## CHINA’S PILOT SYSTEMS AT A GLANCE

<table>
<thead>
<tr>
<th></th>
<th>Beijing</th>
<th>Shanghai</th>
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</thead>
<tbody>
<tr>
<td><strong>Years in operation</strong></td>
<td>Since November 2013</td>
<td>Since November 2013</td>
<td>Since June 2013</td>
<td>Since December 2013</td>
<td>Since April 2014</td>
<td>Since June 2014</td>
<td>Since December 2013</td>
<td>Since September 2016</td>
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<tr>
<td><strong>Overall cap &amp; trajectory</strong></td>
<td>Around 50 million tCO2e in 2017&lt;sup&gt;1&lt;/sup&gt;</td>
<td>The 2018 cap was 158 million tCO2e.</td>
<td>Excluding buildings, the cap was around 31.45 million tCO2 in 2015.</td>
<td>Around 465 million tCO2.</td>
<td>The cap was 256 million tCO2e in 2018.</td>
<td>Around 100 million tCO2e in 2018.</td>
<td>Around 160–170 million tCO2 in 2017.</td>
<td>Around 200 million tCO2 in 2017.</td>
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<td><strong>Target(s)</strong></td>
<td>20.5% reduction in carbon intensity compared to 2015 by 2020.</td>
<td>Carbon intensity reduction of 20.5% compared to 2015, with an absolute emissions cap of 250 million tonnes CO2. In 2012, the jurisdiction reported emissions of 297.7 million tCO2.</td>
<td>45% reduction in carbon intensity compared to 2005 by 2020. The city has also pledged to peak its emissions by 2022.</td>
<td>20.5% reduction in carbon intensity compared to 2015 by 2020.</td>
<td>19.5% reduction in carbon intensity compared to 2015 by 2020.</td>
<td>19.5% reduction in carbon intensity compared to 2015 levels by 2020.</td>
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<sup>1</sup> It is estimated to have also been around this level in 2018 and 2019, but the exact number is not available.
### Sectors covered

Beijing: Industrial and non-industrial companies and entities with emissions in excess of 5000t CO₂ annually from the following sectors: electricity providers, heating, cement, petrochemicals, other industrial enterprises, manufacturers, services, and public transport.


Hubei: Power, Industry.


Tianjin: Heat and electricity production, Iron and steel, Petrochemicals, Chemicals, Oil and gas, Paper, aviation, and building materials are included from 2019.


### GHGs covered

- Beijing: CO₂
- Shanghai: CO₂
- Shenzhen: CO₂
- Guangdong: CO₂
- Hubei: CO₂
- Chongqing: CO₂, methane, N₂O, HFCs, PFCs, SF₆
- Tianjin: CO₂
- Fujian: CO₂

### # of covered entities

- Beijing: 298 as of 2018
- Shanghai: 794 as of 2017
- Shenzhen: 242 existing plus 37 new entrants in 2019
- Guangdong: 338, as of 2018
- Hubei: 195 as of 2018
- Chongqing: 113 in 2019
- Tianjin: 255 in 2018
- Fujian: 255 in 2018

### Allocation method

- Beijing, Shanghai, Shenzhen, Guangdong, Hubei: Mix of free allocation and auction (except Chongqing, where units are freely allocated).
### Beijing
- **Sectors covered**: Public online bidding and agreement transfer (OTC, exceed 10,000 tonnes per deal). Compliance entities, China domestic investors and individuals are eligible to trade.
- **Use of offsets and linking**: Domestic CCERs are allowed, up to 5% of the annual allocation. Of these, 50% must be from Beijing projects. Only CCERs from renewable energy, energy conservation projects and forestry carbon sink projects are allowed.

### Shanghai
- **Sectors covered**: Public online bidding and agreement transfer (OTC, exceed 100,000 tonnes per deal). Only compliance entities and domestic investors can trade.
- **Use of offsets and linking**: CCERs can be used for 1% of the cap.

### Shenzhen
- **Sectors covered**: Trading is via fixed price transactions, electronic bidding (±10% limit on the daily price) and bulk entrusted transaction (in excess of 10,000 tonnes per deal, ±30% limit on the daily price). Trading is open to compliance entities, international and domestic brokers, funds, trusts and individuals are eligible to trade.
- **Use of offsets and linking**: CCERs are allowed. Credits from a provincial offset programme, Pu Hui Certified Emission Reductions (PHCERs), have been accepted since 2017. At least half of all offsets used must come from projects targeting CO2 or methane emissions, and at least 70% must come from projects located in the province. Credits from hydropower and most fossil fuel projects are not eligible.

### Guangdong
- **Sectors covered**: Public online bidding and agreement transfer (OTC, exceed 100,000 tonnes per deal). Local compliance enterprises, international or domestic brokers, funds, trusts and individuals are eligible to trade.
- **Use of offsets and linking**: CCERs are allowed. Credits from rural biogas or forestry projects in the key counties under the national or provincial poverty alleviation plan (within Hubei) are eligible, and must have been generated between 1 January 2013 and 31 December 2015.

