International Carbon Action Partnership

LATEST DEVELOPMENTS AND PROSPECTS OF CHINA'S ETS

WEBINAR

7 August 2025

ABOUT ICAP

An international **forum** of **43 national & subnational** governments to **exchange** knowledge and experiences on emissions trading systems (**ETS**)

- Share **best practices** & learn from each others' experiences
- Facilitate **development and improvement** of carbon markets
- Explore the **role** of emissions trading in decarbonization

AGENDA

1. Welcome and introduction

- Stefano De Clara, Head of the ICAP Secretariat

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2. Present the key updates of the Emissions Trading Worldwide: ICAP Status Report 2025'

- Zhibin Chen, ICAP

3. China's Carbon Emission Trading System: Past, Present, and Future'

- Hongming LIU, EDF

4. Panel Discussion

- Johannes ENZMANN, DG CLIMA, European Commission
- Wenya HAN, Policy Research Center for Environment and Economy, Ministry of Ecology and Environment
- Li ZHOU, Tsinghua University.
- Hongming LIU, EDF

5. Q&A

6. Summary and Outlook

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KEY UPDATES OF THE EMISSIONS TRADING WORLDWIDE: ICAP STATUS REPORT 2025’

ICAP ETS STATUS REPORT 2025

- ICAP's **annual flagship publication**
- Focuses on **compliance emissions trading systems**
- **Foreword** by ICAP co-chairs
- **Executive Summary** outlining trends and outlook for emissions trading globally
- 9 ETS **infographics**
- **58 factsheets** on all ETS in force, under development or being considered worldwide

KEY TRENDS AND OUTLOOK

Momentum for ETS continues, particularly in emerging economies

- New ETSs are being developed and launched worldwide. Key G20 economies such as India, Brazil and Türkiye are leading the charge on the next generation of trading systems

Innovative system designs and use of offset credits are at the core of the next generation of ETSs

- Hybrid and **intensity-based systems** are shaping the next generation of ETS designs. **The use of offset credits**, predominantly domestic, is increasingly central in the design of new ETSs

Established systems evolve and eye net-zero alignment

- **Scope expansion** and system reviews are the priority in many jurisdictions, with increasing attention to the integration of removals and the alignment process with net-zero targets

Challenges loom on the horizon

- Geopolitical and economic uncertainties pose risks to ETS stability and acceptability. Measures to support both covered entities and consumers, including through the use of revenues, will be key going forward

SECTOR EXPANSION IN THE CHINA NATIONAL ETS

On 20 March 2025, the Ministry of Ecology and Environment (MEE) of China released a work plan to expand the sectoral coverage of the national ETS.

- The plan extends the ETS to include the cement, steel, and aluminum sectors.
- The first compliance deadline for 3 new sectors is scheduled for the end of 2025, covering the emissions of 2024 retrospectively.
- The expansion would bring an additional 1,500 companies into the ETS, increasing the total CO_2e covered by around 3 billion tonnes, equivalent to about 5% of global emissions.

