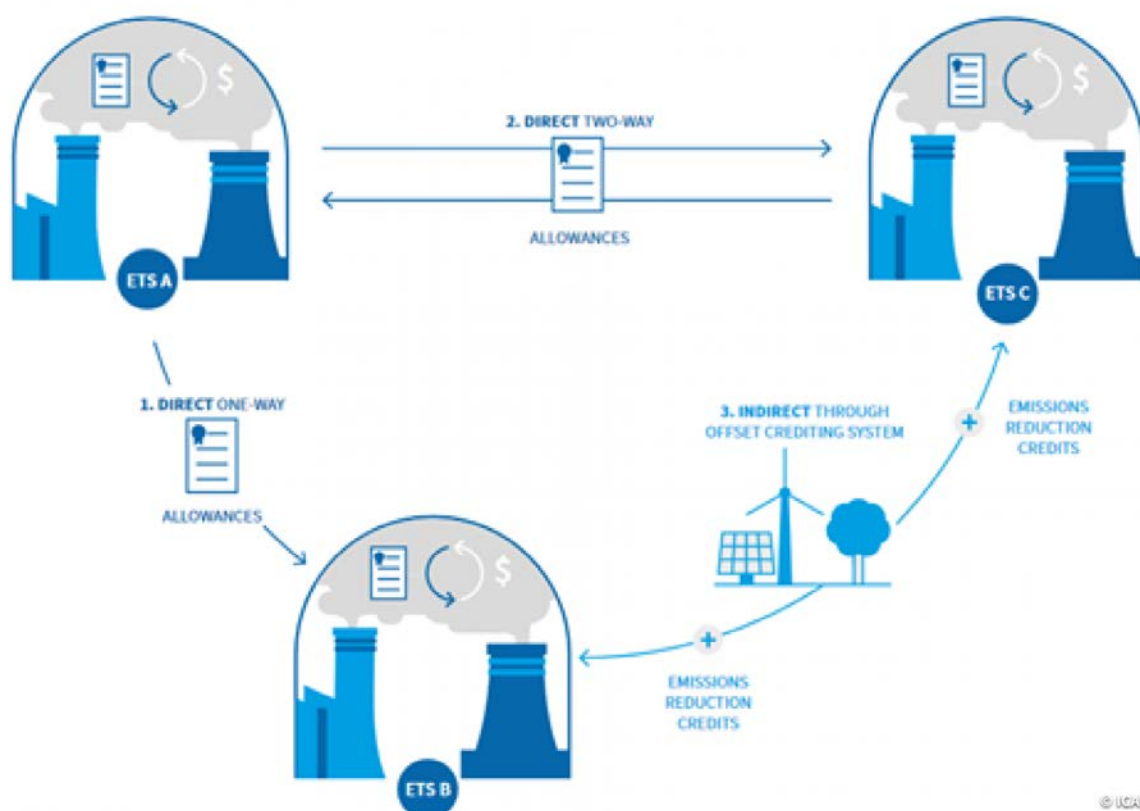
## Chapter 4 - Cross-border and cross-market interconnections – current practices

Recognizing that markets benefit from being global, some jurisdictions have sought to link their markets with others. This is for example the case of the European Union and Switzerland, and of California with Quebec.

### 4.1. Linking compliance markets

The intention behind linking ETS systems is to allow market participants to acquire and use emission allowances across different regions or jurisdictions which could ultimately enhance liquidity and market stability and contribute to scale emissions reductions.

Through linking, different systems create a direct or indirect connection with each other. According to the International Carbon Action Partnership, systems link directly if emission allowances of one scheme can be surrendered in another. This can be done either bilaterally where both systems' allowances can be used in either system, or unilaterally if this is only the case in one system. Systems can also link indirectly, for example through the common acceptance of an international standard.<sup>43</sup> This type of approach is one way to create an international carbon market.



Source: ICAP

<sup>43</sup> <https://icapcarbonaction.com/en/linking>

In the EU, the EU ETS legislation provides for the possibility of linking the EU ETS with other compatible emissions trading systems in the world at national or regional level, subject to certain conditions being met. These conditions include:

- system compatibility (the systems have the same basic environmental integrity, and a tonne of CO<sub>2</sub> in one system is a tonne in the other system)
- the mandatory nature of the system,
- the existence of an absolute cap on emissions, and
- including aviation on both sides in the scope of the linked systems wherever possible.<sup>44</sup>

The EU has so far linked its system with Switzerland, having failed to do so with Australia as a result of Australia repealing its ETS programme in 2014.

California's program is also directly linked with the Canadian province of Quebec's cap-and-trade system through the Western Climate Initiative, a non-profit initiative that provides the administrative services to run the linked programs, including a single registry system, the same auction platform, and market monitoring services. California's linkage with Quebec has bolstered liquidity even as emission caps and allowances are gradually reduced.

