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# CHINA'S NATIONAL CARBON MARKET: A GUIDE FOR INVESTORS

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August 2022

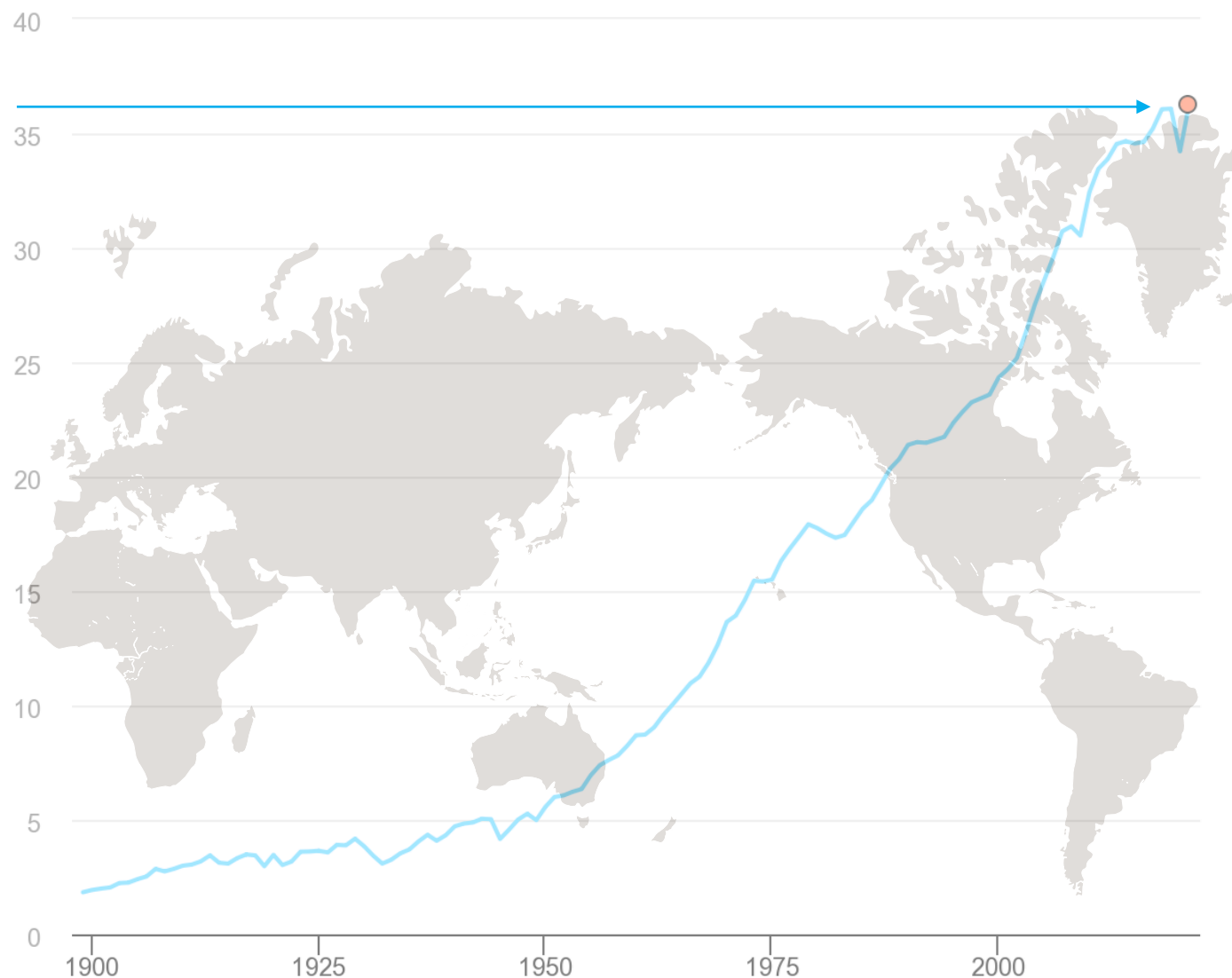
# CHINA'S CARBON MARKETS - A KEY TOOL FOR ACHIEVING NET ZERO

## In 2021:

- global carbon dioxide emissions from energy combustion and industrial processes reached their highest ever annual level, **36.3 billion tonnes**; [1]
- China's carbon dioxide emissions rose above **11.9 billion tonnes**, accounting for **33%** of the global total; [1]
- global carbon pricing revenue grew by almost **60%** from 2020 levels to around **\$84 billion**; [2] and
- after **114 days** of trading, a total of **179 million tCO<sub>2</sub>e** of allowances were traded on China's national emissions trading scheme (the "National ETS"), representing close to **7.7 billion yuan**. [2]

## Key messages for investors:

- China's National ETS is set to become the world's largest carbon market by both trading volume and value.
- The expansion of China's National ETS beyond its existing parameters has the capacity to revolutionise global carbon trading trends, including as the rising demand for removal-credits (a sizeable proportion of which will originate in China) causes the price of carbon to climb.



# WHAT IS DRIVING THE EXPANSION OF CHINA'S NATIONAL ETS?

The ability to monetise carbon<sup>[3]</sup> and trade carbon credits through carbon markets is a core component of the global transition to net zero, without which global efforts to meet critical carbon reduction targets will be severely impacted.

China's National ETS began trading in July 2021 and currently operates in parallel with a number of pilot schemes (each a "Pilot Scheme").<sup>[4]</sup> China's ability to peak emissions by 2030 and be carbon<sup>[5]</sup> neutral by 2060 (the "30/60 strategy") relies in part on its ability to demonstrate to the world that it has the necessary infrastructure in place to maintain the integrity of the system that it has created to realise its 30/60 strategy.

The National ETS is a regulated "cap and trade" market, covering 2,162 thermal power plants ("Covered Entities") each of which emitted  $\geq 26,000$  tonnes of carbon<sup>[6]</sup> in one (or more) years between 2013 and 2019<sup>[7]</sup> (collectively accounting for 4.5 billion tonnes of carbon, equivalent to around 40% of China's total carbon emissions).<sup>[8]</sup> The National ETS is a mandatory, regulated scheme with which all Covered Entities must comply.

The first compliance period for the National ETS (covering the period 2019-20) concluded at the end of 2021, with the Ministry of Ecology and Environment reporting that Covered Entities representing 99.5% of emissions had complied.<sup>[9]</sup>

China's emissions controls are expanding both in terms of industry sector coverage and the volume of energy consumed and, whilst there is currently no timetable in place, the National ETS will gradually expand to cover more entities, more sectors and more products.

17 carbon intensive industries have been identified by the National Development and Reform Commission as candidates for coverage by the National ETS including: iron and steel, non-ferrous metals, cement, flat glass, ceramics, paper, construction, non-ferrous metals and oil refining.<sup>[10]</sup>





# WHAT UNITS ARE TRADED ON THE NATIONAL ETS?

Currently only China Emissions Allowances (or “CEAs”), each representing one metric tonne of carbon dioxide emissions, may be traded on the National ETS.

CEAs are allocated free of charge<sup>[11]</sup> at entity level according to 70% of historic output multiplied by a benchmark factor that is set according to the volume and source of the energy produced. A unit load (output) adjustment factor is then applied which gives more allowances to entities operating at load rates < 85%.

