

# China - Hubei pilot ETS

## General Information

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### ETS Description

The Hubei Pilot ETS was launched in April 2014 and covers around 50% of the province's emissions. Covered entities must surrender allowances for all their covered emissions, and allocation is based on auctions or free allocation.

Hubei's system covers more than 300 entities in a broad range of industrial sub-sectors. Unlike the other Chinese pilots, Hubei does not pre-define which sectors are covered under its ETS; rather, it sets a threshold which applies to all industrial sectors. Allowances have primarily been freely allocated, through both grandparenting and benchmarking, although several ad hoc auctions have been held since 2014.

Hubei has been one of the most active regional markets in China in terms of trading and has the second largest market in terms of spot trading volume, after Guangdong. It is also one of the regional pioneers for allowance forward trading in China. Hubei has also played an important role in the national ETS: in 2017, it was selected to lead the development of the registry for the national ETS, which the China Hubei Emission Exchange has operated since the national ETS began. In 2022, Hubei established the China Carbon Emissions Registration and Clearing Co., Ltd. in Wuhan to manage the registry and clearing system for the national ETS.

The Hubei ETS operates in parallel with the Chinese national carbon market. As the national ETS expands to new sectors, covered entities in these sectors will be integrated into the national ETS from the regional markets.

### ETS Status

in force

### Jurisdictions

Hubei

### Year in Review

In March, the Hubei provincial Ecology and Environment Bureau (EEB) released a draft of the "Interim Management Rules for Emissions Management and Trading". This draft would switch the competent authority from the Hubei Provincial Development and Reform Commission to the Hubei EEB. It would also lower the threshold of the covered entities and clarifies the regulation rules on market monitoring.

In November, the Hubei EEB released the 2022 allocation plan, which applies similar allocation methods as the 2021 plan.

In December, the Hubei EEB auctioned 1,104,317 allowances for a total of CNY 46.59 million (USD 6.58 million).

### Sectoral coverage

Industry

### Revenue usage

General budget, including debt reduction

## Emissions & Targets

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### Overall GHG Emissions excl. LULUCF (MtCO<sub>2</sub>e)

350.5 MtCO<sub>2</sub> (2020)

### GHG reduction targets

**By 2030:** Peak carbon emissions (Hubei Province Implementation Opinions on Implementing the New Development Concept and Promoting Carbon Neutrality)

**By 2060:** Climate neutrality (Hubei Province Implementation Opinions on Implementing the New Development Concept and Promoting Carbon Neutrality)

### Current Allowance Price (per t/CO<sub>2</sub>e)

Average auction price: CNY 42.73 (USD 6.03) (updated prices available [here](#))

## Size & Phases

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### Covered emissions (2020)

50.00%

### GHGs covered

CO<sub>2</sub>

### Phases

2014 and ongoing

### Cap or total emissions limit

A cap limits the total emissions allowed in the system. Inclusive of reserves, the cap for past years were as follows:

2014: 324 MtCO<sub>2</sub>

2015: 281 MtCO<sub>2</sub>

2016: 253 MtCO<sub>2</sub>

2017: 257 MtCO<sub>2</sub>

2018: 256 MtCO<sub>2</sub>

2019: 270 MtCO<sub>2</sub>

2020\*: 166 MtCO<sub>2</sub>

2021: 182 MtCO<sub>2</sub>

2022: 180 MtCO<sub>2</sub>

\*This decrease is mainly due to the transfer of the power sector into the national ETS.

### Sectors and thresholds

Unlike other Chinese pilots, Hubei does not pre-define which sectors are covered under its ETS; rather, it sets a threshold which applies to all industrial sectors. Sub-sectors with entities above the threshold are then covered.

Those currently covered include heat supply, iron and steel, nonferrous metals, petrochemicals, chemicals, textiles, cement, glass and other building materials, pulp and paper, ceramics, automobile manufacturing, equipment manufacturing, food and beverages, medicine producers, and water supply. Until 2019, power generation was also covered, after which it was integrated into the national ETS.

#### **INCLUSION THRESHOLDS:**

**Until 2015:** Annual energy consumption of more than 60,000 tonnes of coal equivalent (tce) in any year between 2010 and 2011, applying to all energy and industrial sectors.

**2016 to 2019:** Annual energy consumption of more than 10,000 tce in any of the most recent two years, applying to all energy and industrial sectors.

**2020 onwards:** Annual energy consumption of more than 10,000 tce in any of the most recent two years, applying to all industrial sectors.

