

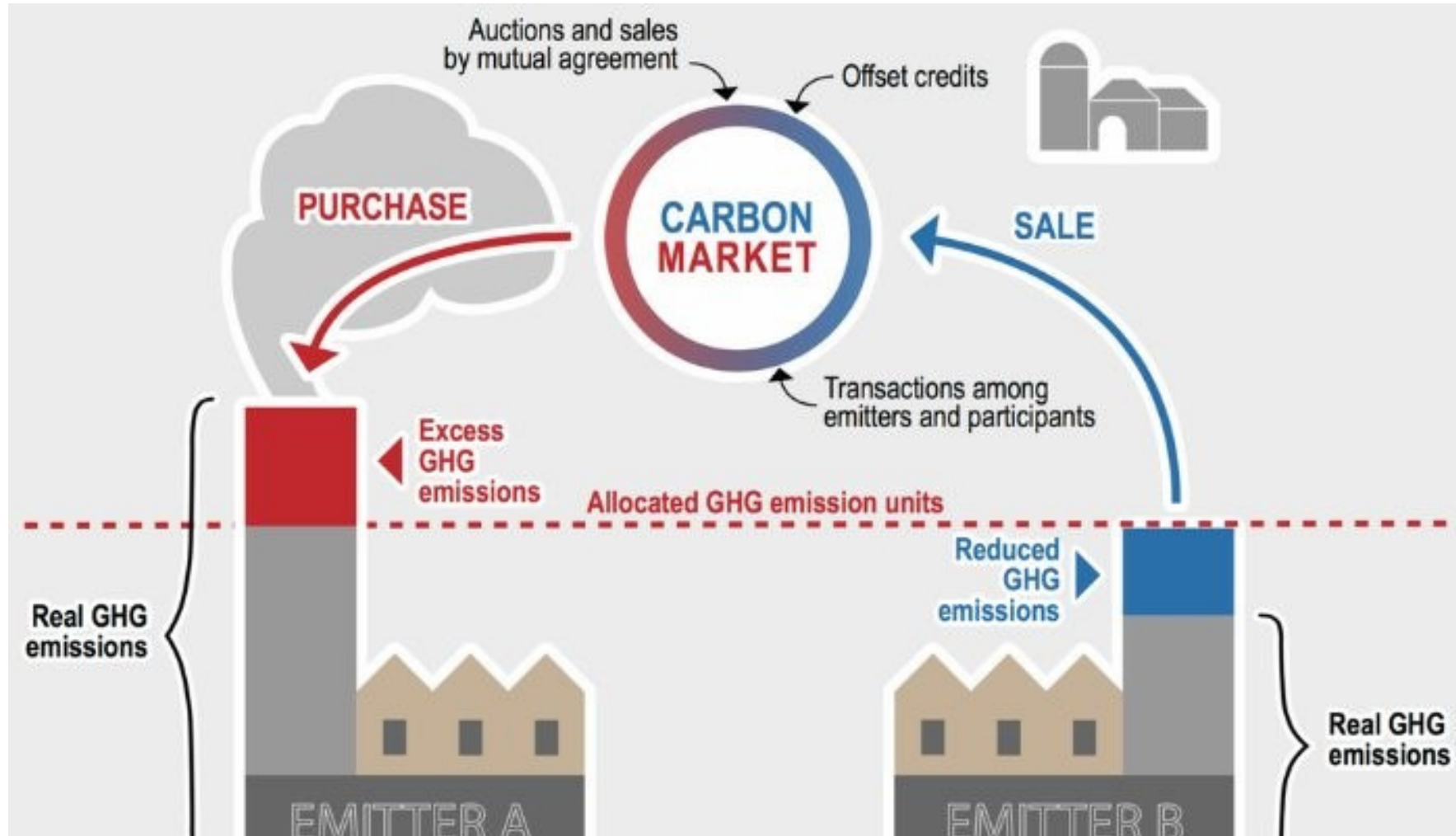


Municipal carbon markets

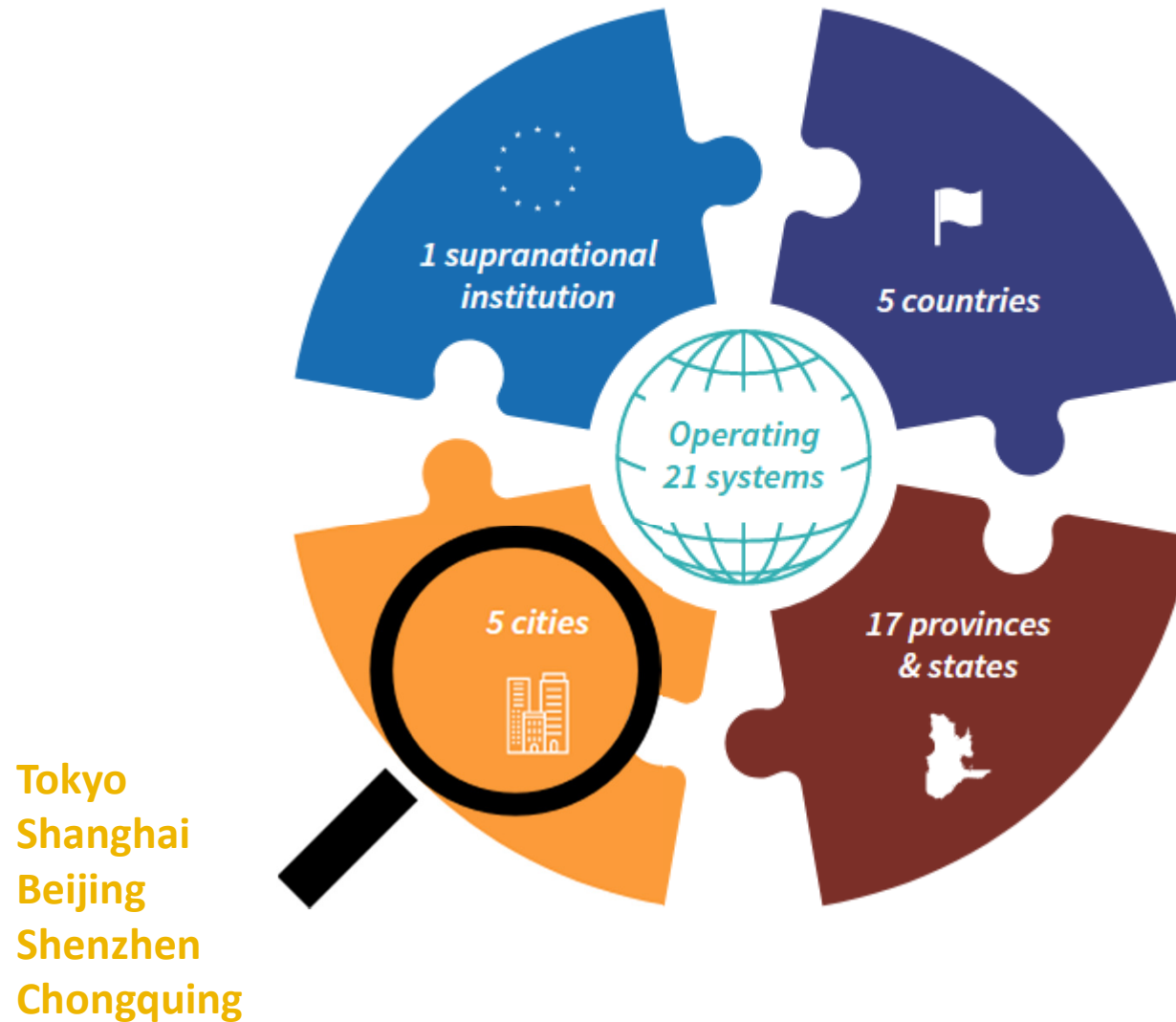
Constanze Haug

ICAP Secretariat

How an emissions trading system works



Global ETS count, 2018





Urban cap-and-trade

- Megacities in Asia are using emissions trading to reduce emissions & stimulate innovation
- By **auctioning allowances** in an ETS, governments can raise revenue for additional climate projects