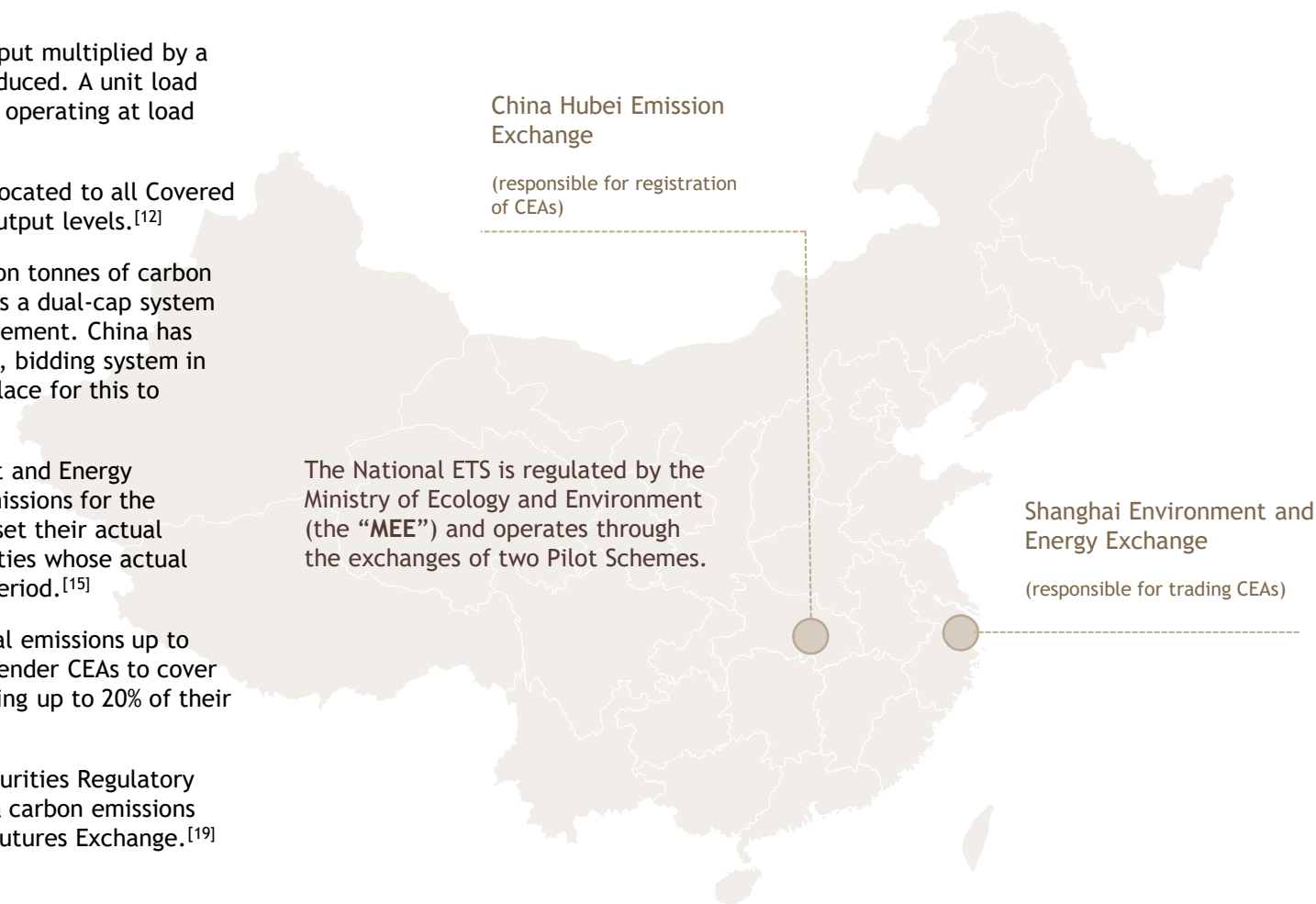
The emissions ‘cap’ under the National ETS is the aggregate of all CEAs that are allocated to all Covered Entities for the relevant period. The cap is currently set by reference to 2019-20 output levels.<sup>[12]</sup>

Historically China has only set intensity-based targets rather than an absolute cap on tonnes of carbon dioxide emitted, but this will change. The 14th Five Year Plan (2020-2025) proposes a dual-cap system based primarily on carbon intensity control, with an absolute carbon cap as a supplement. China has indicated<sup>[13]</sup> that it will move away from the free allocation of CEAs towards a paid, bidding system in alignment with its 30/60 strategy.<sup>[14]</sup> However, there is currently no timetable in place for this to happen.

CEAs can be traded on a dedicated platform operated by the Shanghai Environment and Energy Exchange. Covered Entities must surrender sufficient CEAs to cover their actual emissions for the relevant compliance period. After surrendering the volume of CEAs required to offset their actual emissions, Covered Entities with surplus CEAs may either sell them to Covered Entities whose actual emissions exceed their CEA allocation or carry them over to the next compliance period.<sup>[15]</sup>

Covered Entities operating gas-fired plants may surrender CEAs to cover their actual emissions up to their level of free allocation. Covered Entities operating coal-fired plants may surrender CEAs to cover their actual emissions up to their level of free allocation plus an amount representing up to 20% of their verified emissions.<sup>[16] [17]</sup>

Trading of CEAs is currently on spot delivery terms only.<sup>[18]</sup> However, the China Securities Regulatory Commission issued a statement in April 2021, confirming that it plans to establish a carbon emissions futures market to supplement the National ETS to be operated by the Guangzhou Futures Exchange.<sup>[19]</sup> However, there is currently no timetable in place for this to happen.



# CARBON OFFSETS AND THE PILOT SCHEMES

Covered Entities may offset up to 5% of their annual verified emissions for compliance purposes through the purchase of China Certified Emissions Reductions (or “CCERs”) generated through a Pilot Scheme.<sup>[20]</sup>

It is intended that the Pilot Schemes will eventually form part of the National ETS.<sup>[21]</sup> However, there is currently no timetable in place for the merger of the National ETS and the Pilot Schemes to complete.<sup>[22]</sup> We expect that the integration of the Pilot Schemes into the National ETS will take place on a staggered basis, given the range of products, industry sectors and types of entities that are covered by the different Pilot Schemes.

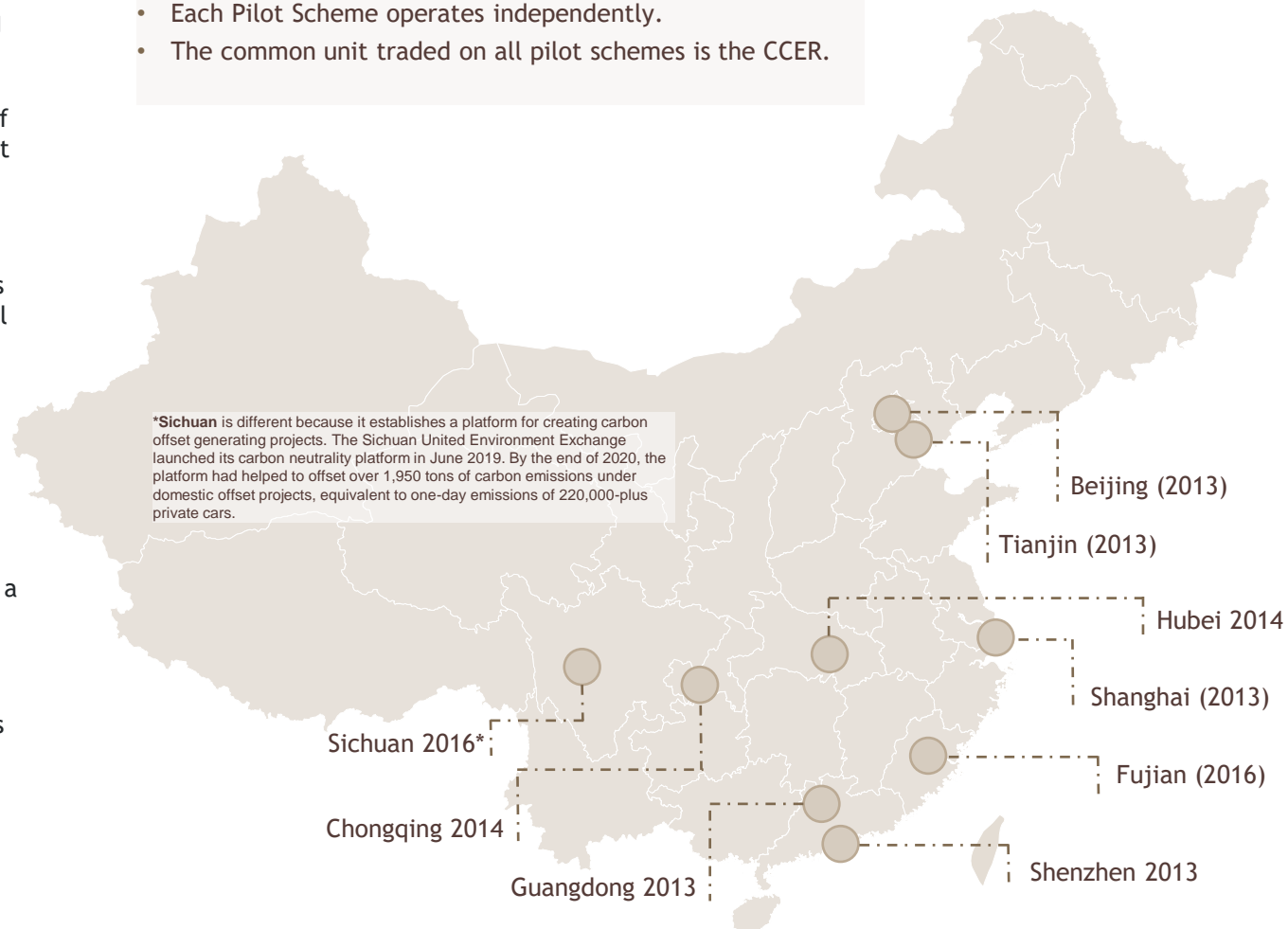
The CCER is an offset mechanism. Launched in 2013, the CCER scheme was halted in 2017 and then resurrected in 2021 when the MEE issued a notice allowing Covered Entities to use pre-existing CCERs to offset up to 5% of their annual verified emissions for compliance purposes, with no restrictions on project type or vintage. The national trading platform for CCERs is hosted by the Beijing Green Exchange.<sup>[23]</sup>

China is expected to relaunch the national CCER scheme (to permit trading of new CCERs) during 2022 in order to redress the balance between fossil fuel based energy producers (that are able to earn income from selling ‘surplus’ CEAs) and renewable energy companies (that do not currently receive any benefit from the existing emissions trading platforms).

