

Legal Update

Implementation of China's National Emissions Trading Scheme - A Forward Look

What has happened?

China's Ministry for Ecology and Environment ("MEE") has released the final rules governing the national emissions trading scheme (the "China ETS") in January 2021 to take effect from February 1, 2021 (the "Final Rules")¹. The Final Rules are the most comprehensive rules released so far for the regulation of the China ETS since the MEE took over the authority for regulating carbon emissions in China from the National Development and Reform Commission ("NRDC") in 2018.

The MEE also released the emission allowance allocation plan for the power generation industry for 2019-2020 and the list of covered entities in December 2020 (the "Final Allocation Plan")², giving further clarity on allowance allocation for an important sector. Provincial level MEE authorities are required to collect emissions data from covered entities in their respective provinces to facilitate cap setting and allowance allocation by January 2021.

The Final Rules and the Final Allocation Plan follow an earlier release of a set of "guiding opinions" by five government agencies (including the MEE) for promoting climate investment and finance in China on October 21, 2020³ (the "Guiding Opinions"). The Guiding Opinions expressly listed the development of the China ETS as a key project and also specified that the government would encourage international financial institutions and qualified foreign investors to invest in climate finance projects in China.

It remains to be seen if foreign investors will be allowed to participate in the initial stage of the China ETS and whether there will be any restrictions on the qualification of investors and the amount of investment. If foreign and local investors are interested in participating in the China ETS, it would be sensible to plan ahead. There are two main ways that international investors can participate in emissions trading schemes. The first is by trading allowances. The second is by participating in activities that give rise to credits or offsets that can be used for compliance with emissions trading schemes. Importantly, the Final Rules emphasize transparency of allowance allocation, emissions reporting and compliance of covered entities as well as the transactions in the trading platform. This will probably give international investors more confidence to participate in the China ETS.

As some investors might be more familiar with the European Union Emissions Trading System (the "EU ETS"), we have set out below a comparison table between the China and EU ETS on certain key topics.

¹ For the original text of the Final Rules published by the MEE, see http://www.mee.gov.cn/xxgk2018/xxgk/xxgk02/202101/t20210105_816131.html. For the original text of the draft rules published by the MEE in November 2020, see http://www.mee.gov.cn/xxgk2018/xxgk/xxgk06/202011/t20201102_805822.html.

² For the original text of the Final Allocation Plan published by the MEE, see http://www.mee.gov.cn/xxgk2018/xxgk/xxgk03/202012/t20201230_815546.html. For the original text of the draft emission allowance allocation plan for the power generation industry published by the MEE in November 2020, see http://www.mee.gov.cn/xxgk2018/xxgk/xxgk06/202011/t20201120_809087.html.

³ For the original text of the Guiding Opinions for Fostering Climate Finance jointly published by the MEE, NRDC, People's Bank of China, China Banking and Insurance Regulatory Commission and China Securities Regulatory Commission, see http://www.mee.gov.cn/xxgk2018/xxgk/xxgk03/202010/t20201026_804792.html

China ETS vs. EU ETS

Topics	China	EU
Geographic scope	<p>The current regional pilot schemes located in eight cities/provinces in China (Beijing, Chongqing, Fujian⁴, Guangdong, Hubei, Shanghai, Shenzhen and Tianjin) are expected to co-exist with the national scheme in the short term but are likely to be integrated into the national scheme once it becomes fully operational.</p> <p>Covered entities in the national scheme would not be expected to also participate in the regional pilot schemes.</p>	<p>All EU Member States plus Iceland, Norway, and Liechtenstein. The UK now operates a separate UK ETS. See below in respect of linking.</p>
Phases	<p>First phase: development of market infrastructures.</p> <p>Second phase: simulation trading (originally expected to start in 2020 but further delayed partly because of the impact of coronavirus on the verification of emissions data and draft allowance allocation plans).</p> <p>Third phase: expanding sectoral coverage, diversifying trading products and deepening the system with allowances spot trading for compliance purposes.</p>	<p>First phase: 2005-2007.</p> <p>Second phase: 2008 – 2012.</p> <p>Third phase: 2013 - 2020.</p> <p>Fourth phase: 2021 – 2030.</p>
Covered installations / operators / sectors	<p>According to the Final Allocation Rules, the China ETS will regulate 2,225 listed power generators for the year 2019-2020, including standalone and industrial captive power plants, with annual emission of more than 26,000 tonnes of carbon dioxide (CO₂) equivalent (equivalent to consuming more than 10,000 tonnes of standard coal equivalent) in any year over the period 2013-2019. Both direct emissions from power generation and indirect emissions from net power purchase. If any covered entity has stopped operating or fallen below the 26,000-tonne CO₂e threshold for two consecutive years, it will be excluded from the list of covered entities.</p> <p>The China ETS is expected to expand to finally cover eight emission-intensive sectors, including power, petrochemical, chemical, building materials, steel, nonferrous metals, paper, and domestic aviation. There is no specific timeline for the expansion but the companies in the eight sectors have already started to report their emissions data.</p>	<p>Limits emissions from more than 10,000 heavy energy-using installations (power stations & industrial plants) and aircraft operators.</p> <p>Carbon dioxide (CO₂) from power and heat generation; energy-intensive industry sectors including oil refineries, steel works and production of iron, aluminium, metals, cement, lime, glass, ceramics, pulp, paper, cardboard, acids and bulk organic chemicals; commercial aviation.</p> <p>Nitrous oxide (N₂O) from production of nitric, adipic and glyoxylic acids and glyoxal.</p> <p>Perfluorocarbons (PFCs) from aluminium production.</p>