- Urban mitigation projects can generate **offset credits** for cap and trade programs or for voluntary offsetting



City-level voluntary carbon market approaches





Thank you for your attention!

www.icapcarbonaction.com

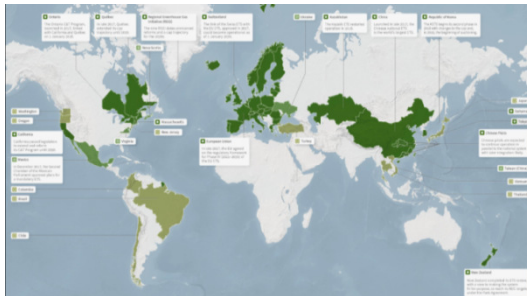
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ICAP ETS knowledge resources (selection)

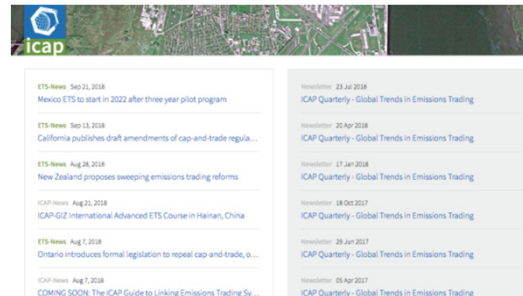
ICAP Interactive Map

→ ETS state of play worldwide (3-monthly updates)