EMISSIONS TRADING IN NUMBERS

38 Emissions Trading Systems are in force

Covering

10 $GtCO_2e$

or over

19% of global GHG emissions

USD **70** Billion raised in 2024

Totaling almost

USD **373** Billion since 2007

11 ETSs are currently under development

And **9** more are under consideration

Almost **1/3** of the global population lives under an ETS in force

Jurisdictions making up

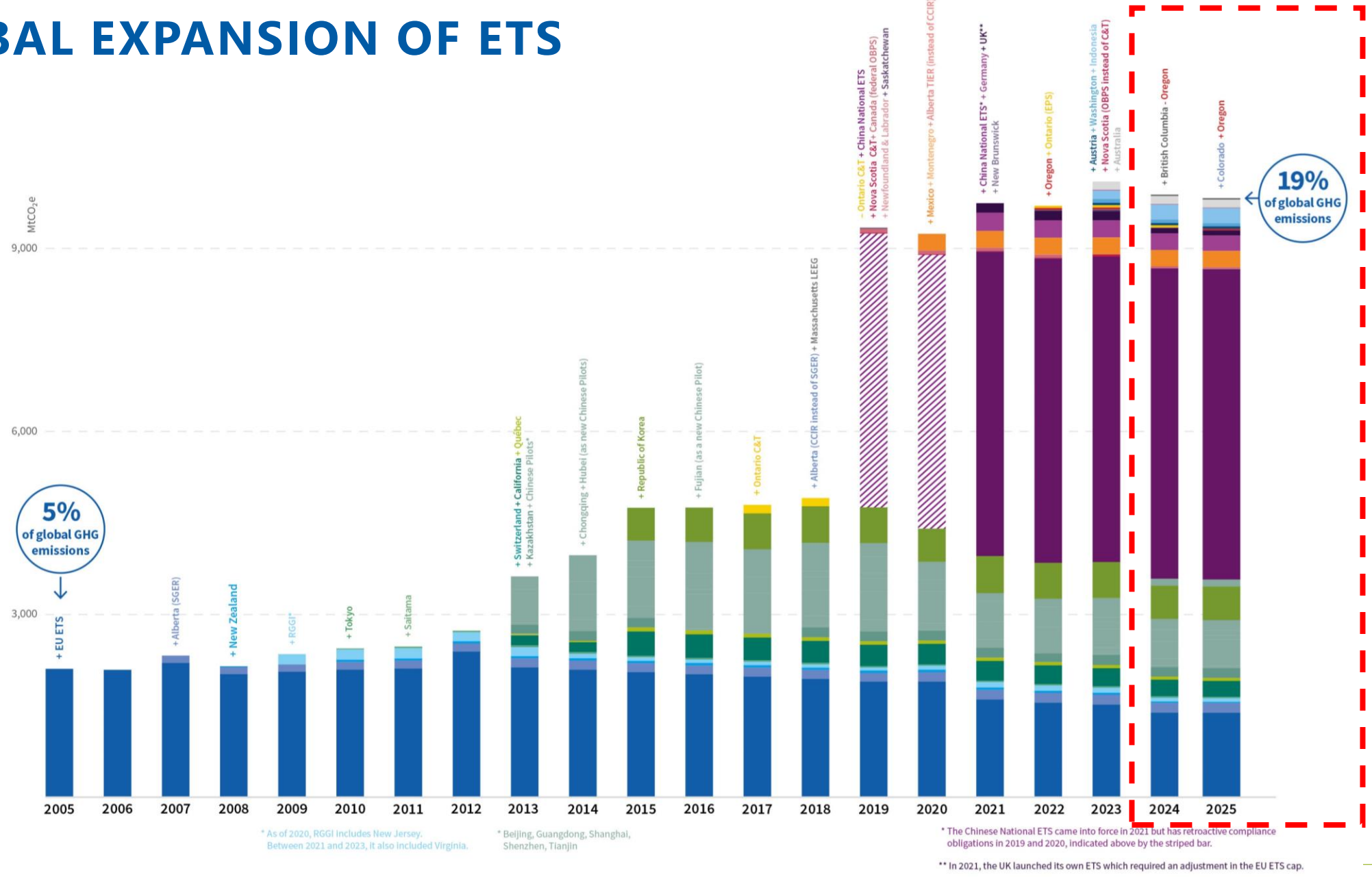
58%

of global GDP are using emissions trading

EMISSIONS TRADING IN NUMBERS

After sector expansion in China National ETS and withdraw in China's regional ETSs, Emission covered by ETS increased 2 Gt CO_2e, or 4 % of global GHG emissions.

GLOBAL EXPANSION OF ETS



* As of 2020, RGGI includes New Jersey. Between 2021 and 2023, it also included Virginia.