CCERs may be traded within the voluntary markets subject to compliance with the rules applicable to the applicable Pilot Scheme. Participants may trade CCERs within a Pilot Scheme even if the project generating the CCER is located in a different region.

For the time being, the CCER registration system only accepts members that are registered as a legal person in China. This means that offshore investors cannot currently complete the CCER registration process, although the PRC State Council has announced that the national trading platform for trading CCERs will open up to offshore investors in due course.

- The first Pilot Schemes began trading in 2013.
- Each Pilot Scheme operates independently.
- The common unit traded on all pilot schemes is the CCER.



# SCOPE AND COVERAGE OF CHINA'S PILOT SCHEMES

THE SCOPE OF EACH INDIVIDUAL PILOT SCHEME DIFFERS IN TERMS OF SECTORAL COVERAGE<sup>[24]</sup>, PRODUCT OFFERING<sup>[25]</sup>, PRICING MECHANICS AND RULES FOR PARTICIPATION.<sup>[26]</sup> PARTICIPATION IN THE PILOT SCHEMES IS VOLUNTARY

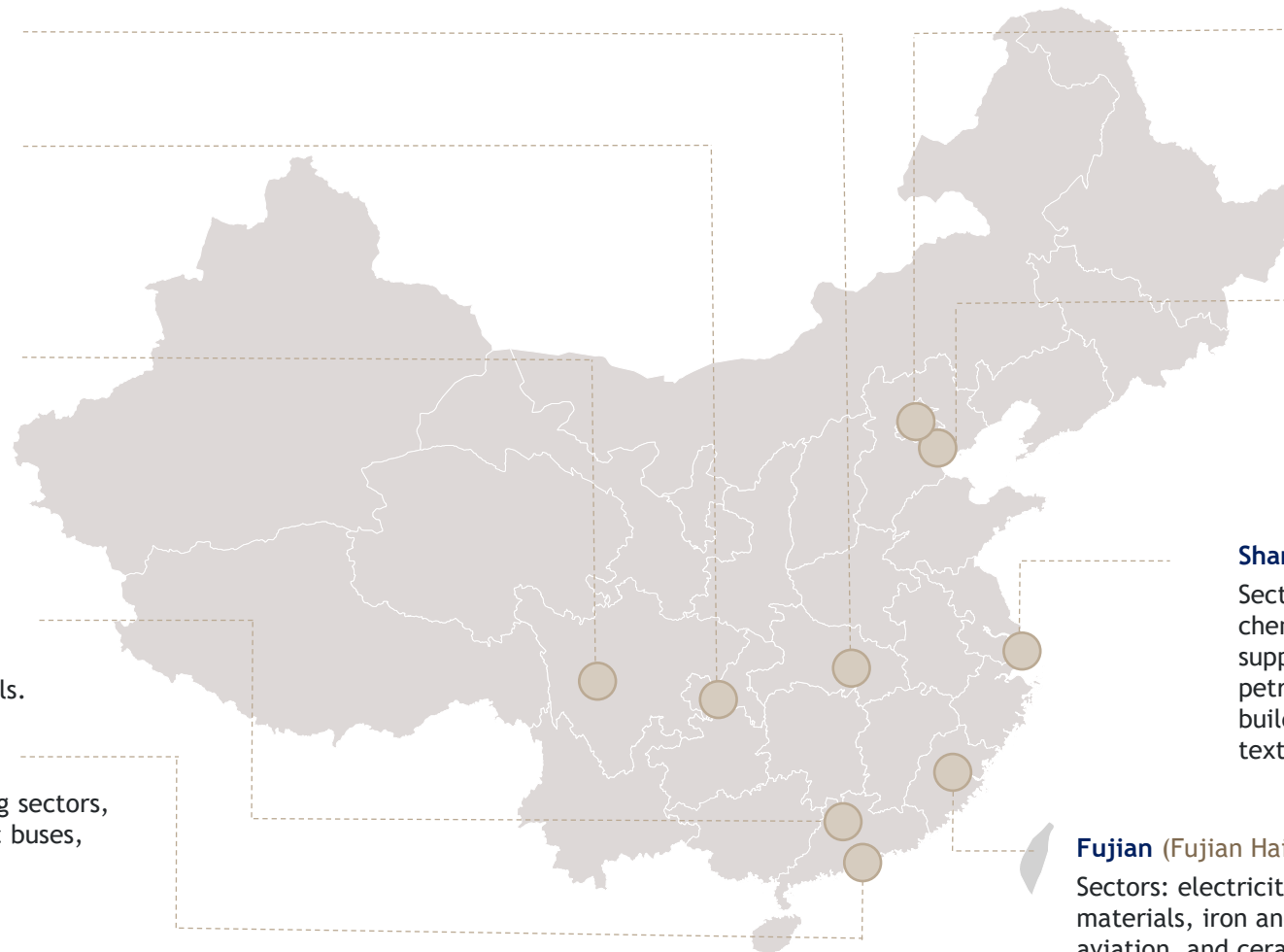
**Hubei** (China Hubei Emission Exchange)  
Sectors: all power and industrial.

**Chongqing** (Chongqing Asset and Equity Exchange)  
Sectors: power, electrolytic aluminium, ferroalloys, calcium carbide, cement, caustic soda, and iron and steel.

**Sichuan** (Sichuan United Environment Exchange)  
Sectors: platform for creating CCER generating projects from various industries covering wind power, hydropower and photovoltaic power generation.

**Guangdong** (China Emissions Exchange)  
Sectors: power, iron and steel, cement, papermaking, aviation, and petrochemicals.

**Shenzhen** (China Emissions Exchange)  
Sectors: power, water, gas, manufacturing sectors, buildings, port and subway sectors, public buses, and other non-transport sectors.



**Beijing** (China Beijing Green Exchange)  
Sectors: industrial and non-industrial companies and entities, including electricity providers, heating sector, cement, petrochemicals, other industrial enterprises, manufacturers, service sector, public transport, and domestic aviation.

**Tianjin** (Tianjin Climate Exchange)  
Sectors: heat and electricity production, iron and steel, petrochemicals, chemicals, oil and gas exploration, papermaking, aviation, and building materials.

**Shanghai** (Shanghai Environment and Energy Exchange)  
Sectors: Airports, domestic aviation, chemical fibres, chemicals, commercial, power and heat, water suppliers, hotels, financial, iron and steel, petrochemicals, ports, shipping, nonferrous metals, building materials, paper, railways, rubber, and textiles.

**Fujian** (Fujian Haixia Equity Exchange)  
Sectors: electricity, petrochemical, chemical, building materials, iron and steel, nonferrous metals, paper, aviation, and ceramics.



# AN INTRODUCTION TO CHINA CERTIFIED EMISSIONS REDUCTIONS

COVERED ENTITIES MAY OFFSET UP TO 5% OF THEIR ANNUAL VERIFIED EMISSIONS FOR COMPLIANCE PURPOSES THROUGH THE PURCHASE OF CHINA CERTIFIED EMISSIONS REDUCTIONS (OR “CCERS”) GENERATED THROUGH A PILOT SCHEME.

- The CCER is an offset mechanism.
- Launched in 2013, the CCER scheme was halted in 2017 and then resurrected in 2021 when the MEE issued a notice allowing Covered Entities to use pre-existing CCERs to offset up to 5% of their annual verified emissions for compliance purposes, with no restrictions on project type or vintage.
- The national trading platform for CCERs is hosted by the **China Beijing Green Exchange**.<sup>[23]</sup>
- China is expected to relaunch the national CCER scheme (to permit trading of new CCERs) during 2022.
- CCERs may be traded within the voluntary markets subject to compliance with the rules applicable to the applicable Pilot Scheme.
- Participants may trade CCERs within a Pilot Scheme even if the project generating the CCER is located in a different region.
- For the time being, the CCER registration system only accepts members that are registered as a legal person in China, although the PRC State Council has announced that the national trading platform for trading CCERs will open up to offshore investors in due course.

Scheme	Units traded*	Allocation and offset	Primary market	Secondary market
Beijing	CCERs, BEAs, FCERs and PCERs.	Largely free allocation. Up to 5% CCERs may be used for offset.	None to date.	Spot trading of CCERs, BEAs, FCERs and PCERs.
Chongqing	CCERs and CQCEs.	Largely free allocation. Up to 8% CCERs may be used to offset.	Two auctions to date.	Spot trading of CCERs and CQCEs.
Fujian	CCERs, FFCERs and FJEAs.	Largely free allocation. Up to 5% CCERs may be used for offset (or 10% for both FFCERs and CCERs).	One auction to date.	Spot trading of FJEAs, CCERs and FFCERs.
Guangdong	CCERs, PHCERs and GDEAs.	Largely free allocation. Up to 10% CCERs and PHCERs may be used to offset.	Six PHCER auctions in 2021.	GDEA is the main spot trading product.
Hubei	CCERs and HBEAs.	Largely free allocation. Up to 10% CCERs may be used to offset.	Two auctions per annum.	HBEA spot forward product introduced in 2016 but not traded since May 2017.
Shanghai	CCERs, SHEAs and SHEAFs.	Largely free allocation. Up to 3% CCERs may be used to offset.	Ad hoc auctions.	SHEA and CCER are spot products. SHEAF is a spot forward product
Shenzhen	CCERs and SZAs.	Largely free allocation. Up to 10% CCERs may be used to offset.	One auction to date.	SZA is the main spot trading product.
Sichuan	CCERs.	Carbon neutrality program launched in 2019 for CCER projects in 20 provincial regions.	-	-
Tianjin	CCERs and Tianjin forestry offsets.	Largely free allocation. Up to 10% CCERs may be used to offset.	Two auctions per annum.	Spot trading of CCERs and Tianjin forestry offsets.

