

China's national emissions trading program

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Policy measures for addressing CO₂ emissions

- National energy conservation program
 - Targets + subsidy
- Measures for renewable energy
 - Targets + Feed-in tariff + Electricity surcharge/tax
- Electric vehicles program
 - Targets + Subsidy
- Energy performance standards for
 - Power generation sector
 - Manufacturing sector
 - Building sector
 - Transportation sector
- Energy taxes
 - Fossil resources tax
 - Transport fuel tax
- Public R&D supports
 - Central government
 - Local governments



Major policy gaps and/or deficiencies

- There is a lack of *a primary carbon pricing policy* program for addressing climate change;
- Market-based energy policy: Too much reliance on subsidy
 - Public finance sustainability
 - Cost-effectiveness
 - Fairness/equity
- Command-and-control policy: deficiencies in implementing energy performance standards
 - *Inadequate MRV*
 - *Insufficient punishment for non-compliance*



The recent development of energy and climate policy measures is featured by “trading”.

- Renewable energy policy
 - Transit from feed-in tariff to feed-in premium;
 - Introduction of renewable portfolio standards (RPS) (2018)
- Electric vehicles program
 - The subsidy from the Central Government is to be phased out in 2020
 - An approach similar to that adopted by California is under discussion
- National energy conservation program
 - Subsidy was terminated by Ministry of Finance in 2013;
 - Energy permit trading program has been considered
- National emissions trading program was launched in December 2017 and is under construction



Some unique circumstances for China's national ETS construction

■ Emissions

- *Over 70%* of China's energy-related emissions come from energy sectors and manufacture sectors;
- *Over 70%* of China's electricity is used in manufacture sectors;
- Approximately *50%* of China's coal is used in the power generation sector.

■ Energy market conditions

- The price of electricity, heat, natural gas, gasoline and diesel is heavily regulated;
- The increased mitigation costs in these energy sectors are difficult to be passed on the users and consumers.



China's national ETS: an overview

- Coverage
 - 8 sectors covering the power sector and the main manufacturers
 - electricity/heat, iron & steel, non-ferrous metal, construction material, petrochemical engineering, chemical engineering, and civil aviation.
 - Emission: *direct emissions* from the burning of the fossil fuels and *indirect emissions* associated with the uses of electricity and heat
- Threshold
 - Threshold: 26000 tons CO2 emissions per year
 - Number of enterprises regulated: approximately 7500
- Total emissions (direct): *4.5 billion tons* or a half of China's total energy-related emissions
- Allowance allocation methods
 - Primary allocation method: *Output-based free allocation*
 - *Auction* is to be encouraged.



China's national ETS is essentially a multi-region and multi-sector tradeable performance standard (TPS)

$$CAP = \sum_{i=1}^M \sum_{j=1}^N S_j \times Q_{ij}$$

Where

S_j — The national emission performance standard for sector j ;

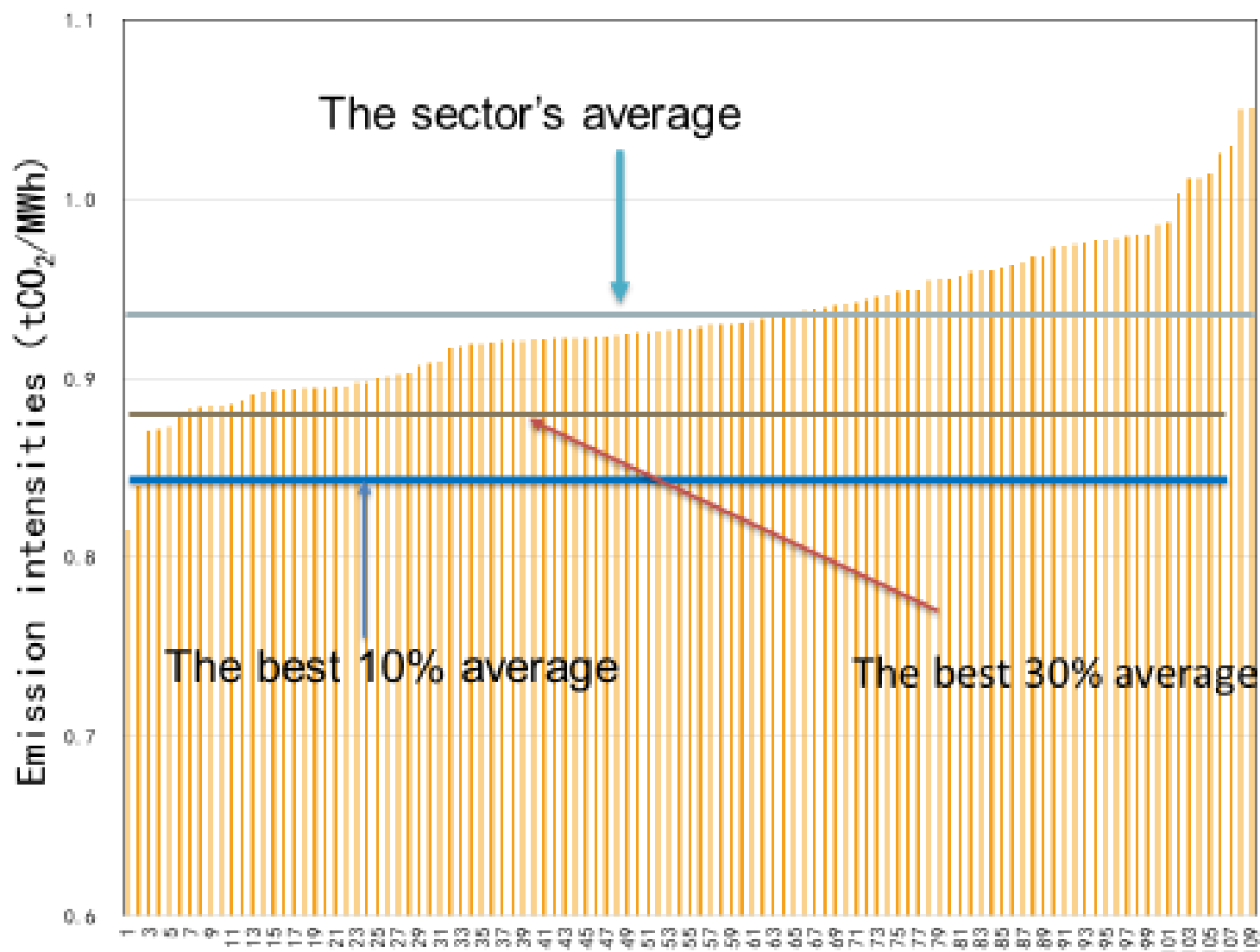
Q_{ij} — The actual physical output of sector j in province i ;