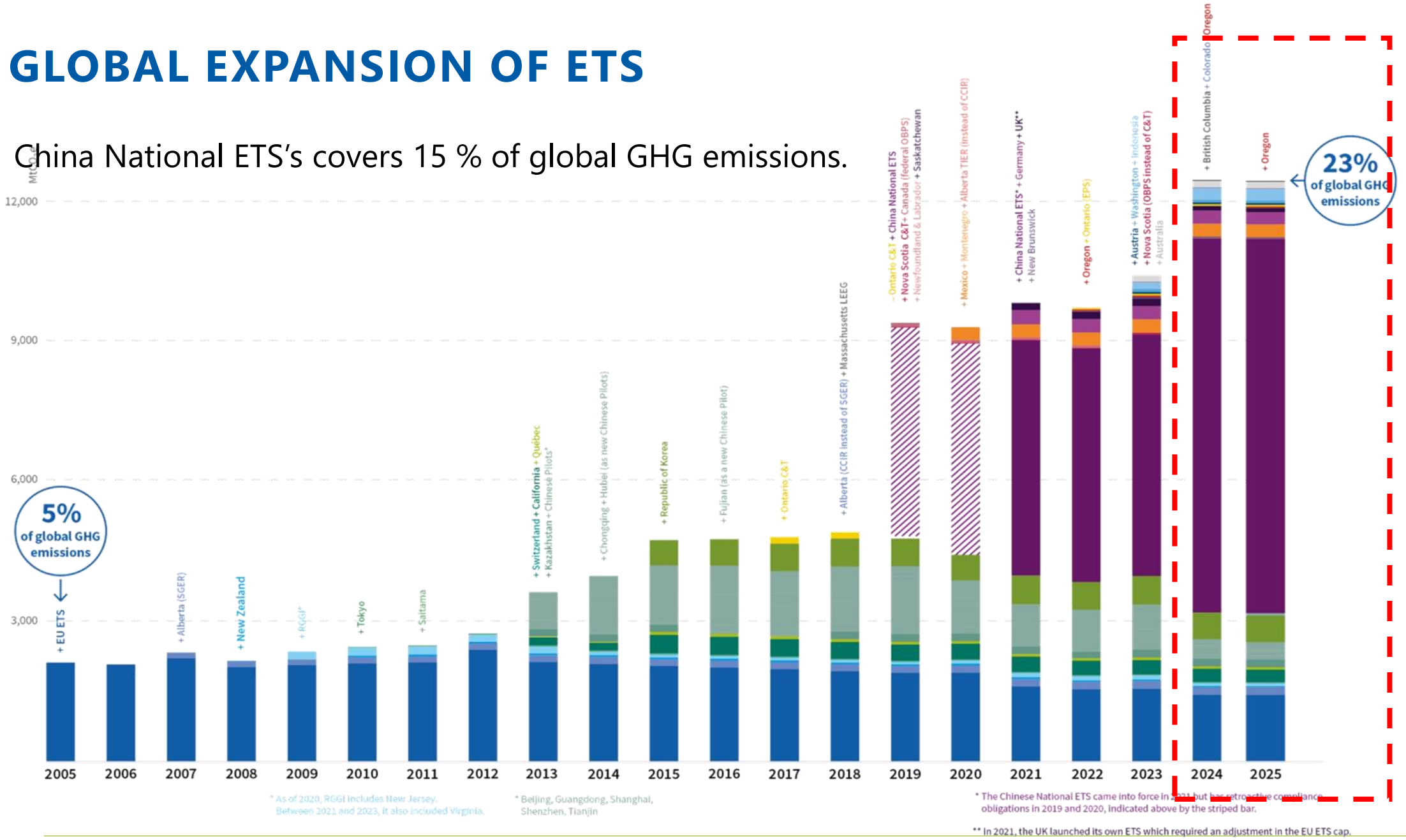
* Beijing, Guangdong, Shanghai, Shenzhen, Tianjin

* The Chinese National ETS came into force in 2021 but has retroactive compliance obligations in 2019 and 2020, indicated above by the striped bar.