\* Please refer to the acronyms on page 19.



# WHAT IS THE REGULATORY FRAMEWORK FOR THE NATIONAL ETS?

China's National ETS is regulated by the MEE<sup>[27]</sup> and operates through the exchanges of two of the Pilot Schemes:

- the Shanghai Environment and Energy Exchange (the “SEEE”) is responsible for trading CEAs; and
- the China Hubei Emission Exchange is responsible for the registration of CEAs.

In June 2021, the SEEE published an announcement<sup>[28]</sup> to clarify certain practical matters relating to the operation of the National ETS (e.g. matters relating to account opening and trading methods). The China Hubei Emission Exchange has not however issued any supplemental rules or guidelines to date.<sup>[29]</sup>

The legal basis and governance structure of the National ETS was established in 2021 pursuant to “*The National Measures for the Administration of Trading of Carbon Emissions Rights (Trial)*” (the “**National Measures**”). The National Measures are supplemented by detailed implementation rules (the “**Implementation Rules**”) relating to the registration, trading and settlement of CEAs, which together form the legislative framework and basis for the operation of the National ETS.<sup>[29]</sup>

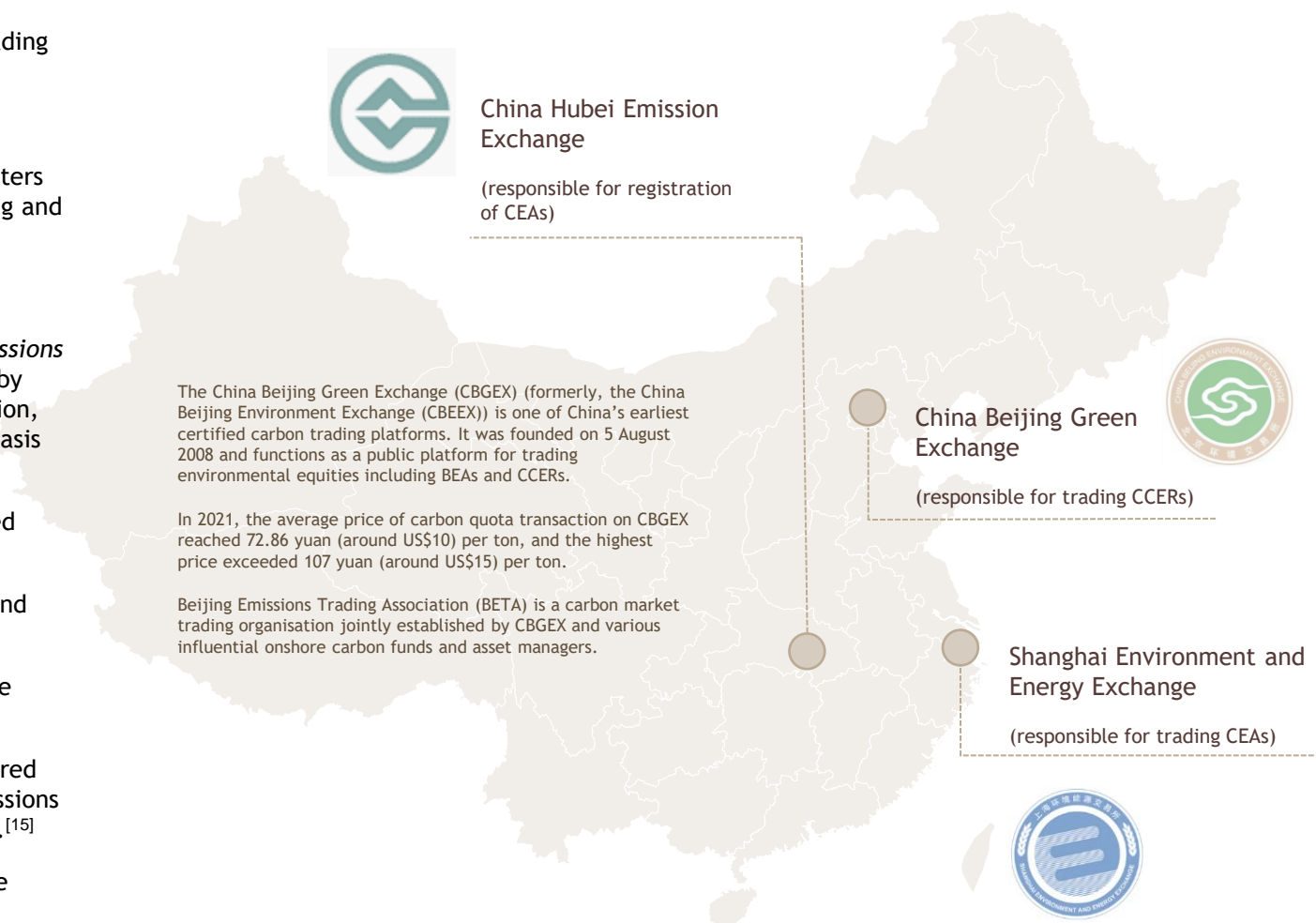
PRC laws and regulations relating to the National ETS will evolve and be supplemented from time to time to address issues as they arise.

CEAs can be traded on a dedicated platform operated by the Shanghai Environment and Energy Exchange.

Covered Entities must surrender sufficient CEAs to cover their actual emissions for the relevant compliance period.

After surrendering the volume of CEAs required to offset their actual emissions, Covered Entities with surplus CEAs may either sell them to Covered Entities whose actual emissions exceed their CEA allocation or carry surplus CEAs over to the next compliance period.<sup>[15]</sup>

Covered Entities may offset up to 5% of their annual verified emissions for compliance purposes through the purchase of CCERs generated through a Pilot Scheme.<sup>[20]</sup>





# CHINA EMISSIONS ALLOWANCES - TRADING

## Key provisions under the National Measures and the Implementation Rules<sup>[30]</sup>

- **Participants:** currently only onshore Covered Entities may trade CEAs.
- **Exchanges:** the Shanghai Environment and Energy Exchange (the “SEEE”) is responsible for trading CEAs whilst the China Hubei Emission Exchange (the “CHEE”) is responsible for registration of CEAs.
- **Trading method:** trading of CEAs is conducted electronically and on spot delivery terms (i.e. trading carbon certificates with immediate payment and delivery) by way of ‘one-way bidding’ or ‘transfer by agreement’.
- **Trading declaration:** shall include the trader’s number, trading number, code of product, trading direction, declaration amount, declaration price and other information required by the SEEE.
- **Single trades:** the maximum threshold for a single trade is 100,000 tonnes of carbon and pricing may fluctuate +/- 10% from the previous day’s trading.
- **Block trades:** the minimum threshold for a block trade is 100,000 tonnes of carbon and pricing may fluctuate +/- 30% from the previous day’s trading. Block trades may only be carried out by way of ‘one way bidding’.
- **Trading accounts:** a Covered Entity may open a single account, in its own name, in order to trade CEAs.
- **Restrictions on same-day transfer:** CEAs that have been purchased may not be sold again on the same day.<sup>[31]</sup>
- **Settlement method:** trades are settled on a ‘delivery versus payment’ basis at the end of the trading day.<sup>[32]</sup>

pre-trade

### CEA allocation

as prescribed by the MEE for the applicable compliance period

### Application

- open a registration account with the CHEE
- open a real time trading account with the SEEE
- open a fund account with the settlement bank

### Registration completed and accounts opened

- applicable accounts opened in the name of the applicant
- single trading code allocated

trade

### Surrender and trading of CEAs

- real time data provided by SEEE to CHEE via a management coordination mechanism
- trades effective upon execution
- trading vouchers may be obtained from the SEEE
- same day clearing and settlement

### Transfer by agreement

- transferor/transferee places listing declaration with the SEEE
- parties negotiate and confirm trade with the SEEE

### One-way bidding

- transferor/transferee applies to sell/purchase with the SEEE
- SEEE issues a bidding announcement
- potential transferors/transferees submit quotations
- trade confirmed with the SEEE

post-trade

### Record keeping

trading and registration materials retained for 20 years



# LEGAL STATUS AND CAPITAL TREATMENT OF CEAS AND CCERS

## What is the legal status of CEAs and CCERs?

International carbon emission trading systems have different views on the legal attributes of carbon emission rights/credits.<sup>[33]</sup> As with any intangible asset, the legal characteristics of a CEA or a CCER will determine:

- how it can be created, bought, sold and retired;
- how security may be taken and enforced;
- how it is treated following insolvency; and
- how it is treated from a regulatory, tax and accounting perspective.