In the draft interim management rules published in 2023, the threshold is lowered to entities that consume more than 5,000 tce per year.

#### **Point of regulation**

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

#### **Type of entities**

Companies

#### **Number of entities**

343 (2022)

## **Allowance Allocation & Revenue**

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### **Allowance allocation**

Allowances are distributed for free, using benchmarking or grandfathering. A pre-allocation method is adopted for the annual allowance allocation for sectors using benchmarking or historical intensity methods. Allocation is then adjusted ex-post to reflect the actual production in the respective compliance year.

#### **FREE ALLOCATION:**

**Benchmarking:** Benchmarking is used for the cement sector (except for entities using outsourced clinker).

**Grandparenting:** Historical emissions intensity is used for heat production and supply, pulp and paper, glass and other building materials, water supply, textile, and automobile and equipment manufacturing. Grandparenting is based on the previous three years' historical emissions for all other sectors.

Ex-post allocation adjustments are applied, especially for those sectors that use benchmarks and emissions intensity. In this case, entities first receive half of their total allowances based on the previous year's actual emissions or historical emissions baseline; actual production data are then used to update allocation ex-post.

Hubei also uses a "market adjustment factor", which is applied to all covered entities to reduce overall allocation. This is determined based on the previous year's supply-demand balance, while taking the province's overall economic development and the achievement of its climate mitigation targets and strategies into consideration. For the 2022 compliance year, it was set at 0.9836 (as compared to 0.99 for the previous year).

**AUCTIONING:** A small share of the annual cap can be auctioned. The main purpose of auctions is to promote price discovery and provide regulated entities with additional supply to meet their compliance demand. To date, auctions have been held on an ad hoc basis and took place in 2014, 2019, 2020, 2021, 2022, and 2023. Recent years have seen two auctions per year, with a first auction for covered entities only and the second open to all participants. The reserve price of the auctions is the weighted average spot market price of the previous two years. Allowances have sold at the reserve price or slightly above.

#### **Total Revenue**

CNY 432.75 million (USD 61.09 million) since the beginning of the program

CNY 46.59 million (USD 6.58 million) in 2023

2023

### **Use of Revenues**

Revenues are attributed to the provincial treasury.

## **Flexibility & Linking**

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### **Offset credits**

The use of offset credits (CCERs) and green electricity certificates is allowed. The green electricity certificates are the proofs of the environmental attributes of China's renewable energy power, which can be commercially transferred between power producers and consumers.

The Hubei EEB allows covered entities in Wuhan city to use Wuhan city credits to encourage the development of a city-level low carbon incentive program.

**QUANTITATIVE LIMITS:** The use of CCERs is limited to 10% of the annual initial allocation for each entity.

Only covered entities with shortfall can use green electricity certificates and city-level credits to offset their emissions. This is limited to 10% of the annual initial allocation for each entity.

The use of Wuhan city credits is limited to 10% of the annual initial allocation for each entity.

**QUALITATIVE LIMITS:** Generally, CCERs must be generated within the administrative areas of the province, but outside the covered entities of the Hubei ETS. According to the latest rules on offset credit use, published for 2018 compliance, CCERs must come from rural biogas or forestry projects in the key counties under the national or provincial poverty alleviation plan in areas of the middle reaches of the Yangtze River (within Hubei). CCERs must have been generated between 2013 and 2015, with reductions achieved between these dates.

Green electricity certificates must be certified both by the China Hubei Emission Exchange and the Hubei Electricity Exchange.

### **Banking and borrowing**

Banking is allowed, but only for allowances that have been traded at least once.

Borrowing is not allowed.

### **Links with other Systems**

Though Hubei explored linking with the Guangdong ETS pilot in 2012/2013, this did not materialize and there are no further plans for linking.

## **Compliance**

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### **Compliance mechanism**

Covered entities must surrender one allowance per tCO<sub>2</sub>e emitted for all their covered emissions.

### **Compliance Period**

One calendar year; covered entities have until the last working day of May of the following year to surrender allowances. In practice, in most compliance years the exact date for the covered entities to surrender allowances is set by the government on an annual basis and varies across years.

### **Monitoring, Reporting, Verification (MRV)**

**MONITORING:** Covered entities are required to set up and implement plans to monitor their emissions.

**REPORTING:** Annual

**VERIFICATION:** Third-party verification is required. Third-party verifiers may be involved in mutual evaluation of each other's verification reports. In addition, "fourth-party verification" is carried out by government-assigned experts to further enhance accuracy.