In determining whether to link its program with Quebec's, staff from the California Air Resources Board (CARB) and Quebec undertook an assessment similar in scope to the comparability determinations made by market regulators when considering whether to approve substituted compliance frameworks in other jurisdictions. After determining that the allowances issued by each program, and the number and type of offset credits eligible for use in each program, resulted in similar program stringency, the assessment focused on the procedures and systems: (i) being used to implement the program in each jurisdiction; (ii) needed to be conducted jointly by the linked jurisdictions; and (iii) needed to work collaboratively to maintain harmonization of the programs. CARB and Quebec found the processes and systems to be consistent and comparable. This finding paved the way for the jurisdictions to hold common allowance auctions and to develop the CITSS platform for purposes of tracking the ownership and transfer of allowances.

As markets continue to emerge and develop, there may be merit in considering how to promote further interlinkages between different schemes. Indeed, linking markets together should promote trading and lower the overall cost of reducing emissions, thereby leading to a global carbon market for emission allowances. Over time, this type of approach may however require greater collaboration across regulators to be successful – both across and within jurisdictions.

Any further interlinkage is however not exempt of challenge, in particular due to divergent environmental ambitions resulting in price gaps between different allowances which might be too big to allow for a link without potential market disruptions. Key design features need to be harmonised to ensure environmental and price integrity for example while political considerations may also play an important role in the sound functioning of interlinked markets.

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<sup>44</sup> [https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets/international-carbon-market\\_en#ecl-inpage-1031](https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets/international-carbon-market_en#ecl-inpage-1031)

This means these markets may be subject to political risks but they may also be subject to cybersecurity breaches or system disruptions – at a major registry or trading venue – which may impact transaction and ownership records.

**Consultation questions:**

Question 1: What are the benefits and risks of linking frameworks? How can these benefits be enhanced, and these risks be mitigated?

Question 2: What should be the conditions underpinning a decision to link frameworks?

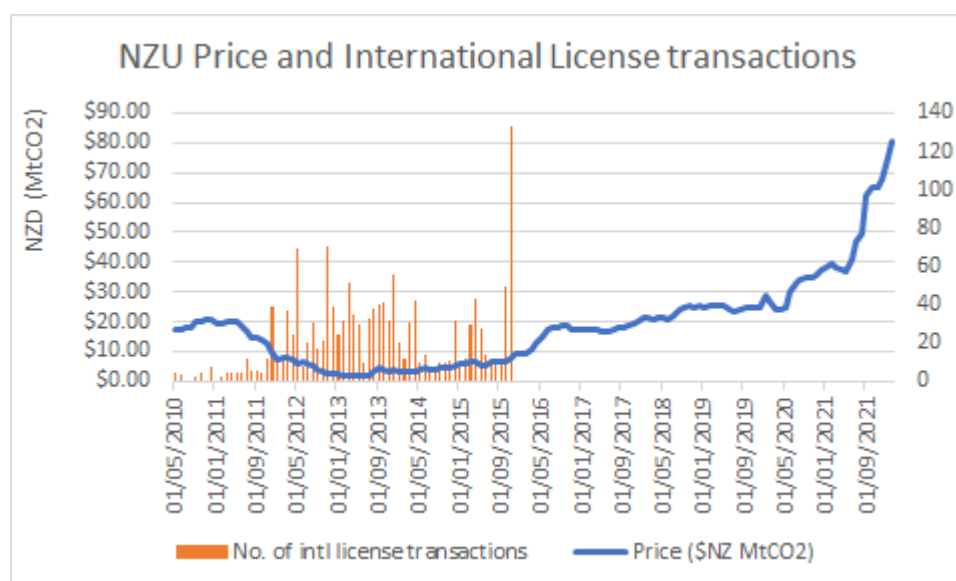
**4.2. Interoperability between compliance markets and offset markets**

One question that is currently arising is whether there may be benefit in also considering interlinkages between compliance markets and offset markets – such as those set out under Article 6 of the Paris Agreement or those that have arisen organically from private participant demand.

In the past, allowing offset credits to be used in compliance markets has created arbitrage leading to the price of carbon allowances to drop substantially. For example, in the initial stages of the New Zealand ETS, there was extensive use of international offset credits for local compliance. With the price of such international credits having fallen in most international markets, this placed downward pressure on the price of NZU.

In 2012, international units accounted for more than 80% of total surrendered units. As a result, the price of NZU fell from above NZ\$20 in 2011 to below NZ\$2 in May 2013. Prices recovered to around NZ\$6 in 2015. Since 2016, the price of NZU’s have seen robust increases, in large part due to the New Zealand government excluding international credits from the local ETS.

*Chart 14: NZU Price and international license transactions*



Source: Theecanmole. (2022). New Zealand emission unit (NZU) monthly prices 2010 to 2022: V1.0.01 (<https://github.com/theecanmole/nzu>) ; <https://www.epa.govt.nz/>

Similar challenges arose in the EU ETS. In mid-2008, EU carbon prices sank to 10 euros per tonne of CO<sub>2</sub> as a result of falling industry output due to the financial crisis. The large influx of international credits via the UN Certified Emission Reductions (CERs) and Emission Reduction Units (ERUs) in the EU ETS during Phase II contributed to the price plummeting as the EU suddenly found itself with too many allowances in circulation.<sup>45</sup> As a result, the use of international credits in the EU ETS was discontinued.