There is currently no consensus as to the legal nature of CEAs and CCERs. Ultimately, we expect that China will adopt a similar position as regards the legal classification of CEAs and CCERs to the stance taken by the European Union (the “EU”) as regards EU Allowances<sup>[34]</sup>, namely that they constitute a type of intangible property, title to which passes upon transfer and registration and which can be pledged/charged by way of security.<sup>[35]</sup> The ability to treat a CEA or a CCER as intangible property will require a legislative provision passed to that effect.<sup>[36]</sup>

From an accounting perspective, the Notice of the Ministry of Finance on Printing and Distributing the Interim Provisions on Accounting Treatment of Carbon Emissions Trading<sup>[37]</sup> classifies CEAs and CCERs as “carbon emission assets” under the “other current assets” section of the balance sheet and are accordingly distinguished from “financial assets” and “intangible assets”. In relation to CEAs, the Ministry of Finance published an interim policy<sup>[38]</sup> suggesting that only purchased CEAs (not those allocated for free) may be treated as financial instruments.

In order to determine if EU Allowances could be classified as “property” under English law, the High Court of England and Wales applied a three-part test:

- ✓ the “property” must be subject to a statutory framework
- ✓ the “property” must be transferable under a statutory framework
- ✓ the “property” must have value.

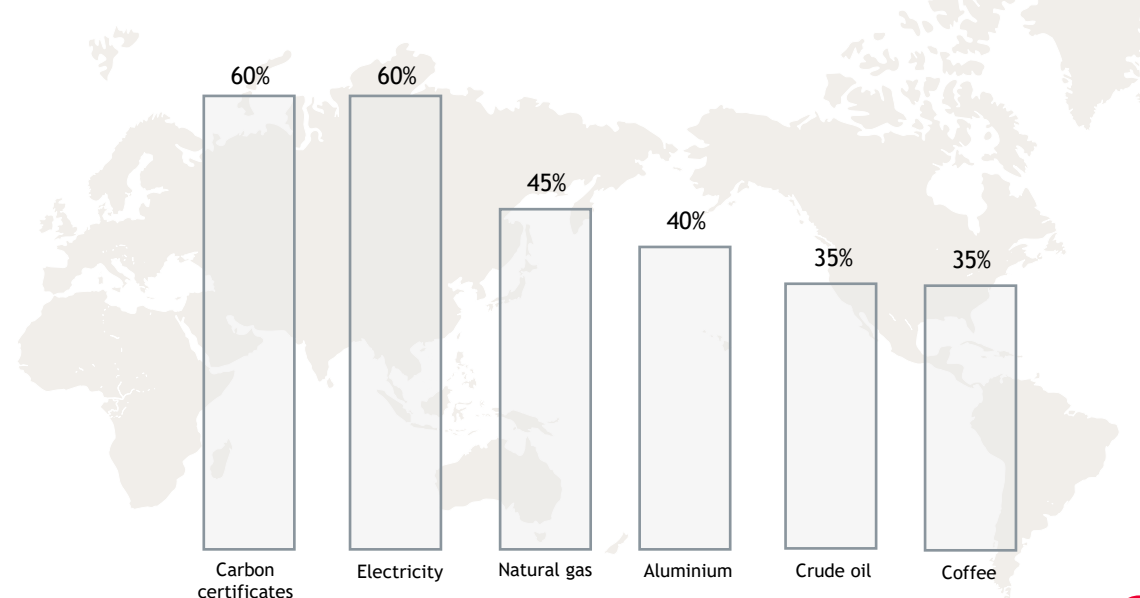
*Armstrong DLW GmbH v. Winington Networks Ltd (High Court of England and Wales, 2012, EWHC 10)*

## Capital treatment and risk-weighting

A dynamic approach to risk-weighting of carbon credits is necessary to ensure that the potential for carbon markets to upscale and accelerate green transition is not compromised. The International Swaps and Derivatives Association (ISDA) suggests that risk-weighting for carbon certificates should be around 37%, which is significantly lower than the 60% risk weight currently prescribed by the FRTB<sup>[39]</sup> framework.<sup>[40]</sup>

The 60% FRTB risk weighting is one of the highest ratios for any commodity and accordingly ties up substantial amounts of capital. ISDA suggests<sup>[40]</sup> that this impairs the ability of financial institutions to act as intermediaries in the carbon markets, impacts the willingness of institutions to invest in climate mitigation, and reduces the level of vital capital flows to finance clean energy transition.

China’s National ETS perhaps has a developmental advantage over emissions trading schemes in other countries by facilitating greater (centralised) control over carbon trading volumes and more stabilised pricing.



# NATIONAL ETS - MARKET PROTECTION MEASURES

Effective management of carbon pricing is a key concern for China in the wake of market shocks and high price instability affecting the European ETS.

Measures for the protection from abnormal trading price fluctuations e.g. through buy-back, auction or use of CCERs were issued in May 2021, although the relevant triggers and mechanisms have yet to be defined.

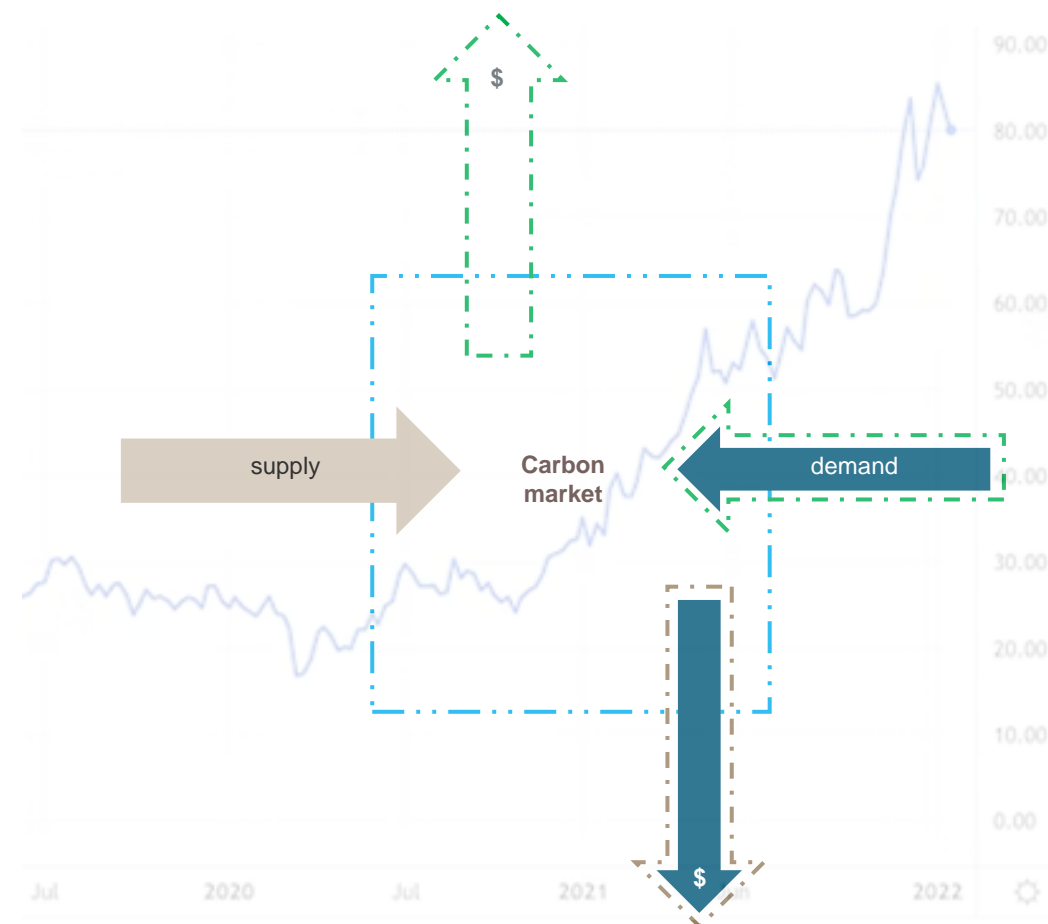
Participation in the National ETS is currently limited to Covered Entities and the only product that may currently be traded are CEAs. Market expansion is accordingly limited, but this does not necessarily create a disadvantage whilst the National ETS is in its infancy. Steady expansion of industry coverage and product offering promotes greater stability and ensures that momentum for growth is sustained in correlation with projected demand.

Price stabilisation tools in the onshore carbon markets currently include price ceilings, floors and collars, intensity-based allocation, adjustment of allowances and updated caps. Price management tools in the form of derivative products (such as futures, options, forwards and swaps) are currently not available on the National ETS but some of them do feature within the Pilot Schemes.<sup>[41]</sup>

The Pilot Schemes enable China to ‘test, assess and respond’ at a provincial level before any national launch. The expansion of participating entities and products in the National ETS (including the ability to trade CCERs and other carbon related financial products) remains a priority for onshore authorities.