News

→ Objective coverage on all regulatory ETS developments as they occur



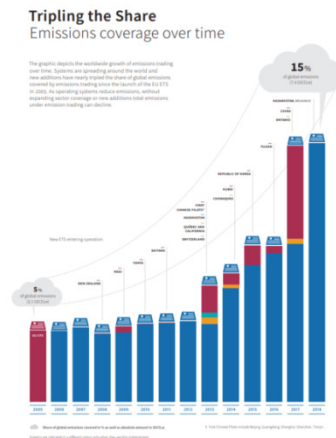
ETS briefs

→ Introduction of the basics of cap-and-trade



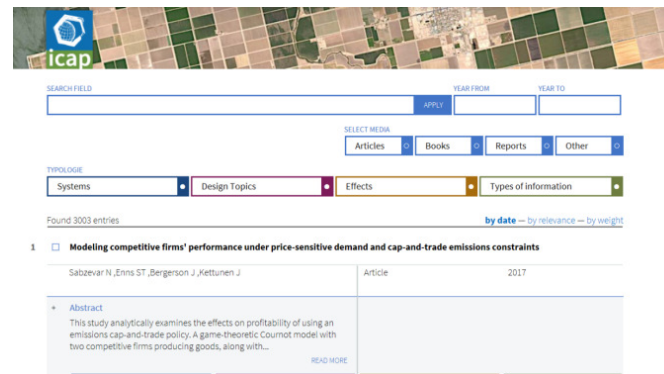
Infographics

→ Visualization of key ETS trends



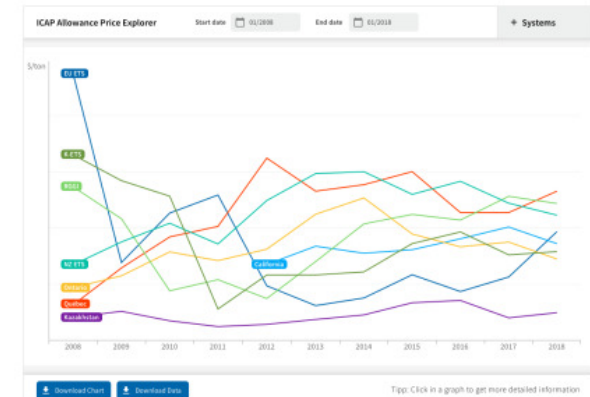
In 2019: ETS Library

→ Reference database for key ETS literature



Allowance Price Explorer →

Historical and current carbon prices worldwide



Urban cap-and-trade – example Shenzhen

- The Shenzhen ETS covers the power, water, gas, manufacturing, buildings, port and subway, public buses and other non-transport sectors. The Interim Measure for the Administration of Carbon Emission Trading of Shenzhen indicated that at least 3% of allowances ought to be auctioned. This provision on auction hasn't been implemented in practice yet. So far, only one auction has taken place (in June 2014). Shenzhen is still exploring this option.
- The building sector is included in the ETS as an incentive scheme. Buildings with high energy efficiency will be remunerated but non-compliance will not be punished. Shenzhen is the only region that will include the transportation sector in its ETS, Taxi and bus companies will be covered from 2014 onward. To be specific, bus and taxi companies will get a cap and they can either replace their existing vehicles by electric vehicles to meet their carbon emission targets or buy allowances from the market.
- Shenzhen is one of the most active regional markets in China, despite its relatively smaller size comparing to other pilots. As of 25 July 2017, its accumulated transaction amount reached RMB 1.091 billion, with total volume of 35.7 million tones, which makes it the first pilot in China to reach RMB 1 billion.
- Alongside the Shenzhen ETS development, the Shenzhen Emissions Exchange has actively explored the market service model and innovated carbon financial products. It has successively launched carbon finance products such as quota pledge, repurchase, custody, and carbon asset income-linking products, to promote more financial flows into the green finance market.

Urban cap-and-trade – example Shanghai

- **Shanghai:** covers more than half of the city's emissions including: Power, industrial and non-industrial sectors like building, aviation and shipping. Shanghai is one of the most active markets among the pilot systems with regards to the cumulative trade volume and transaction amount as well as offset credits trading.
- A smaller share of the annual cap could be auctioned. The purpose of the auction is not to allocate allowance but to provide compliance entities with additional supply to meet their compliance demand. Shanghai held its allowance auction of 2 million tons from the government reserve on 31 July 2017, with floor price at 2 times of the weighted on-exchange allowance price from 18 November 2016 to 30 July 2018 – CNY 41.54. The auction cleared at the floor price and a total of 305,237 tons (15% of total auction volume). Last year, it had the same auction volume of 2000, 000 while the sold allowances were only 2.1% of it (the settlement price was also at the floor price then - CNY 38.77 .
- Shanghai also pioneers the spot forward trading in China. On 12 January 2017, Shanghai Environmental and Energy Exchange and Shanghai Clearing House (SHCH) jointly launched Over-the-Counter Shanghai Emission Allowance Forward (SHEAF) with Central Counterparty (CCP) clearing, as an innovative financial product that serves a similar purpose to carbon financial derivatives. In addition, aiming to become the national carbon trading and carbon finance center, Shanghai has carried out various carbon finance innovations besides spot forwards, including repurchase, green bonds, carbon funds, carbon trusts, CCER mortgage, borrowing carbon.
- Shanghai government and Shanghai Environment and Energy Exchange jointly set up a network involving banks, other financial institutions, research institutes and companies to explore carbon finance.