⁴ The Fujian regional scheme was not one of the seven pilot schemes originally assigned by the NRDC. Rather, the mandate of the scheme came from the State Council endorsing the "National Ecological Civilization Pilot Area (Fujian) Implementation Plan".

Topics	China	EU
Cap setting and adjustment	<p>According to the Final Rules and the Final Allocation Rules, provincial level MEE authorities will collect emissions data from covered entities to calculate the allowances to be allocated to each entity according to the formulae stipulated in the Final Allocation Rules. MEE will then aggregate the allowances provided by all the provinces to come up with the national emissions cap.</p>	<p>The overall volume of greenhouse gases that can be emitted by power plants, factories and other fixed installations is limited by a 'cap' on the number of allowances. The cap for the aviation sector has been separately calculated.</p> <p>The overall number of emission allowances will decline at an annual rate of 2.2% from 2021 onwards (compared to 1.74% currently).</p>
Method of allowance allocation	<p>Each allowance gives the holder the right to emit one tonne of carbon dioxide (CO₂).</p> <p>It will be free allocation in the initial stage and there are plans to gradually move towards more auctioning as the scheme develops. Free allocation is expected to be based on subsector benchmarks with ex-post adjustments for changes in actual production. The Final Allocation Plan has set benchmarks for the power sector and trial allocation work has been carried out in certain subsectors.</p>	<p>Each allowance gives the holder the right to emit one tonne of carbon dioxide (CO₂), the most common greenhouse gas, or the equivalent amount of two more powerful greenhouse gases, nitrous oxide (N₂O) and perfluorocarbons (PFCs).</p> <p>Free allocation of allowances (based on benchmarks) to sectors at the highest risk of relocating their production outside of the EU. For less exposed sectors, free allocation is foreseen to be phased out after 2026 from a maximum of 30% to 0 at the end of Phase 4.</p> <p>Most allowances are auctioned.</p>

Topics	China	EU
Types of investors	<p>Covered entities as well as organization and individuals meeting certain criteria. Most of the pilot schemes operate on a membership basis and there are different eligibility requirements.</p> <p>Among the pilot schemes in China, only the Guangdong and Shenzhen ones are open to foreign investors. In Guangdong, the foreign investor is not required to trade through an entity incorporated in China – it can directly trade by transferring money to a RMB account after complying with the currency control rules. In the Guiding Opinions, the authority has expressed that it would encourage international financial institutions and qualified foreign investors to invest in climate finance projects but we still have to wait to see if foreign investors would be allowed in the initial stage of trading and whether there will be any restrictions on the qualification of investors and the amount of investment.</p>	<p>Allowances are freely tradable by entities both with and without compliance obligations.</p>
Types of financial products	<p>The Final Rules stipulate that the main investment product is the allowances and the MEE might develop other investment products as the market matures. The Final Rules also provide that trading of allowances can be done by contract transfer, auctioning or other ways that might be specified in future rules and regulations.</p> <p>As mentioned in the Guiding Opinion, the Chinese government is open to supporting financial institutions to develop related financial and derivatives products such as carbon futures and carbon options. The Shanghai Environment and Energy Exchange, which has been selected as the trading platform for the national scheme, has been very active with innovating on carbon derivatives such as the OTC Shanghai Emission Allowance Forward and CCER mortgages.</p>	<p>No restrictions outside of regular financial markets regulation.</p> <p>Emission allowances are classified as financial instruments by the Directive on Markets in Financial Instruments (MiFID2). This classification constitutes an important element in safeguarding the carbon market from market abuse and other types of market misconduct regulated under the Market Abuse Regulation (MAR).</p> <p>Allowances are also traded on exchange.</p>