With accurate and reliable data cited as “the lifeline” for the effective operation of the onshore carbon markets, the MEE is taking a hard line on data falsification and has also emphasised that laws and regulations need strengthening as a precursor to onshore carbon market expansion.<sup>[42]</sup>

Onshore policymakers are focused on boosting economic performance, raising the profile and importance of the National ETS as a means to encourage innovation through carbon emission reduction and incentivizing low-carbon investment. China’s market-leading technology industries (such as batteries, solar and wind) will continue to accelerate technological advancement and innovation and economies of scale will ultimately produce better performance and lower costs for consumers.<sup>[43]</sup>



# DEVELOPMENT OF GREEN TAXONOMY IN CHINA

It is widely recognised that a consistent and transparent classification system is essential for accurately and objectively assessing the green credentials of a product, project or portfolio.

China has been a pioneer for green taxonomy, being among the first nations to define what is ‘green’ pursuant to its green credit guidelines for banks (in 2012) and its green bond catalogue (in 2015). China has also driven the expansion of the green bond market and (pursuant to the EU-China co-led International Platform on Sustainable Finance) the development of a common ground taxonomy, for the purpose of aligning sustainable finance regulation, creating a common reference point and promoting open engagement on ESG<sup>[44]</sup> strategy.

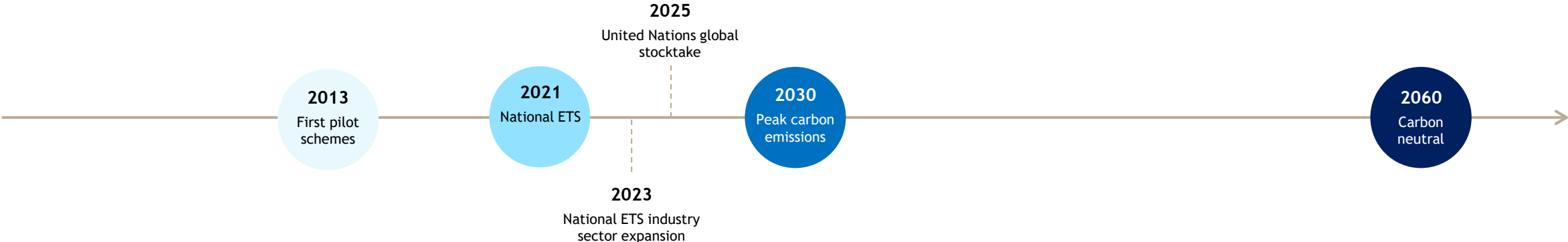
In 2021, China removed ‘clean’ coal projects from its list of eligible projects that may be financed through green bonds. China targets the expansion of the National ETS by 2023 to cover additional sectors such as iron, steel, cement and aluminium. When completed, it is estimated that the National ETS will cover 80% of onshore emissions (accounting for approximately 8 million tonnes of carbon).

Carbon emissions reduction has become an integral part of onshore policy for achieving economic and social prosperity - not only as a means to reduce exposure to climate related shocks and carbon taxes imposed on exports but as a tool to strengthen corporate governance and resilience and deliver economic growth. For example, the projected global demand for steel (which is used in the manufacturing of solar panels and wind turbines) is estimated to reach 1.7 billion tonnes by 2050<sup>[45]</sup> and China’s significant economies of scale make the nation well-placed to capitalise on that opportunity.

China’s strategy is two-fold:

- reduce exposure to carbon intensive industries; and
- promote sustainable alternatives.

Interoperability of green taxonomy is key to the development of cross-border finance flows. Currently, the biggest difference between China and the European Union as regards green taxonomy lies in technical screening standards and criteria. With effect from 1 June 2022, that gap has narrowed following publication of the Guidance for Enterprise ESG Disclosure by Beijing-based think tank, China Enterprise Reform and Development Society developed in collaboration with various onshore companies. Pursuant to such guidance, metrics (118 in total) set under primary, secondary and tertiary indicators, aim to provide a qualitative and quantitative assessment of ESG credentials and performance with a strong focus on regulatory compliance. Whilst it is non-binding, the guidance is expected to appeal to onshore enterprises as a means of accessing favourable financing terms, including lower interest rates available to borrowers under the People’s Bank of China’s carbon reduction facility.





# MEASUREMENT, REPORTING AND VERIFICATION

The MEE is increasing efforts to investigate alleged improprieties and audit carbon related data. Falsified and inaccurate data is not only an issue for China. Similar issues dogged the European carbon market in its infancy and were addressed with more severe penalties, improved monitoring and refined rules and regulations.

With effect from May 2022, onshore enterprises that are classified as:

- emission-control enterprises
- enterprises subject to mandatory cleaner production audits
- listed enterprises, or
- bond-issuing enterprises that have previously been found to have violated ecological or environment laws,

must prepare:

- an annual environmental disclosure report - by 15 March of the year following the annual compliance period<sup>[46]</sup>, and
- an interim environmental disclosure report - within five business days of receipt of the application information<sup>[47]</sup>.

each of which must be uploaded to the formal environmental information disclosure platform and inform CEA allocation.<sup>[48]</sup> The verification of environmental disclosure is currently managed by provincial-level authorities.

We anticipate that the level and frequency of disclosure and the requirement for third party verification of environmental information will expand in tandem with the expansion of the National ETS. This will enable China to demonstrate to the rest of the world that it is achieving its emissions reduction objectives and secure the levels of capital required to finance green transition onshore.



the enterprise itself and the measures taken to protect the environment

pollution liability insurance and any environmental protection credit evaluation

the generation, treatment and discharge of pollutants, including pollution prevention and control, discharge, toxic and hazardous substances

carbon emissions

emergency plans and environmental violations

any mandatory cleaner production audits

other environmental information stipulated by PRC laws and regulations



# FOREIGN ACCESS AND THE ROLE OF THE GREATER BAY AREA

Participation in the National ETS is currently limited to onshore Covered Entities. It is noteworthy that the “*Tentative Regulations for the Administration of Trading of Carbon Emissions Rights (Revised Draft)*”, released for public consultation in March 2021 (but not yet promulgated by the PRC State Council) provide for ‘qualified institutions and individuals’ to participate in the National ETS, albeit that the eligibility criteria have not yet been settled.

Whilst foreign participation is technically permitted under some of the Pilot Schemes, foreign investors are not currently able to complete the registration of ownership/transfer of CCERs prescribed by the CCER registration system.<sup>[49]</sup>

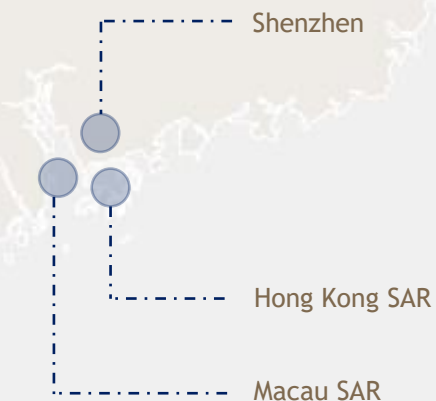
The case for developing Hong Kong as a regional carbon market hub is attractive for both onshore and offshore investors alike.

- **For offshore investors**, there is significant investment and offset potential in having access to China’s carbon markets through Hong Kong, where financial markets operate in accordance with international standards and have significant depth.
- **For onshore investors**, Hong Kong facilitates investment opportunities offshore through a structure that upholds ‘one country, two systems’ but that also operates according to the international requirements necessary to attract foreign capital, including as to transparency and disclosure - two core components in safeguarding the integrity (and maximising the potential) of carbon markets worldwide.

On 30 March 2022, The Green and Sustainable Finance Cross-Agency Steering Group (the “**Steering Group**”) published its preliminary feasibility assessment in respect of carbon market opportunities for Hong Kong. Based on the assessment, the Steering Group announced its intention to proceed to the next stage with a view to developing Hong Kong as a regional carbon trading centre.

## Steering Group key initiatives

- Create a high-quality, global, voluntary carbon market by leveraging Hong Kong’s status as a world financial centre implementing international standards and conduit for cross-border investment in the Mainland.
- Establish the Guangdong-Hong Kong-Macao Greater Bay Area Unified Carbon Market based on Mainland policies.
- Explore ways to link international capital with the Greater Bay Area Unified Carbon Market and possibly the Mainland national emissions trading system.
- Enhance cooperation with the Guangzhou Futures Exchange to position Hong Kong as the risk management centre for the Mainland.