However, recent developments as a result of the Article 6 negotiations may create an environment where such linkages are possible.

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<sup>45</sup> Neuhoff et al., 2012; Newell et al., 2012

## Chapter 5 - Regulatory Frameworks applicable to compliance carbon markets

In many respects, compliance secondary markets operate similarly to other commodities markets, suggesting the same comprehensive oversight that promotes transparency and integrity in those markets could do so for compliance carbon markets as well.

On that basis, many existing IOSCO principles that focus on these objectives could be applied to these markets. Among IOSCO's Objectives and Principles of Securities Regulation, this would include principles relating to the regulator, enforcement, cooperation, and trading on secondary markets.<sup>46</sup>

<b>Objectives and Principles of Securities Regulation</b>	
<b>Principles for Market Intermediaries</b>	
23	Market intermediaries should be required to comply with standards for internal organization and operational conduct that aim to protect the interests of clients, ensure proper management of risk, and under which management of the intermediary accepts primary responsibility for these matters.
24	There should be procedures for dealing with the failure of a market intermediary in order to minimize damage and loss to investors and to contain systemic risk.
<b>Principles for the Secondary Market</b>	
25	The establishment of trading systems including securities exchanges should be subject to regulatory authorization and oversight.
26	There should be ongoing regulatory supervision of exchanges and trading systems which should aim to ensure that the integrity of trading is maintained through fair and equitable rules that strike an appropriate balance between the demands of different market participants.
27	Regulation should promote transparency of trading.
28	Regulation should be designed to detect and deter manipulation and other unfair trading practices.
29	Regulation should aim to ensure the proper management of large exposures, default risk and market disruption.
30	Systems for clearing and settlement of securities transactions should be subject to regulatory oversight, and designed to ensure that they are fair, effective and efficient and that they reduce systemic risk.

Similarly, a number of IOSCO's Principles for the Regulation and Supervision of Commodity Derivatives Markets could be of use for compliance markets, in particular those focused on transparency, market surveillance, collection of secondary market trading information (both OTC and on-exchange), and enforcement as can be seen in the extract below<sup>47</sup>:

<b>Principles for the Regulation and Supervision of Commodity Derivatives Markets</b>	
<b>Principles for the Surveillance of Commodity Derivatives Markets</b>	
<b>Monitoring, Collecting and Analysing Information.</b>	Market Authorities should develop, employ and maintain methods for monitoring of trading activity on the markets they supervise, collecting needed information and analysing the information they collect that are efficient and suitable for the type of market being supervised. Effective monitoring of orders and electronic

<sup>46</sup> <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD154.pdf>

<sup>47</sup> <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD358.pdf>



	<p>transactions requires real-time monitoring capabilities, supported by automated systems that detect trading anomalies. Monitoring, collection and analysis should also focus on intra-day trading.</p>
<p><b>Collection of Information on On-Exchange Transactions</b></p>	<p>In respect to on-exchange commodity derivatives transactions, a Market Authority should collect information on a routine and regular basis on:</p> <ul style="list-style-type: none"> <li>i) pricing of contracts throughout the trading day in real time;</li> <li>ii) daily transactional information including time and date of trade, commodity contract, delivery month, expiry date, buy/sell, quantity, counterparties to the contract, and price of the contract;</li> <li>iii) daily reports of end-of-day positions held by market intermediaries (both "whole firm" and by individual trader) and by other market participants, where the size of the position is above a specified level ("large position"). Information collected should permit a Market Authority to identify each position holder (by name or code) down to the first customer level, and the size of position, by contract month, for each position holder;</li> </ul> <p>The Market Authority should have the capability to aggregate position holder information promptly in order to identify positions under common ownership or control; and</p> <ul style="list-style-type: none"> <li>iv) where appropriate, warehouse stocks or other deliverable supply.</li> </ul>
<p><b>Principles to Address Disorderly Markets</b></p>	
<p><b>Review of Evolving Practices</b></p>	<p>Market Authorities should have or contribute to a process to review the perimeter of regulation to ensure that they have the power to address evolving trading practices that might result in a disorderly market. Exchanges and self-regulatory organizations play a critical and complementary role with governmental regulators in identifying such practices.</p>
<p><b>Principles for Enforcement and Information Sharing</b></p>	
<p><b>Rules and Compliance Programs</b></p>	<p>Market Authorities should have rules, compliance programs, sanctioning policies and powers to prohibit, detect, prevent and deter abusive practices on their markets, including manipulation or attempted manipulation of the market. The rules and compliance programs should take account of the whole position of the market participant (i.e., all positions under common ownership and control). There should be clarity as to what constitutes manipulative, abusive conduct or other prohibited conduct.</p> <p>Specific practices which Market Authorities should seek to detect and prevent include, among others:</p> <ul style="list-style-type: none"> <li>i) causing, or attempting to cause, artificial pricing in the market;</li> <li>ii) creating a false or misleading appearance of active trading;</li> <li>iii) disseminating false or misleading information in respect of the market or conditions that affect the price of any commodity derivatives contract;</li> <li>iv) creating, or attempting to create, a corner or squeeze, in which an abusive controlling position is accumulated in the physical and/or futures or OTC markets, forcing those holding short positions to settle their obligations, by purchase or offset or otherwise, to their detriment;</li> <li>v) abuse relating to customer orders;</li> <li>vi) "wash trades", involving no change of beneficial ownership or economic purpose;</li> <li>vii) collusive trades, which seek improperly to avoid exposure to the pricing mechanism of the market;</li> <li>viii) violation of applicable position limits;</li> <li>ix) concealment of a position holder's identity and,</li> </ul>