Topics	China	EU
Linking to other schemes	<p>A former Governor of the People’s Bank of China, Zhou Xiaochuan, has expressed interest to further study linkage with the EU ETS following the model of Shanghai-HK Stock Connect which allows investors in both cities to trade financial products in each other’s market⁵. Regarding cross-border flights and shipping, Zhou also called for the establishment of a special bilateral fund between China and Europe to collect carbon emission charges on such flights and shipping which will then use the charges for supporting the development of new zero emission transportation or other ways of reducing emissions⁶.</p> <p>Different pilot schemes have been testing ways to link with other schemes around the world. For example, the Guangdong pilot scheme has formed a strategic partnership with EU ETS for mutual membership recognition and development of trading products for investors in both schemes.</p>	<p>The scheme is linked to the Swiss scheme.</p> <p>It is not clear whether the United Kingdom and EU will agree to link their emission trading schemes.</p>
Use of offsets	<p>Covered entities are allowed to use China certified emissions reduction (“CCER”) credits to offset as much as 5% of its annual emission target. One CCER unit can offset 1 tonne of CO2-equivalent. CCER credits used for offsets could come from various types of projects, for example, renewable energy, carbon sinks and methane recovery, but not from projects that have been included as emissions reduction projects for allowance management under the China ETS. Further details regarding CCER offsets will be announced in future regulations by the MEE. Some pilot schemes also allow for offset with CCER credits and the types of projects allowed are announced each year.</p>	<p>In Phase 2, businesses were allowed to buy international credits totalling around 1.4 billion tonnes of CO2-equivalent. This was dramatically scaled back in Phase 3.</p> <p>Offsets are not allowed in Phase 4, subject to potential developments in international emissions trading market mechanisms.</p>

5 Speech by Zhou Xiaochuan, former Governor of the People’s Bank of China, at the International Finance Forum in Guangzhou on November 21, 2020 (English summary of the speech: <https://www.scmp.com/news/china/diplomacy/article/3110833/china-urged-use-market-forces-help-meet-carbon-emissions>; Original text of the Chinese speech: <http://www.tanpaifang.com/tanjiaoyi/2020/1121/75416.html>)

6 *Ibid.*

Topics	China	EU
Exchange and registry	It is expected that the Shanghai Environment and Energy Exchange will host the trading platform for the national scheme, while the Hubei Emission Exchange will be the registry for recording the ownership, transfer, surrendering and cancellation of the allowances as well as providing settlement services. The Hubei Emission Exchange has carried out its first live test for the national scheme in August 2020. The linkage between the registration and trading system will have to be further enhanced.	A single EU registry is operated by the European Commission. The registry is an online database that holds accounts for stationary installations and for aircraft operators. The European Union Transaction Log automatically checks, records and authorises all transactions between accounts in the registry.
Compliance period	One year.	One year.
Monitoring, Reporting and Verification (MRV)	The Chinese government has published a number of MRV guidelines and supplementary MRV data sheets for the eight sectors expected to be covered. Annual reporting of emissions needs to be submitted with a given timeline. Third-party verification is required. Reference guidance and qualification requirements for third-party verifiers have been published.	Industrial installations and aircraft operators covered by the EU ETS are required to have an approved monitoring plan for monitoring and reporting annual emissions. Every year, operators must submit an emissions report. The data for a given year must be verified by an accredited verifier by 31 March of the following year. Once verified, operators must surrender the equivalent number of allowances by 30 April of that year.
Enforcement	According to the Final Rules, covered entities will face fines or other penalties if they default or engage in fraud when declaring emissions volumes, or if they fail to surrender enough allowances. The local authority where the defaulting covered entity is located will impose a fine up to RMB 30,000 (\$4,600). The authority may also reduce the covered entity's allocated allowances for next year if such entity fails to rectify the non-compliance within a limited period of time. Non-compliance that constitutes crimes will be referred for prosecution. Other penalties may include recording in the national social credit system to integrate credibility information provided by various departments and regions across the country and which will have significant implication on the entity's ability to obtain government approvals and bank financing.	The penalty for non-compliance was increased to €100 per tonne, plus an obligation to make up surrendered allowances.