# DEVELOPING A CROSS BORDER CARBON MARKET

On 5 July 2022 to further boost momentum to achieve net zero, Hong Kong Exchanges and Clearing Limited (the “HKEX”) announced the launch of the Hong Kong International Carbon Market Council (the “Council”). HKEX is partnering with a number of leading companies and financial institutions as foundation Council members to explore carbon opportunities in the region. According to the HKEX announcement, a key focus of the Council is “to develop an international carbon market that leverages Hong Kong’s position as a leading global financial centre, contributing to the realisation of carbon neutrality goals and the development of the green and sustainable finance ecosystem in Hong Kong, Mainland China and beyond”.<sup>[50]</sup>

A number of successful ‘connect’ schemes already exist between Hong Kong and the Mainland and we expect that the new carbon connect scheme will follow these frameworks. It may also be possible to adapt existing ‘connect’ schemes to allow foreign investors to access the onshore carbon markets (e.g. adapting the QFII/RQFII scheme<sup>[51]</sup> to permit offshore investors to trade carbon futures).<sup>[52]</sup>

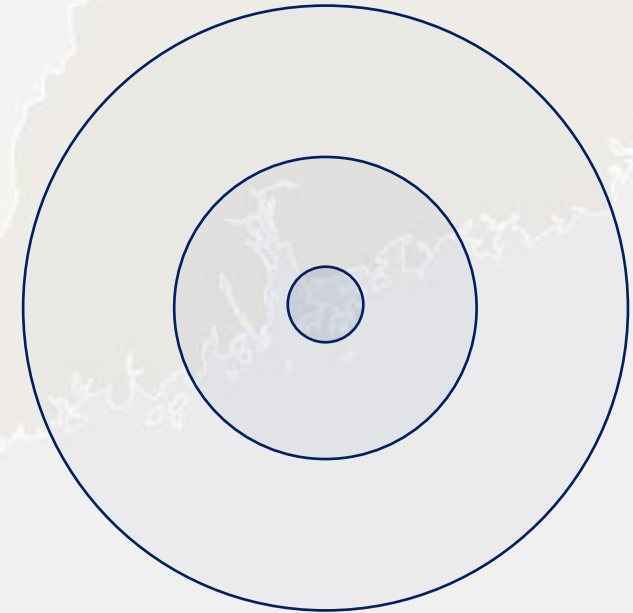
The development of Hong Kong as carbon market hub for the Guangdong-Hong Kong-Macao Greater Bay Area is significant because:

- it will centralise cross border investment in the onshore carbon markets
- facilitate upscaled and streamlined trading activity for all onshore emissions trading schemes across a currently fragmented market, and thereby
- open up access to offshore investment on a global scale through the ‘one country, two systems’ model.

For Hong Kong, upscaled cross border investment opportunities will further enhance its status as a financial powerhouse for Asia. With the global funding gap for clean energy transition estimated to be in the region of USD100 - USD150 trillion by 2050<sup>[53]</sup>, a sizeable proportion of sustainable and transition finance transactions will originate in the Asia region. As the pressure mounts for countries to reduce emissions caps to achieve net zero, carbon markets will form a critical part of the global toolkit.

China is a key market for offshore investors and in particular for investment in fixed income securities. China dominates the electric vehicle and photovoltaics markets and is the world’s largest producer of wind and solar energy (according to the International Energy Agency) accounting for 43% of global renewable capacity growth.<sup>[54]</sup> China also plans to develop 37 new hydrogenation stations by 2025 as well as a hydrogen energy industrial chain in the Beijing-Tianjin-Hebei integration region worth more than 100 billion yuan.<sup>[55]</sup>

It is anticipated that carbon capture, utilisation and storage could reduce China’s carbon emissions by 60% by 2050. By 2025, onshore carbon capture projects are expected to have a combined annual capacity of 2.1 million tonnes<sup>[56]</sup> - an attractive prospect for emitters both onshore and offshore.



# FUTURE EXPANSION OF CHINA'S NATIONAL ETS

China's emissions controls are expanding both in terms of industry sector coverage and the volume of energy consumed and, whilst there is currently no timetable in place, the National ETS will gradually expand to cover more entities, more sectors and more products.

Examples of industry sector expansion include: oil refining, steel, cement, coal-to-chemicals, manufacturing, nonferrous metals, paper, and civil aviation.<sup>[10]</sup> As regards the expansion of carbon related financial products<sup>[57]</sup>, onshore stock exchanges are keen to develop instruments such as carbon pledges, carbon leases, carbon repos and carbon derivatives in order to promote (and significantly upscale) active trading and establish an effective and stable price for carbon.<sup>[58]</sup> Additional improvements for the expansion and development of onshore carbon markets in the short to medium term include<sup>[59]</sup>:

- accelerating the construction of the rules for the operation of carbon markets onshore and improving systems to build market capability and standardise regulation,
- the move away from free allocation of CEAs towards an auction method to transition from carbon intensity reduction to total carbon emission reduction,
- accelerating development of the onshore carbon futures market, and
- implementing a clear reward and punishment framework.

In relation to the development of carbon credits, the Corporate Carbon Credit Evaluation Specification<sup>[60]</sup> was launched at the China International Carbon Trading Conference in Shanghai on 16 July 2022, with a view to establishing a standardised carbon credit evaluation system. The purpose of the evaluation system is to assess the ability of Chinese enterprises to adapt and compete when taking into account key environmental factors, and builds on China's focus to deliver economic growth whilst simultaneously reducing carbon emissions and reliance on carbon intensive industries/products. Pursuant to the evaluation system, tradeable carbon assets will eventually be grouped into three classes (and sub-classes) namely AAA, AA, A, BBB, BB, B, CCC, CC and C.

Key issues China will face in achieving the integration of the National ETS and the Pilot Schemes relate to quota allocation, the development of trading systems and building up carbon pricing differentials to equalise the costs associated with carbon reduction across individual emitters whilst continuing to incentivise them to search for more competitive options through both existing and new technologies.

Greater clarity as to the timeframe for expansion of the National ETS, interoperability between the National ETS and the Pilot Schemes, the management of surplus CEAs and the application of carbon credits, is also required in order for the onshore carbon markets to develop to the next level.





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[2] The World Bank. 2022. “State and Trends of Carbon Pricing 2022” (May), World Bank, Washington, DC. Doi: 10.1596/978-1-4648-1895-0. License: Creative Commons Attribution CC BY 3.0 IGO

[3] References to “carbon”, “carbon credits” and “emissions” are used generically to refer to greenhouse gases of any class, unless a contrary indication appears.

[4] Beijing, Chongqing, Fujian, Guangdong, Hubei, Shanghai, Shenzhen, Sichuan, and Tianjin.

[5] The National ETS currently only covers carbon dioxide emissions. References to “carbon”, “carbon credits”, “emissions” and “output” in the context of the National ETS shall be construed accordingly.

[6] Article 8, Measures for the Administration of Carbon Emissions Trading (for Trial Implementation) (碳排放权交易管理办法(试行)).

[7] Section 1, 2019-2020 Implementation Plan for the Total Cap and Distribution of Carbon Emissions Allowances (Power Generation Industry) (2019-2020年全国碳排放权交易配额总量设定与分配实施方案(发电行业))

[8] [https://www.mee.gov.cn/ywgz/ydqhbh/wsqtzk/202112/t20211231\\_965906.shtml](https://www.mee.gov.cn/ywgz/ydqhbh/wsqtzk/202112/t20211231_965906.shtml).

[9] ICAP. (2022). Emissions Trading Worldwide: Status Report 2022. Berlin: International Carbon Action Partnership.

[10] Four government agency institutions including the NDRC and the MEE, have released a new guideline (高耗能行业重点领域节能降碳改造升级实施指南(2022年版)) concerning 17 energy intensive industries. The guidelines: (i) encourage enterprises with low energy efficiency to adopt advanced equipment and new technology; and (ii) raise energy efficiency targets for some of the biggest emitters.

[11] Article 15, Measures for the Administration of Carbon Emissions Trading (for Trial Implementation) (碳排放权交易管理办法(试行)). Note that ‘paid allocation may be introduced when appropriate’.

[12] Benchmarking for the allocation of CEAs was adopted pursuant to the 2019 - 2020 National Carbon Emission Trading Cap Setting and Allowance Allocation Implementation Plan (Power Generation Industry).

[13] Tentative Regulations for the Administration of Carbon Emissions Trading (Revised Draft) (碳排放权交易管理暂行办法(草案修改稿)) set out (among other things) proposals: (i) for financial and non-financial enforcement in relation to carbon emissions; (ii) to move towards a paid, bidding system for the allocation of CEAs; and (iii) for the integration of the Pilot Schemes into the National ETS. These tentative regulations will replace the current National Measures when they are finalised.

[14] The European emissions trading system (European ETS) similarly began with a free allocation model for CO2 emissions and then, over the past 15 years, has expanded to cover more greenhouse gases with a lower cap and fewer handouts.

[15] Article 12, Tentative Regulations for the Administration of Carbon Emissions Trading (Revised Draft) (碳排放权交易管理暂行办法(草案修改稿)).

[16] <https://icapcarbonaction.com/en/news/china-national-ets-commences-trading>.

[17] Where key emitters may have remaining allowances after fully surrendering their carbon emission allowances, the remaining allowances can be carried forward. Section 6, 2019-2020 Implementation Plan for the Total Cap and Distribution of Carbon Emissions Allowances (Power Generation Industry) (2019-2020年全国碳排放权交易配额总量设定与分配实施方案(发电行业)).