M — The number of the provinces and/or cities covered by ETS; and

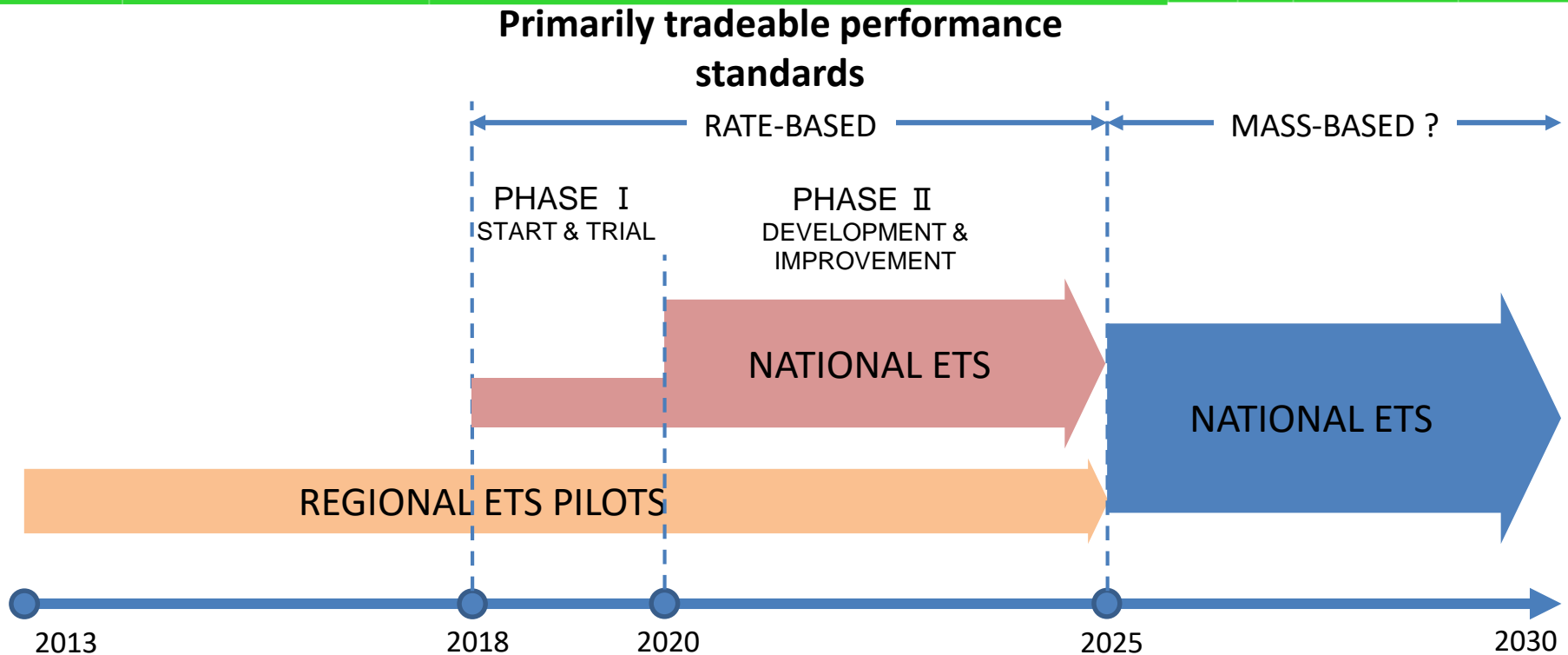
N — The number of the sectors covered by ETS.



Example: the approach for setting a sectoral benchmark or performance standard



A time stretch of China's national ETS construction



It will start with the *power generation* and ultimately extend to 8 sectors, covering one half of China's energy-related carbon emissions by 2025.



Some issues to be addressed

- ETS legislation
- Construction of ETS platforms
 - Trading platform
 - Registration
- ETS design
 - Sectoral benchmark development
 - Innovative auction options
 - Market stability mechanisms
 - Offset mechanisms
 - Integration of regional pilot ETS with the national ETS
- New capacity building
 - Training of provincial and local climate change governmental officials



Thank you for your attention.

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