	x) misuse of information
<b>Framework for Addressing Multi-Market Abusive Trading</b>	The overall framework for market surveillance and enforcement within a jurisdiction should be structured to provide for active and coordinated detection and enforcement action against manipulative or abusive schemes that might affect trading on multiple exchange and OTC markets, as well as the underlying physical commodity markets.
<b>Disciplinary Sanctions Against Market Members</b>	The relevant Market Authority should have and use effective powers to discipline its members or other authorized market participants if an abusive practice has occurred in the market. There should be clarity as to the types of disciplinary actions which can be taken. Sanctions should, amongst other things, include some or all of the following measures: i) warnings (public and private); ii) reprimands; iii) re-training; iv) restitution;

### 5.1. Jurisdictional-level regulatory frameworks

At the national level, some jurisdictions classify both spot allowances and allowances derivatives as financial instruments meaning they fall within the scope of securities regulation – including with regards to market abuse and money laundering. This is for example the case in the EU and in the UK where both spot and derivatives markets are regulated.

However, this is not the case in all jurisdictions. For example, in New Zealand, the Financial Markets Authority does not currently have responsibility or remit for any aspect of the New Zealand ETS. Under domestic financial markets legislation, NZUs are not financial products, and primary and secondary markets where NZUs are issued and traded respectively are not regulated as financial product markets.<sup>48</sup>

In addition, it is worth noting that there tends to be fragmentation of oversight where this oversight exists. For example, in the UK, while the UK ETS Regulator is responsible for enforcing compliance with the UK ETS Regulations, including operational functions such as issuing and ensuring compliance with permits (for installations) and emissions plans (for aviation), it is the UK FCA which is responsible for (i) authorization of the recognized investment exchange that could be appointed as an auction platform, (ii) supervision and enforcement of the recognized auction platform (the auction platforms are appointed by the Department of Business, Energy and Industrial Strategy (BEIS)) and (iii) supervising the trading of emissions – both on primary markets and secondary markets. The UK FCA and the UK ETS Regulator regularly coordinate actions. In the EU, the division of responsibility in carbon market is also split amongst different authorities at EU and Member State level. Rules governing primary markets (issuance) are governed by the European Commission, while the

<sup>48</sup> It is however worth noting that the Ministry for the Environment (MfE) has ongoing policy work looking at ways to improve the market governance framework for the New Zealand Emissions Trading Scheme in the primary and secondary markets. A consultation paper outlining the governance framework options can be found at [https://consult.environment.govt.nz/climate/designing-a-governance-framework-for-the-nz-ets/supporting\\_documents/MG%20consultation%20document%20%20FINAL.PDF](https://consult.environment.govt.nz/climate/designing-a-governance-framework-for-the-nz-ets/supporting_documents/MG%20consultation%20document%20%20FINAL.PDF).

oversight of secondary markets (e.g., supervision of trading venues, market abuse, regulatory reporting of positions and transactions) falls under the remit of national competent authorities. In the US and in Canada, there is no federal framework for primary markets or secondary spot markets.

Nevertheless, independent of the nature of the regulatory body, regulatory frameworks will typically seek to address concerns such as (i) good conduct rules, including conflicts of interest, (ii) potential lack of transparency, oversight and monitoring of trades, and (iii) fraud, insider trading and price manipulation. Below, we explore the type of regulatory framework that may be beneficial to compliance markets globally, building upon existing frameworks, to mitigate these risks.

#### 5.1.1. Rules of general good conduct, such as the prevention of conflicts of interest

In the US, the RGGI and the California ETS are subject to regulatory requirements including participant registration requirements and accountability provisions.

Both EU and UK regulatory requirements govern the relationship between market intermediaries and their clients trading in emission allowances covering, amongst other things, client categorisation, conflicts of interest, and best execution. They also set standards for trading venues in the operation of the secondary trading of financial instruments to ensure that markets function well and have high standards of integrity.

Trading venues are also required to have effective arrangements, resources and procedures to monitor the compliance of members and participants with their rules. This includes monitoring orders sent, cancellations and the transactions undertaken by their members.

