International Carbon Action Partnership

China National ETS

General Information

ETS Description

China's national ETS began operating in 2021, with the objective of contributing to the effective control and gradual reduction of carbon emissions. China's national ETS is the world's largest in terms of covered emissions, estimated to cover more than 4 billion tCO_2 and accounting for over 40% of the country's carbon emissions.

The China national ETS regulates more than 2,000 companies from the power sector with annual emissions of more than 26,000 tCO_2, including combined heat and power, as well as captive power plants in other sectors. It is an intensity-based system, with allowances freely allocated using benchmarks and based on actual production levels. Compliance obligations are currently limited and vary between different types of power generation. The system's coverage will expand to other sectors over time.

The national ETS builds on the successful experience of pilot carbon markets implemented in eight regions. The pilots will continue to operate in parallel with the national ETS, covering the sectors and entities not included in the national system. As the coverage of the system expands, entities covered by regional systems are expected to be integrated into the national ETS.

ETS Status

in force

Jurisdictions

China

Year in Review

In March 2022, the Ministry of Ecology and Environment (MEE) published the "Work Plan on the Management of Enterprise Greenhouse Gas emissions Reporting and verification in 2022" with the updated "2022 Guidelines for Power Greenhouse Gas Emission Measurement and Reporting". These documents confirmed the deadlines for emissions reporting and verification of 2021 emissions, as well as the verification process managed by provincial-level authorities. More detailed MRV requirements were introduced to address issues with data fraud discovered in 2021. In June, considering the impact of the COVID-19 pandemic and the global energy crises, MEE published the "Adjustment on the Management of Enterprise Greenhouse Gas emissions Reporting and verification in 2022", which extended the deadline for verification to September and simplified emissions measurement procedures.

In November 2022, MEE released the draft allocation plan for 2021 and 2022. The plan proposed significantly tighter benchmarks values for coal-fired power plants. The process of compliance for the two-year period was also proposed, with a final compliance deadline of December 2023. Following the draft allocation plan, MEE published "Guidelines for Power Greenhouse Gas Emission Measurement and Reporting" and "Guidelines for Verification", which provided more detailed MRV instructions for verifiers and covered entities.

After public consultation, the final allocation plan was released in March 2023.

Sectoral coverage

Power

Emissions & Targets

Overall GHG Emissions excl. LULUCF (MtCO2e)

1,2301 (2014)

GHG reduction targets

By 2025: Reduction in carbon emissions per unit of GDP of 18% compared to 2020 levels (14th Five-Year Plan)

By 2030: Peak CO_2 emissions before 2030; lower CO_2 emissions per unit of GDP by over 65% from 2005 levels ('1+N' policy framework; updated NDC)

By 2060: Carbon neutrality ('1+N' policy framework; updated NDC)

Size & Phases

Covered emissions ()

44.00%

GHGs covered

CO2

Phases

There are currently no specific phases for the Chinese national ETS. The current rules only apply to the first compliance period, which covers 2019 and 2020. MEE is updating the allocation and compliance rules for the second compliance period, which covers 2021 and 2022.

Cap

The cap is set bottom-up, i.e., the sum of the total allowance allocation to all covered entities forms the cap. It is an intensity-based cap, which changes according to the actual production levels. The national ETS is estimated to have had a cap of 4,500 $MtCO_2$ in 2021.

The Draft Interim Regulations published by the MEE in 2021 outline the possibility of centralized development of a cap and allocation plan, implying the potential for a top-down process of cap setting in future.

Sectors and thresholds

Power sector (including combined heat and power, as well as captive power plants of other sectors). Compliance obligations are currently limited (see 'Enforcement' section).

The scope is expected to be gradually expanded to cover seven other sectors: petrochemicals, chemicals, building materials, steel, nonferrous metals, paper, and domestic aviation. There is no specific timeline for this expansion.

INCLUSION THRESHOLDS:

For 2019-2020: Entities with annual emissions of 26,000 tCO_2 or more in any year over the period 2013-2019.

For 2021-2022: Entities with annual emissions of 26,000 tCO_2 or more in any year over the period 2020-2021.

Point of regulation

Point source (power); downstream (indirect emissions from electricity and heat consumption)

Number of entities

2,162 (2020 and 2021)

Power entities covered by the Chinese regional ETS pilots have gone through a transition into the national market.

Allowance Allocation & Revenue

Allowance allocation

FREE ALLOCATION: Output-based benchmarking is used as the main allocation method, with four distinct benchmarks: conventional coal plants below 300 MW; conventional coal plants above 300 MW; unconventional coal; and natural gas.

In March 2023, MEE proposed revised benchmark values for allocation for the 2021-2022 compliance period. These propose a significant tightening, especially for coal-fired power plants.

Entities received allowances at 70% of their 2021 verified emission. Allocation was subsequently adjusted to reflect actual generation in 2021 and 2022. A unit load (output) adjustment factor distributed more allowances for entities operating at load rates lower than 85%. This may have provided more allowances to less efficient power units.

AUCTIONING: Allocation currently takes place through free allocation, but the Draft Interim Regulations clarify that auctioning is to be introduced and gradually expanded. There is currently no timeline for this.

Use of Revenues

The Draft Interim Regulations propose to set up a new national ETS fund, channeling auction revenues to further support the development of the national carbon market and key GHG reduction projects. There is currently no timeline for this.

Flexibility & Linking

Offsets and credits

Covered entities can use China Certified Emissions Reductions (CCERs) generated from projects not covered by the national ETS for up to 5% of their verified emissions. There are no additional project or vintage restrictions in the first compliance period.