**FRAMEWORK:** The Hubei government has released general rules on monitoring and reporting guiding for all sectors as well as sector-specific guidance for the following 11 sectors: power, glass, aluminum, calcium carbide, pulp and paper, automobile manufacturing, iron and steel, ferroalloys, ammonia, cement, and petroleum processing. Hubei also refers to national guidelines on MRV, especially for the sectors outside these 11.

### **Enforcement**

**COVERED ENTITIES:** Hubei uses a capping mechanism for compliance obligations. If the difference between an entity's annual verified emissions and the allocation exceeds either 20% of the allocation or 200,000 tonnes (above or below the allocation), allowances will be accordingly added to or deducted from the cap to balance out the surplus or deficit.\*

Penalties for failing to submit an emissions or verification report on time range from CNY 10,000 (USD 1,411) to CNY 30,000 (USD 4,235). Trade participants who manipulate the market face up to CNY 150,000 (USD 21,174) in fines. Furthermore, companies that fail to surrender enough allowances to match their emissions will have double that amount deducted from the following year's allocation and are fined one to three times the average market price for every allowance, up to CNY 150,000 (USD 21,174).

Other non-financial penalties include disqualification from the national or provincial energy-saving program and blacklisting for carbon emission and credit records.

**TRADING INSTITUTIONS:** Penalties for publishing false information or manipulating the market range from CNY 10,000 (USD 1,411) to CNY 50,000 (USD 7,058). Institutions involved in illegal payments are fined one to three times the amount of the payment, up to CNY 150,000 (USD 21,174).

**THIRD-PARTY VERIFIERS:** Penalties for submitting false verification reports range from CNY 10,000 (USD 1,411) to CNY 50,000 (USD 7,058). Verifiers involved in illegal payments in addition to submitting false verification reports are fined one to three times the value of the payment, up to CNY 150,000 (USD 21,174).

\*Two limits, as opposed to only one, are set based on the consideration that 20% may suit smaller entities better while 200,000 tonnes may suit larger ones.

## **Market Regulation**

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### **Market Stability Provisions**

**RESERVE:** 6% of the total cap is kept as a government reserve for market stabilization.

**TRIGGERS:** In case of market fluctuations, severe supply-demand imbalances, or liquidity issues, the Hubei EEB – in consultation with an advisory committee consisting of government institutions and other stakeholders – can buy or sell allowances in order to stabilize the market. Specifically, the Hubei EEB takes action if the allowance price reaches a low or high point six times during a 20-day period.

**EXCHANGE:** The exchange limits day-to-day price fluctuations to a 10% move in either direction.

### **Market Design**

**MARKET PARTICIPATION:** Compliance entities; non-compliance entities such as domestic and international institutional investors; individual investors meeting the participation requirements of the relevant local trading exchange.

### **MARKET TYPES:**

**Primary:** The China Hubei Emission Exchange organizes ad hoc auctions for the primary market. Since 2019, Hubei has held two separate rounds of auctions targeting different types of entities.

**Secondary:** Spot products include Hubei Emission Allowances (HBEAs) and CCERs. The HBEA spot forward product was introduced in 2016 but has not been traded since May 2017. The China Hubei Emission Exchange manages trading of all products.

**LEGAL STATUS OF ALLOWANCES:** Allowances are not considered financial instruments.

## Other Information

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### Institutions involved

**Hubei Ecology and Environment Bureau (EEB):** Responsible for establishing and overseeing the Hubei ETS after governmental restructure in 2019.

**China Hubei Emission Exchange:** Responsible for operating the trading platform and registry.

### Regulatory Framework

[Hubei Pilot ETS Implementation Plan \(2013\)](#)

[Interim Management rules of Emission Management and Trading \(2023\)](#)

[Interim Measures for Management of Emissions Trading in Hubei Province \(2014\)](#)

[Allocation Plan for 2019 \(including list of covered entities\)](#)

[Allocation Plan for 2020 \(including list of covered entities\)](#)

[Allocation Plan for 2021 \(including list of covered entities\)](#)

[Allocation Plan for 2022 \(including list of covered entities\)](#)

[Hubei Province Implementation Opinions on Implementing the New Development Concept and Promoting Carbon Neutrality \(2022\)](#)

### Evaluation / ETS review

No information is publicly available regarding the evaluation or review system. However, research on improving the Hubei ETS has been undertaken every year, funded by the local government.

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