#### 5.1.2. Rules to promote transparency, oversight and monitoring of trades

Jurisdictions have typically created rules on both position and transaction reporting to increase both transparency to the market and better oversight by the regulator. In addition, to enhance regulatory clarity and predictability, some existing ETSs have set out transparency requirements about (i) the overall cap of carbon emissions the government intends to impose; (ii) the number of allowances that it intends to give out for free; (iii) the amount of allowances that it intends to auction; and (iv) the auctioning mechanism.

In the EU, compliance markets are subject to:

- Transaction reporting to a competent authority (financial markets supervisors) for emission allowances and their derivatives, whether they are executed on-venue or OTC. Transaction reporting covers both auctions and secondary markets. Those highly granular reports are a key source of information used by the EU competent authorities for their market surveillance activities and the enforcement of the market abuse regulation.
- Position reporting: Trading venues are required to comply with two sets of position reporting obligations: weekly position reporting setting out the aggregate positions held by the different categories of persons for the different emission allowances or their

derivatives<sup>49</sup> with various breakdowns (long versus short positions, hedging versus non-hedging positions). Weekly position reports are public. In addition, trading venues must provide their supervisory authority with a daily breakdown of the positions held by all persons on their venue; hence participants must report the details of their own positions to the venue, including that of their clients.<sup>50</sup>

The requirements set out above for the EU are similar in the UK as UK financial services legislation is currently based on EU legislation that applied before the UK's exit from the EU. Under the UK ETS, trading on the secondary market is subject to the transparency and reporting requirements. These include transaction reporting pre- and post-trade transparency requirements; position reporting; and Suspicious Transaction and Order Report (STOR) requirements and reporting of trades to Trade Repositories. The structure of the rules applying to emission allowances under these requirements are the same as for other financial instruments, although some of the detail, particularly on pre- and post-trade transparency (in terms of thresholds for waivers from pre-trade transparency and deferrals of post-trade transparency), is tailored to the specifics of emission allowances.

### 5.1.3. Rules to prevent fraud, insider trading and price manipulation.

Generally, jurisdictions have put rules in place to avoid market abuse.

In the EU and the UK for example, the MIFID II/MIFIR and the MAR regimes apply to carbon markets – both spot and derivatives segments. The Market Abuse regime prohibits insider dealing, unlawful disclosure of inside information and market manipulation. This applies to behaviour in both the primary and the secondary market. Fundamentally the regime is the same as that which applies to other financial instruments.

The situation in the US is a little more complicated in the sense that there is no federal oversight regime for primary markets. At a regional level, the California authority conducts market surveillance and analysis and works closely with an independent market monitor, Monitoring Analytics, to monitor the auctions and all holding and trading of compliance instruments for the program. Activities in related markets are also tracked and analysed and the California scheme can impose civil or criminal penalties for manipulative or disruptive market practices. States participating in RGGI have also established their own regulatory frameworks and oversight mechanisms for their respective programs. For example, Potomac Economics oversees the auctions and tracks the performance and efficiency of the RGGI allowance market. This includes (i) identifying attempts to exercise market power, collude, or otherwise manipulate prices in the auction and/or secondary market; (ii) making recommendations regarding proposed rule changes; and (iii) assessing whether auctions are administered in accordance with the noticed rules and procedures.

At the secondary market level, since the CFTC has broad enforcement powers to pursue manipulation of a commodity's price in interstate commerce, the agency would have the

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<sup>49</sup> These weekly position reports in commodity derivatives are centralised and made available on ESMA's website: [https://registers.esma.europa.eu/publication/searchRegister?core=esma\\_registers\\_coder58](https://registers.esma.europa.eu/publication/searchRegister?core=esma_registers_coder58)

<sup>50</sup> [https://www.esma.europa.eu/sites/default/files/library/esma70-445-7\\_preliminary\\_report\\_on\\_emission\\_allowances.pdf](https://www.esma.europa.eu/sites/default/files/library/esma70-445-7_preliminary_report_on_emission_allowances.pdf)

authority to bring actions against individuals or entities believed to be involved in the price manipulation of compliance market allowances or offsets. There would also be some authority on the part of the CFTC to obtain information on allowance holdings and the trading of traders that also hold positions in the futures markets. However, absent action by Congress, neither the CFTC nor any other federal agency has authority to routinely monitor trading in the secondary markets for carbon allowances as commodities or to create rules or regulations that would apply to these markets.

Having said that, carbon allowance or offset futures and options contracts traded on CFTC-regulated exchanges, such as CME, ICE Futures, and Nodal Exchange are under the CFTC's oversight and regulated in the same manner as any other derivatives contract traded on a designated contract market. The exchanges must comply with a number of core principles and rules ensuring that contracts are not readily subject to manipulation. The exchanges must monitor trading to prevent manipulation, price distortion, and disruptions of the settlement process, as well as adopt position limits or accountability levels for speculators, where necessary and appropriate. Exchange-traded carbon allowance and offset futures and options contracts are subject to speculative position limits.