### Hubei
- **Sectors covered**: Public online bidding (±10% limit on the daily price) and agreement transfer (OTC). Compliance entities, international or domestic brokers and individuals are eligible to trade.
- **Use of offsets and linking**: CCERs can be used for 10% of the annual initial allocation for each entity. Only credits from rural biogas or forestry projects which target CO2 reductions, except hydropower, and must be of vintage 2013 or later.

### Chongqing
- **Sectors covered**: Public online bidding and OTC trades. Compliance entities, international or domestic brokers and individuals are eligible to trade.
- **Use of offsets and linking**: CCERs are allowed. Credits from projects in the province and Fujian Forestry Certified Emissions Reductions (FFCERs) are allowed. The use of CCER credits is capped at 5% of the annual compliance obligation, whereas there is a cap of 10% for use of both credit types. Hydropower credits are not eligible.

### Tianjin
- **Sectors covered**: Trading is either via online spot deals or OTC deals. Compliance entities, international or domestic brokers and individuals are eligible to trade.

### Fujian
- **Sectors covered**: Entrustment trading, exchange trades, fixed price trades, and OTC deals. Only local compliance entities and Chinese domestic investors can participate.
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<td>Other features</td>
<td>Banking is allowed.</td>
<td>Banking is allowed both within and across compliance periods, with some restrictions.</td>
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<td>Banking is allowed, but only for allowances which have traded at least once. The government withholds 8% of the total cap in a market stabilisation reserve.</td>
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- **Penalties for non-compliance**
  - Companies face fines up to CNY 50,000 for failing to submit emissions or verification reports on time. Those which fail to surrender enough allowances to cover their emissions face a fine of up to five times the average market price over the previous six months for each allowance short.
  - Fines for missing the deadline to submit an emissions report or verification report on time or for providing fraudulent information range from CNY10,000-50,000. Non-compliance can yield a fine of CNY 50,000-100,000, as well as still needing to surrender the missing allowances. Further penalties may also be imposed, such as noting on the company's credit record, public reporting, and losing access to special funds for energy efficiency measures.
  - Any participant submitting false information will be fined for the difference between reported and actual emissions at a rate three times the average price for the preceding six months. Further, the shortfall in surrendered allowances can be withdrawn from the company's account or deducted from the following year's allocation.
  - Penalties for failing to submit an emissions or verification report on time range from CNY 10,000-50,000. Companies which do not surrender enough allowances will have double the shortfall withdrawn from the following year's allocation and are fined CNY 50,000. Non-financial penalties include negative impacts on access to bank loans and subsidy programmes.
  - Penalties for failing to submit an emissions or verification report on time range from CNY 10,000-30,000. Any participant found to have manipulated the market is liable to a fine of up to CNY 150,000. Any company with a shortfall in surrendered allowances will have double the amount taken off the subsequent year's allocation and be fined one to three times the average market price per unit, up to a maximum of CNY 150,000.
  - There are no financial penalties for non-compliance. Non-financial penalties may include public reporting, disqualification from the energy saving and climate subsidies and associated awards for three years, and a record entered in the State Owned Enterprise performance assessment system.
  - Penalties for failing to complete MRV range from CNY 10,000-30,000. Any company with a shortfall in surrendered allowances could have double the amount taken off the subsequent year's allocation and be fined one to three times the average market price per unit, up to a maximum of CNY 30,000. Penalties for misconduct of trading entities and their staff range from CNY 10,000-30,000.
In 2019, a total of 86.67 million allowances traded across the eight ETS pilots. Guangdong pilot had the largest share, with total volume of 45.38 million tonnes, just over half of the total traded volume. Shenzhen saw 14.57 million change hands, accounting for 20% of the total traded volume. Hubei, Beijing and Shanghai saw 7.8 million, 7.05 million and 6.82 million trade respectively. Fujian, Tianjin and Chongqing saw less activity, reporting 3.3 million tonnes, 1.13 million and 0.48 million respectively.

By end of 2019, the cumulative trading volume of the eight pilots had reached 395 million tonnes with a total value of CNY 9.16 billion (US$1.3 billion), including all tradings exchange trading, OTC trades, and auctions, for both spot and forwards.

Traded volumes rose 11% in 2019 compared to 2018. Chongqing saw an 88% increase year-on-year, and Guandong 60%. Markets in Shanghai and Fujian both saw an increase of around 15%. However, volumes in Shenzhen, Beijing, Hubei and Tianjin dropped; Tianjin and Hubei both posted more than a 30% drop and Beijing and Shenzhen 20%.

In 2019, Beijing has the highest spot price reaching CNY 78.80/t, and Chongqing the lowest CNY 9.70/t.
USEFUL LINKS

MEE China
NCSC China
China Beijing Environment Exchange
China Guangzhou Carbon Emission Exchange
China Shanghai Environment and Energy Exchange
China Hubei Carbon Emission Exchange
China Shenzhen Emission Exchange
Tianjin Climate Exchange
Chongqing Carbon Emissions Trading Center
China Fujian Environment and Energy Exchange
SinoCarbon
ICAP
World Bank's Carbon Pricing Dashboard

REFERENCES
ICAP Status Report 2020
SinoCarbon China Carbon Market 2019

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