Development of the CCER offset program began in 2009 alongside the development of the regional ETS pilots. In 2012, the NDRC issued the "Interim Measures for the Management of Voluntary GHG Emission Reduction Transactions", which provide guidelines for the issuance of CCERs. The registration of CCER projects started in 2015 but the program was suspended in 2017 while regulations were reviewed, without a specific timeline for reinstatement. In addition, the 1+N policy framework indicates the government's plan to incorporate carbon sink offset trading into the national carbon market.

The Beijing Green Exchange operates the CCER registry. Nine regional carbon exchanges in China are dedicated CCER trading platforms.*

*Beijing, Chongqing, Fujian, Guangzhou, Hubei, Shanghai, Shenzhen, Sichuan, and Tianjin.

Banking and borrowing

In the 2021-2022 allocation plan, borrowing is allowed. Companies with a shortfall of 10% or more can apply to borrow from a pre-approved allocation for 2023, up to 50% of the shortfall. Banking rules for allowance from the first compliance period will be released separately.

Compliance

Monitoring, Reporting, Verification (MRV)

REPORTING FREQUENCY: Covered entities submit the previous year's emission reports by the end of April each year.

VERIFICATION: Provincial-level ecological and environmental authorities are in charge of organizing the verification of GHG reports. They may commission technical service agencies to provide verification services. Verification of emissions from the power sector must be complete by the end of June. Verification of the other seven sectors, which have no compliance obligations, must be complete by the end of the year.

FRAMEWORK: MRV guidelines, supplementary data sheets, verification guidelines, and other guidance are available for the eight sectors expected to be covered by the ETS. This MRV framework has evolved continuously since 2013, covering the eight key sectors (see 'Sectors and Thresholds ').

OTHER: The MEE improves the existing MRV guidelines and technical specifications for the national ETS every year.

Enforcement

According to the 2021-2022 Allocation Plan, compliance obligations are limited. Gas-fired plants only need to surrender allowances up to their level of free allocation as per the benchmarks. Coal-fired plants with free allowances less than 80% of their verified emissions will have their allocation adjusted upwards to 80%, which means that 20% remains the maximum shortfall as the first compliance period. MEE will also conduct a study to consider a tailored relief programme for covered entities that "undertake major tasks to safeguard people's livelihoods" but fail to comply with the scheme even after borrowing allowances from future allocation.

The Draft Interim Regulations propose higher financial fines than those in the existing National Measures. Fines for failing to submit a report would increase from CNY 10,000-30,000 (USD 1,484–4,453) to CNY 50,000-200,000 (USD 7,421-29,686), while fines for failures in compliance obligations would increase from CNY 20,000-30,000 (USD 2,969-4,453) to CNY 100,000-500,000 (USD 14,843-74,215). Any gap between the compliance obligation and allowances surrendered also would be deducted from the following year's allocation.

Compliance Period

One calendar year. Entities were requested to surrender allowances in 2021 for emissions from 2019 and 2020. And they are requested to surrender allowances in 2023 for emissions from 2021 and 2022.

Market Regulation

Market Stability Provisions

In May 2021, the MEE announced the option of establishing a market-regulating and protection mechanism. This would enable MEE to respond to abnormal fluctuations in trading prices, for instance through buy-back, auctioning or adjusting the rules related to CCER use. The necessary triggers and specifics of this mechanism are yet to be defined.

Market Design

MARKET PARTICIPATION: Currently only compliance entities. The Draft Interim Regulations indicate that other types of institutions or individuals may be allowed later in the market, without a specific timeline.

MARKET TYPES:

Primary: Allowances are currently only distributed by free allocation. The Draft Interim Regulations state the intention to introduce auctioning, without a specific timeline.

Secondary: Emissions allowances can be traded on a dedicated trading platform managed by the Shanghai Environment and Energy Exchange. Due to financial market-related regulations, other products (i.e., derivatives) are currently not allowed. The Draft Interim Regulations indicate that other trading products may be allowed later in the market, without a specific timeline.

LEGAL STATUS OF ALLOWANCES: Allowances are currently not considered as financial instruments. For financial accounting purposes, the Ministry of Finance published an interim policy that categorizes only purchased allowances, and not those received for free, as assets in financial statements.

Other Information

Institutions involved

The China national ETS has a multi-level governance structure involving three levels of government:

Ministry of Ecology and Environment (MEE): acts as the national competent authority setting the rules and overseeing the system, with joint oversight of trading activities with other national regulators

Provincial-level MEE subsidiaries: oversee the implementation of the ETS, including identifying covered entities, organizing MRV, hiring verifiers, calculating allowance, managing provincial registry account, oversee compliance, etc.

Municipal-level authorities: responsible for managing covered entities directly.

China Carbon Emissions Registration and Clearing Co., Ltd.: responsible for operating the registry and clearing platform.

Shanghai Environment and Energy Exchange: operates the trading platform.

The Draft Interim Regulations further develop this structure, proposing responsibilities for other national-level regulators and coordination among other state agencies. Besides provincial- and municipal-level authorities, environmental and ecology authorities may also participate in ETS management.

Regulatory Framework

The National Measures for the Administration of Carbon Emission Trading (Trial) (2021)

Interim Regulations for the Management of Carbon Emissions Trading (draft) (2021)

Allocation Plan for the Power Sector (2019-2020) and list of covered entities (2021) (English translation)

Notice on the First Compliance Cycle of Emission Allowance Surrendering for the National ETS (2021)

Guidelines on enterprises greenhouse gas emissions accounting and reporting – Power generation facilities(2021)

Guidelines for Enterprise Greenhouse Gas Verification (Trial) (2021)

Notice on Strengthening the Management of Enterprise Greenhouse Gas Emissions Reporting (2021)

Allocation Plan for the Power Sector (2021-2022)

24 Guidelines for GHG Monitoring and Reporting for various sectors (2013, 2014, and 2015)

Evaluation / ETS review

An evaluation framework is currently under development.

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