**Consultation Questions:**

Question 3: Do you agree these IOSCO principles are appropriate for carbon markets? Explain your response.

Question 4: Are other IOSCO principles relevant for application to these markets?

Question 5: Do you agree the rules currently in place across key jurisdictions are helpful for scaling of carbon markets?

Question 6: Are there any other aspects of compliance markets that could benefit from regulatory oversight?

## **Chapter 6 - IOSCO Recommendations for Compliance Carbon Markets**

The chapters above have sought to describe the characteristics of well-functioning compliance markets based on those currently in operation in jurisdictions where compliance markets have been established for a number of years. In addition, they highlight a series of potential challenges that jurisdictions seeking to introduce compliance markets may wish to consider as they look to implement their own frameworks.

With this objective in mind, the recommendations below address issues around integrity and orderly functioning of CCMs. The recommendations focus on certain specificities of these markets such as the interactions of environmental policy and trading of allowances, but also replicate some of the traditional requirements applied to securities and commodities markets for example, with respect to market integrity and market transparency principles.

The recommendations below are also intended to encourage the development of CCMs globally. In that respect, they are intended to give jurisdictions a starting point to build sound and efficient CCMs and may be applied proportionally at different stages of market evolution, while helping prevent past policy mistakes, from more advanced markets, to be repeated.

Compliance carbon markets, unlike more traditional financial markets, are typically overseen by different types of entities who may regulate specific aspects of what – put together – constitutes compliance carbon markets. For example, many of the decisions relating to primary markets are typically controlled by governments while environmental agencies may also play a role in overseeing activities in primary markets. And of course, financial regulators typically oversee activities in secondary markets – both spot and derivatives.

As such, in the spirit of encouraging the development of sound markets, IOSCO will address its recommendations to relevant authorities (securities market regulators as well as public policy governmental organizations) to allow jurisdictions the flexibility they may require as they establish CCMs in their jurisdictions. Some of these recommendations will apply to the functioning of primary markets, while others will apply to the functioning of secondary markets; spot and derivatives; noting the IOSCO principles for commodities markets appear applicable to emission allowances markets.

**Recommendation 1: Relevant authorities should increase predictability and transparency in primary market decisions.**

Relevant authorities in charge of the primary market issuance of emissions allowances are encouraged to be transparent about:

- the overall cap of carbon emissions that the relevant emissions trading scheme intends to impose;
- the number of allowances that it intends to give out for free;
- the number of allowances that it intends to auction;
- the functioning of market stability mechanisms.
- whether carbon credits would be allowed to offset compliance obligations, and if yes, the requirements on the credits that could be used.
- Planned policy changes, such as, for example, the inclusion of new and/or additional sectors as well as the timing and sequence of these introductions or the introduction of potential pricing mechanisms.

Greater predictability will help market participants to plan strategically, to anticipate and manage associated risks (e.g., increased volatility), and to price them appropriately. Effectively communicating these key design characteristics as early as possible provides clarity to market participants, thereby mitigating risks to the stability of the markets over the long run as participants can anticipate and adapt to these changes without sudden frictions.

**Recommendation 2: To foster fair, stable and competitive markets, relevant authorities in charge of primary market issuance should place greater reliance on auctions over free allocation.**

When choosing which allocation method to use in their jurisdictions, relevant authorities will likely consider the impact of the allocation method on compliance companies. Jurisdictions continue to have free allocation for certain industries as they seek to avoid both environmental but also economic impacts on their territory as a result of loss of competitiveness. At the same time, they must also ensure the underlying objective of abatement is achieved, meaning compliance entities must have sufficient incentives to abate their emissions.

Certain participants in IOSCO's roundtable suggested that auctions are a more effective mechanism to motivate active participation by compliance participants in the CCMs, compared to free allocation. They consider that free allocation may decrease incentives for specific sectors to undertake reforms and may also lead those participants not to take part in secondary market activities.

Auctions have many benefits over free allocation. First, from a public policy perspective, it can generate revenue for the authority which can be support other climate change policies. In addition, auctions provide market liquidity and, in doing so, can facilitate price discovery including in the secondary markets.

IOSCO acknowledges that to increase reliance on auctions over free allocations, collateral risks, such as carbon leakage, should be addressed in parallel. Reducing the risk of carbon leakage is essential to allow relevant authorities to reduce the number of allowances allocated for free. Therefore, it is important to establish the necessary mechanisms to prevent carbon leakage, such as those explained in this report (e.g. CBAM mechanisms in the EU) but also to encourage international coordination.

**Recommendation 3: Relevant authorities should consider setting frequent auctions.**

More frequent auctions allow for better price formation. Frequent auctions help provide more transparency to the market and can assist in reducing price volatility. Conversely, less frequent auctions release more allowances during each auction and this can negatively impact liquidity in secondary markets.

In addition, frequent auctions can let buyers avoid cash-flow constraints given they can spread their bids across auctions and mitigate the risk of any one participant gaining too much market power in the secondary market across one period. Finally, there were suggestions that frequent auctions may decrease the risk of manipulation of the auction given the amount of allowances for sale at each individual auction is reduced.