Thailand: Low Carbon Cities Program (1)

- A GHG crediting mechanism for local municipalities and communities that features a floor price for carbon credits generated from the program. The aim is to develop “eco cities”
- Carbon Footprint for Organization (CFO) and City Carbon Footprint (CCF) are the assessment of overall greenhouse gas emissions to determine an organization/city’s carbon footprint, which will lead to policies and strategies to successfully reduce greenhouse gas emissions as an organization, a city and a country as a whole.
- Targeting 24 municipalities with grants for technical assistance (mitigation potential, project design).
- Mitigation potential through energy efficiency in household lighting, street lighting, solar for buildings and organic waste composting (methane waste avoidance)

For more information, see e.g.

https://www.thepmr.org/system/files/documents/Session%202_Puttipar_Rotkittikhun_Thailand.pdf

Thailand: Low Carbon Cities Program (2)

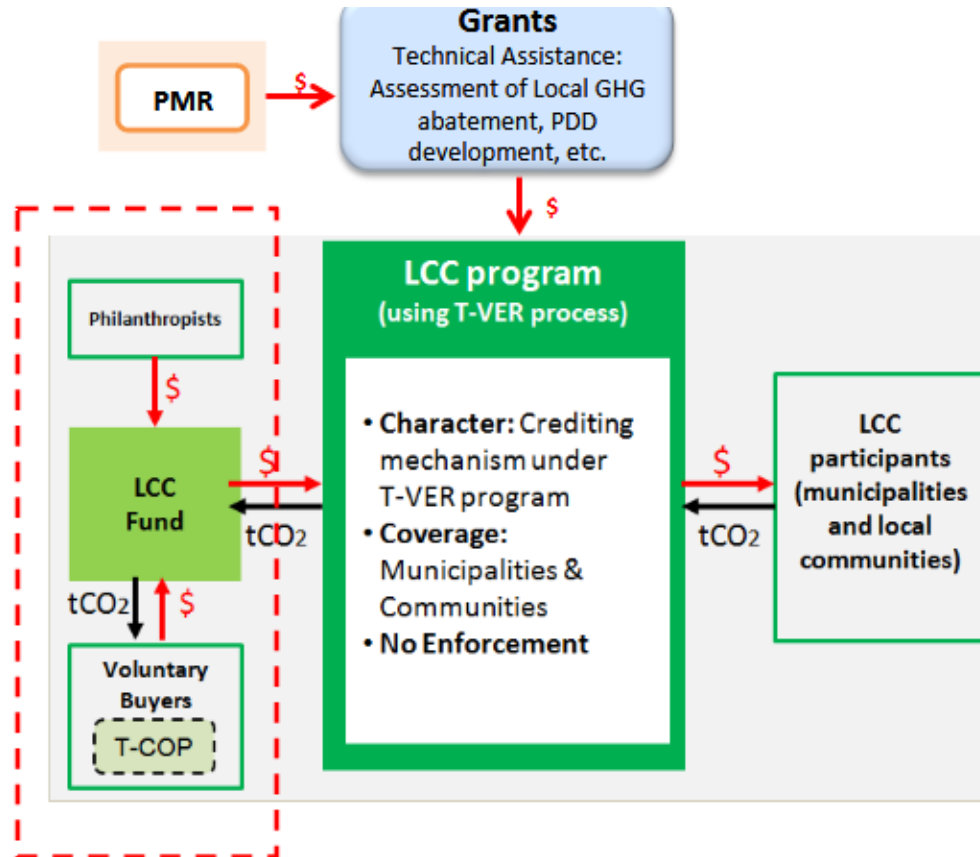


Image source and for more information, see https://www.thepmr.org/system/files/documents/Session%20_Puttipar_Rotkittikhun_Thailand.pdf

Bologna Carbon Market

- Born out of a Climate-KIC project in 2015
- The city of Bologna promotes and implements emissions reductions projects and sells the resulting offset credits
- Projects primarily address sustainable mobility initiatives, e.g. the improvement of bike infrastructure in the city
- Bologna-based companies buy these certificates and use them for compensation and carbon neutrality goals
- More information:
<http://www.fondazioneinnovazioneurbana.it/45-uncategorised/1259-bologna-carbon-market-bocam>