Topics	China	EU
Price control	Price control mechanism is expected to be developed when actual trading happens.	The Market Stability Reserve (MSR), the mechanism established by the EU to reduce the surplus of emission allowances in the carbon market and to improve the EU ETS's resilience to future shocks, will be substantially reinforced in Phase 4.
Documentation	It is not entirely clear what forms participants in the national scheme will use yet and whether the government will prescribe a certain form or adopt some internationally recognized standard forms. It is understood that the pilot schemes have developed their own forms without much guidance from the central government.	No prescribed form but two of the most commonly used forms of documents in the OTC trading market are ISDA and EFET standard form documents.

Lessons learned from EU ETS

Though the EU ETS has been found to have led to significant emissions reductions, the allowance price has fluctuated significantly and has not always been at a price that has incentivised the levels of investment in lower carbon technology that has been hoped for. One of the most significant developments in the design of the EU ETS has been the creation of the Market Stability Reserve to manage this.

The ability to use offsets from international emission reduction projects under the Kyoto Protocol for the EU ETS compliance purposes gave rise to a booming market for such credits and led to significant investment in emissions reductions projects in developing countries. However, managing the volumes credits and their environmental integrity did create a number of challenges for regulators. The ability to use them for compliance under the EU ETS was eventually "switched off" partly in response to an inability to agree an international framework for the generation and use of credits for the post-2012 period.

The inclusion of international aviation in the EU ETS led to significant international political backlash, with several countries legislating to make compliance illegal. This was a significant "lesson learnt" in terms of the sensitives of legislation in respect of "extra territorial" emissions regulation, and led to the inclusion only of intra-EU aviation activities in the EU ETS.

Overall, it should not be forgotten that emissions trading schemes generally rely on a robust legal architecture to create value out of a commodity that would otherwise be worthless. Doing so is a complex exercise and requires significant regulation. It also requires the creation of systems for registries, tracking data, auctioning and compliance. All of these must be done in a secure way, particularly given the large sums of money at stake. Opportunities for circumventing legal frameworks are rife. The EU has spent nearly two decades managing these risks, and the EU ETS continues to evolve. It would be surprising if "new entrant" systems were able to get all of these aspects working perfectly from the get go.

Future considerations

As mentioned above, the second phase of the China ETS (simulation trading) was intended to start in 2020 but it has been delayed for various reasons, including the impact of coronavirus. The Final Rules mark a significant step forward and have provided much needed clarity and guidance for market participants. However, there are several areas that are worth exploring further to increase the liquidity and robustness of the market, for example innovating in respect of matters that can facilitate the operation of the scheme including developing the trading and settlement platform as well as the mechanism for tracking and verifying emissions, developing carbon derivatives, and exploring opportunities for linkages with other carbon markets, potentially those in Asia Pacific and the EU ETS.

A significant amount of commercial attention will be devoted to the development of the potentially lucrative offset market. Covered entities are allowed to use CCER credits to offset as much as 5% of their annual emission target. Projects that have been included as emissions reduction projects for allowance management under the China ETS cannot be used for offsets. The Final Rules specifically mention renewable energy, carbon sinks and methane recovery projects as non-exhaustive examples of CCER projects eligible for offsets. It is expected that further details of the offset mechanism will be announced in future regulations and rules by the MEE and the types of projects allowed may be subject to adjustments annually similar to the pilot schemes.

Technology

As China continues to develop its Blockchain Service Network (“BSN”), the world’s largest blockchain infrastructure platform, one area of potential development is the use of blockchain and Internet-of-Things (“IoT”) technology to support the China ETS. At its most basic, a blockchain is a digital ledger of records linked together using a system of cryptographic codes, resulting in an immutable, transparent store of information. IoT refers to a system of connected “smart” computing devices and machines with the ability to automatically record data and transfer it over a network. In the emissions space, market participants can use IoT devices to record their carbon emissions or other data associated with carbon-generating activities (e.g., output from coal-fired power plants) in real time. That data can then be uploaded into a blockchain as an immutable and reliable record of emissions activity, which has the potential to streamline both compliance processes for emitters and supervisory functions for regulators. China could seek to build upon its position as a global leader in blockchain adoption, evidenced by the BSN, by implementing these technologies in the China ETS.

Conclusions

China has already invested enormous amounts of time and energy in emissions trading schemes, and has a wealth of experience of them. That said, a national scheme will be a massive undertaking and create an enormous market. There remain significant legal and regulatory developments to come.

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