**Recommendation 4: When relevant authorities establish market stability mechanisms, any market intervention should be rule-based to allow for better predictability.**

As flagged in the report, emission allowance prices can be volatile, particularly as they are impacted by political decisions and other geopolitical considerations which influences the supply side of credits.

While some level of volatility is beneficial to financial markets, long established compliance markets have experienced strong price variability as a result of exogenous shocks; for example, such as the price of other, linked, commodities (e.g., gas).

High levels of variability in prices can deter investment in compliance markets, thereby reducing the efficiency of their broader policy objectives. This variability can – and has been – mitigated by market stability mechanisms across several jurisdictions as highlighted in the report.

There are typically two types of mechanisms – price-based mechanisms and volume-based mechanisms as described in the report, although an ETS might use elements of both. Price-based mechanisms provide price signals and seek to anchor ex-ante controls, interactions, and responsiveness to economic forces. Volume-based adjustments, in contrast, seek to provide corrections for ex-post policy interactions or market shocks, based on judgements about market conditions. Volume-based adjustments might in some circumstances reduce the incentives for arbitrageurs to correct price inefficiencies and be subject to manipulation.



**Recommendation 5: Relevant authorities should consider allowing the participation of non-compliance firms in primary markets.**

Allowing participation by non-compliance firms can facilitate market making, access to the markets, carbon financing, the provision of liquidity, and price formation mechanisms.

#### *Market Integrity*

**Recommendation 6: Relevant authorities should define the legal nature of allowances in their jurisdiction.**

While derivatives on allowances generally fall under the regulatory framework applicable to commodity derivatives, and within the jurisdiction of financial regulators, there is sometimes less clarity on the legal nature of allowances and hence the applicable regulatory framework and financial regulators' jurisdiction over spot allowances and their trading in some jurisdictions.

This lack of legal certainty can also have an impact, more generally, on the increase in standardization for derivative contracts, suggesting benefits in defining the legal nature of allowances across jurisdictions. For example, in the EU and the UK, allowances have been defined as financial instruments.

**Recommendation 7: Relevant authorities should encourage the scrutiny of auction performances.**

This type of scrutiny should include checks to ensure the efficient dissemination of allowances from auction participants to other market participants. In that context, it would also be important to establish the necessary mechanisms to avoid price manipulation such as bid shedding or short squeezing. Confidence of market participants in the execution of the auction is key to the success and integrity of CCMs.<sup>51</sup> As a mechanism to enhance scrutiny of auction performances, auctioning in some jurisdictions, such as the EU and the UK, are required to be performed by regulated exchanges.

**Recommendation 8: Relevant authorities should consider establishing clear and robust frameworks for conducting market surveillance, overseeing of entities' behaviour in spot and derivatives carbon markets and ensuring appropriate enforcement.**

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<sup>51</sup> [http://awsassets.panda.org/downloads/oko\\_2007\\_auctioning\\_in\\_the\\_eu\\_ets\\_v2\\_8final\\_10\\_09\\_2007.pdf](http://awsassets.panda.org/downloads/oko_2007_auctioning_in_the_eu_ets_v2_8final_10_09_2007.pdf)

The overarching objectives of regulatory trade reporting requirements across jurisdictions are to (i) mitigate systemic risk; (ii) enhance transparency of trade information and (iii) support the detection and prevention of market abuse.

In that context, relevant authorities should set out requirements for the reporting of transactions and positions – both exchange and OTC traded to financial regulators as this allows regulators to gather information on market movements and to conduct market surveillance. Where relevant information, particularly transaction and position reports, is allocated to different authorities and/or jurisdictions, cooperation and information sharing is key to conduct proper market surveillance. This can be complemented by information sharing, including through cooperation arrangements between the relevant authorities.

In addition, certain jurisdictions have imposed position management controls for commodity derivatives to prevent disorderly trading and ensure a fair price discovery process. Those are measures that allow derivatives' exchanges, that offer commodity derivatives for trading, to monitor the positions held by market participants in such derivatives and require them additional information on the reasons why such positions have been built up, should they exceed a certain threshold. A trading venue shall inform the relevant public authorities on those instances. Other jurisdictions have imposed position limits that impose a restriction on the number of credits or derivatives that may be held by a market participant or a group thereof.

Relevant authorities should also consider enforcement tools they may need to ensure firms meet their obligations. From a financial markets' perspective, regulatory authorities will typically have a range of tools at their disposition to address market abuse. On the environmental side, elements such as fines or make good requirements can also be considered.

#### *Market Transparency and Structure*

**Recommendation 9: Relevant authorities should ensure that the relevant market infrastructures (e.g., trading venues, auction platforms, central counterparties, registries) are robust and properly regulated.**

The IOSCO Principles suggests the establishment of trading systems “*should be subject to regulatory authorisation and oversight*”, noting there should be ongoing supervision of exchanges and trading systems to ensure that trading integrity is maintained.<sup>52</sup> This principle is directly applicable to any financial market, including carbon markets.