[18] <https://www.kwm.com/content/dam/kwm/insights/download-publication/hongkong/2021/ESG%20alert%20%20Understanding%20Chinas%20carbon%20markets.pdf>.

[19] <https://www.chinalawinsight.com/2021/07/articles/environment-2/exploring-chinas-national-carbon-emissions-trading-scheme/>.

[20] Article 29 Measures for the Administration of Carbon Emissions Trading (for Trial Implementation) (碳排放权交易管理办法(试行)).

[21] Article 32, Tentative Regulations for the Administration of Carbon Emissions Trading (Revised Draft) (碳排放权交易管理暂行办法(草案修改稿)).

[22] Note that some commentators indicate that Article 32 will be revised and the establishment of the National ETS will not result in an absolute abolishment of the Pilot Schemes.

[23] In November 2021, the State Council announced that the Beijing Green Exchange will host the national trading platform of CCERs and that the exchange will also eventually be open to offshore investors (国务院支持北京城市副中心高质量发展的意见).

[24] <https://www.kwm.com/hk/en/insights/latest-thinking/esg-voluntary-carbon-markets.html>.

[25] Examples include CCERs, Chongqing Certified Emissions Reductions, Fujian Forestry Certified Emission Reductions.

[26] For example, the threshold for participation in the Shenzhen Pilot Scheme is  $\geq 3,000$  tonnes of carbon according to Article 10, Measures of Shenzhen for the Administration of Carbon Emissions Trading (深圳市碳排放权交易管理办法), whereas in the Hubei Pilot Scheme the threshold for participation is  $\geq 60,000$  tonnes of standard coal under Article 5, Tentative Measures of Hubei for the Administration and Trading of Carbon Emissions (湖北省碳排放权管理和交易暂行办法).

[27] Regulation of the National ETS passed from the NDRC to the MEE in 2018.

[28] Announcement on Matters Relevant to National Trading of Carbon Emissions Rights (关于全国碳排放权交易有关事项的公告), effective 22 June 2021.

[29] <https://www.chinalawinsight.com/2021/07/articles/environment-2/exploring-chinas-national-carbon-emissions-trading-scheme/>. A high-level law, the “Tentative Regulations for the Administration of Carbon Emissions Trading (Revised Draft)” (碳排放权交易管理暂行办法(草案修改稿)) was released for public consultation in March 2021 but has not yet been promulgated by the PRC State Council. Once in force these regulations will become the primary overarching legislation for the National ETS.

[30] Measures for the Administration of Carbon Emissions Trading (for Trial Implementation) (碳排放权交易管理办法(试行)) effective 1 February 2021; Rules for the Administration of Carbon Emissions Trading Registration (for Trial Implementation) (碳排放权交易管理规则(试行)) effective 14 May 2021.

[31] Article 14 Rules for the Administration of Trading of Carbon Emissions (for Trial Implementation) (碳排放权交易管理规则(试行)) effective 14 May 2021.



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[32] Article 7 Rules for the Administration of Settlement of Carbon Emissions (for Trial Implementation) (碳排放权结算管理规则(试行)) effective 14 May 2021.

[33] In the European Union, member states have the right to determine the legal nature of European emission allowances. There remains flexibility for carbon credits to be classified as a type of (i) intangible property or (ii) a bundle of contractual rights. There is currently no agreed stance. In Australia, the Carbon Credits (Carbon Farming Initiative) Act 2011 classifies the Australian carbon credit unit (ACCU) as a type of private property, title to which may be transferred by assignment, succession, or statutory transfer.

[34] Offsets and international credits can no longer be used for compliance purposes from phase 4 (2021 - 2030) of the European ETS.

[35] China's carbon markets have generally developed to follow the European model. EU Allowances have been recognised as a form of intangible property under English law. *Armstrong v Winnington* [2012] EWHC 10, [2013] Ch 156, focused on the existence of a statutory regime to draw parallels with other types of intangible property such as milk quotas.

[36] China operates a codified legal system.

[37] Cai Kuai [2019] No. 22 (碳排放权交易有关会计处理暂行规定(财会[2019]22号)).

[38] Tentative Regulations for the Administration of Carbon Emissions Trading (Revised Draft) (碳排放权交易管理暂行条例(草案修改稿)).

[39] Fundamental Review of the Trading Book rules being introduced under the Basel III framework.

[40] <https://www.isda.org/a/i6MgE/Implications-of-the-FRTB-for-Carbon-Certificates.pdf>.

[41] For example, forwards may be traded under the Shanghai and Hubei Pilot Schemes.

[42] <https://chinadialogue.net/en/digest/national-carbon-market-expansion-may-be-delayed-to-2023/>.

[43] <https://www.forbes.com/sites/energyinnovation/2022/04/18/chinas-emissions-trading-system-will-be-the-worlds-biggest-climate-policy-heres-what-comes-next/?sh=1ac1ffa52d59>.

[44] Environmental, social and governance.

[45] Bloomberg New Energy Finance. <https://about.bnef.com/new-energy-outlook/>.

[46] Article 15, Administrative Measures for Environmental Information Disclosure (企业环境信息依法披露管理办法).

[47] Article 17, Administrative Measures for Environmental Information Disclosure (企业环境信息依法披露管理办法)

[48] Requirements relating to the disclosure of environmental information pursuant to the “Administrative Measures for Environmental Information Disclosure” (企业环境信息依法披露管理办法) and the “Environmental Information Disclosure Guidelines” (企业环境信息依法披露格式准则) are supplemented by the “Notice on Strengthening the Management of Enterprise Greenhouse Gas emissions Reporting” (关于加强企业温室气体排放报告管理相关工作的通知) and the “Guidelines for Enterprise Greenhouse Gas Verification (Trial)” (企业温室气体排放报告核查指南(试行)).

[49] <https://www.chinalawinsight.com/2021/10/articles/finance-3/article-series-on-green-finance%EF%BC%88fourth%EF%BC%89-cross-border-green-equity-transactions-foreign-investors-direct-participation-in-domestic-transactions/>.

[50] [https://www.hkex.com.hk/News/News-Release/2022/220705news?sc\\_lang=en](https://www.hkex.com.hk/News/News-Release/2022/220705news?sc_lang=en).

[51] The QFII/RQFII Scheme is established pursuant to the Measures for the Administration of the Investment in Domestic Securities and Futures by Qualified Foreign Institutional Investors and Renminbi Qualified Foreign Institutional Investors (合格境外机构投资者和人民币合格境外机构投资者境内证券期货投资管理办法) released in September 2020 to facilitate opening up the onshore capital market to qualified foreign investors. Whether or not carbon futures are defined as “commodity futures contracts” under the QFII/RQFII Scheme is subject to determination by the CSRC.

[52] We note that oversight of onshore futures rests with the CSRC rather than the MEE and so further consideration will be needed in relation to the remit of, and interaction between, different regulatory authorities.

[53] <https://www.gfma.org/policies-resources/gfma-and-bcg-report-on-climate-finance-markets-and-the-real-economy/>.

[54] <https://www.scmp.com/business/china-business/article/3161732/china-remain-renewable-energy-leader-strong-capacity-growth>.

[55] [https://www.globaltimes.cn/page/202104/1220923.shtml#:~:text=The%20capital%20plans%20to%20add,plan%20\(2020%2D2025](https://www.globaltimes.cn/page/202104/1220923.shtml#:~:text=The%20capital%20plans%20to%20add,plan%20(2020%2D2025)

[56] <https://www.scmp.com/business/china-business/article/3137245/climate-change-chinas-plans-double-carbon-capture-capacity>.

[57] The Bureau of Ecology and Environment is expected to introduce additional forms of emission reduction product in due course. By way of example, a plan 深化建设绿色金融改革创新试验区探索构建低碳转型金融体系的实施意见 to support low carbon transition through financial products such as bonds and insurance has been published by Huzhou (one of China's green finance pilot zones) although it does not currently specify what categories of businesses will qualify.

[58] <https://www.kwm.com/hk/en/insights/latest-thinking/sustainability--a-roadmap-for-growth-in-asia.html>.

[59] <https://www.chinawaterisk.org/interviews/whats-next-for-carbon-market-in-china/>.

[60] 企业碳信用评价规范



# ACRONYMS

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- **BEA** - Beijing Emission Allowance
- **CCER** - China Certified Emissions Reduction
- **CQCER** - Chongqing Certified Emissions Reduction
- **FCER** - Forest Certified Emission Reduction
- **FFCER** - Fujian Forestry Certified Emission Reduction
- **FJEA** - Fujian Emission Allowances
- **GDEA** - Guangdong Emission Allowance
- **HBEA** - Hubei Emission Allowance
- **PCER** - Green Transport Certified Emission Reduction (acronym relates to the Chinese name)
- **PHCER** - Pu Hui Certified Emission Reductions
- **SHEA** - Shanghai Emission Allowance
- **SHEAF** - Shanghai Emission Allowance Forward



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