Trading on regulated trading venues increases price transparency, promotes liquidity, and enhances the management of positions. These market infrastructures also allow for the broader regulated ecosystem to come into play such as clearing, margining, settlement and the careful unwinding of positions where needed.

**Recommendation 10: Relevant authorities should encourage the development of standardized derivatives contracts.**

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<sup>52</sup> <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD561.pdf>

Bespoke derivatives contract will always be necessary for parts of the market as they cater for firms that have particular hedging needs. However, there is merit in encouraging the development of standardized derivatives contracts. In practice, standardized contracts can allow for greater tradability, facilitate risk management, and foster central clearing where applicable.

Standardization provides greater comparability between products and increases legal certainty for market participants. In doing so, standardization facilitates liquidity and enhances price discovery. In addition, standardization can help in reducing counterparty credit risk as it facilitates exchange trading and the use of central counterparty clearing. In that same vein, standardization promotes operational efficiency by allowing for the development of automation in both the trading and post trading value chain.

Some private entities, such as the International Swaps and Derivatives Association, have conducted a lot of work over the years in providing the infrastructure necessary to reach standardisation in derivatives markets. One way to encourage standardisation could be, for example, for relevant authorities to collaborate with exchanges and other market participants, such as ISDA, to facilitate the move to standardised contracts.

**Recommendation 11: Relevant authorities should consider public disclosures about aggregate positions, as well as periodic public reporting derived from regulatory data.**

For example, aggregated positions held by type of participants in emissions allowances and derivatives could be made public by venues.

Certain emission schemes publish reports on the functioning of their markets while others offer access to lagged registry information. This type of information can allow a broader set of stakeholders to take a view on supply and demand as well as possible frictions in the market.

**Recommendation 12: Relevant authorities should set clear lines of responsibilities and cooperation between authorities in charge of compliance markets at primary and secondary market level, including both environmental and financial agencies as appropriate and promoting regulatory coordination between these entities.**

While compliance markets have a specific environmental objective, i.e., the reduction of greenhouse gas emissions, they function in many ways – notably with regards to the functioning of their secondary markets – like other financial markets.

To that extent, it is important that the financial dimension of trading is taken into account by all parties involved when setting up compliance markets. This is a necessary condition to attract market participants beyond compliance entities, thereby promoting market depth and liquidity.

In that same vein, it is important to have due regard to the impact of policy decisions at primary market level on the secondary markets through ex-ante and data-driven assessments of these impacts.

Finally, some of the risks this report highlighted above, notably with regards to market abuse, can appear across both primary and secondary markets.

With that in mind, and in addition to setting clear lines of responsibilities between authorities, cooperation is important. As such, an effective information sharing between the relevant authority for primary markets and the relevant authority for secondary markets – typically the financial regulator – would be important to develop, for example through the establishment of a memorandum of understanding (MoU) between both parties.

### **6.1. International carbon markets and a unique carbon price**

Beyond those recommendations on the sound establishment of compliance markets, there may also be merit in considering mechanisms that would, over time, lead to a consistent price for carbon globally while acknowledging jurisdictional needs and market specificities, specially from emerging jurisdictions.

This would ensure broader public policy objectives, most notably those pertaining to the fight against climate change, are met. To that extent, authorities may wish to consider:

- Implementing – where markets operate under similar conditions – linking mechanisms. This can be achieved through (i) international coordination towards system compatibilities and interoperability, (ii) consistency of regulations, and (iii) information sharing and inquiries mechanisms across jurisdictions.
- Developing cooperation between the relevant authorities of markets that have linked-up; for example, through the establishment of a MoU or of a multilateral MoU depending on how many jurisdictions link their compliance markets.
- Developing a global, central securing registry system.

It is worth noting that further announcements on the detailed implementation of Article 6 of the Paris Agreement may also provide further clarifications with regard to the interactions between compliance, emission reduction, markets, offset markets and nationally determined contributions (NDCs) submissions.

#### **Consultation Questions:**

Question 7: Are the recommendations appropriate for the compliance markets?

Question 8: Are there any other aspects that the recommendations should address? If so, please state which ones and explain your reasoning.

## **Appendix 1- Consultation Questions**

Question 1: What are the benefits and risks of linking frameworks? How can these benefits be enhanced and these risks be mitigated?

Question 2: What should be the conditions underpinning a decision to link frameworks?

Question 3: Do you agree these IOSCO principles are appropriate for carbon markets? Explain your response.

Question 4: Are other IOSCO principles relevant for application to these markets?

Question 5: Do you agree the rules currently in place across key jurisdictions are helpful for scaling of carbon markets?

Question 6: Are there any other aspects of compliance markets that could benefit from regulatory oversight?

Question 7: Are the recommendations appropriate for the compliance markets?

Question 8: Are there any other aspects that the recommendations should address? If so, please state which ones and explain your reasoning.