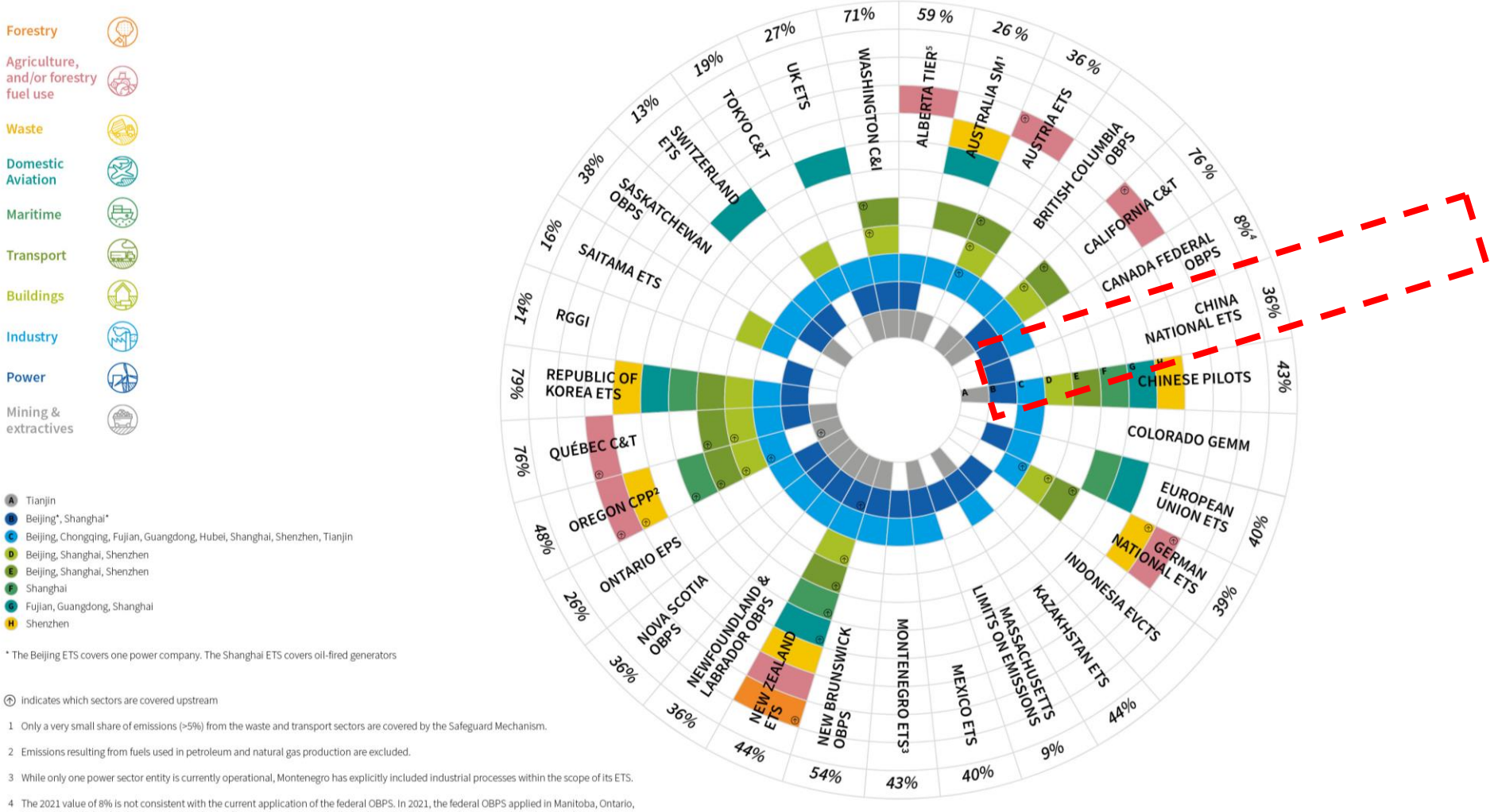
** In 2021, the UK launched its own ETS which required an adjustment in the EU ETS cap.

GLOBAL EXPANSION OF ETS

China National ETS's covers 15 % of global GHG emissions.



SECTOR COVERAGE



A Tianjin
B Beijing*, Shanghai*
C Beijing, Chongqing, Fujian, Guangdong, Hubei, Shanghai, Shenzhen, Tianjin
D Beijing, Shanghai, Shenzhen
E Beijing, Shanghai, Shenzhen
F Shanghai
G Fujian, Guangdong, Shanghai
H Shenzhen

* The Beijing ETS covers one power company. The Shanghai ETS covers oil-fired generators

↑ indicates which sectors are covered upstream

1 Only a very small share of emissions (>5%) from the waste and transport sectors are covered by the Safeguard Mechanism.

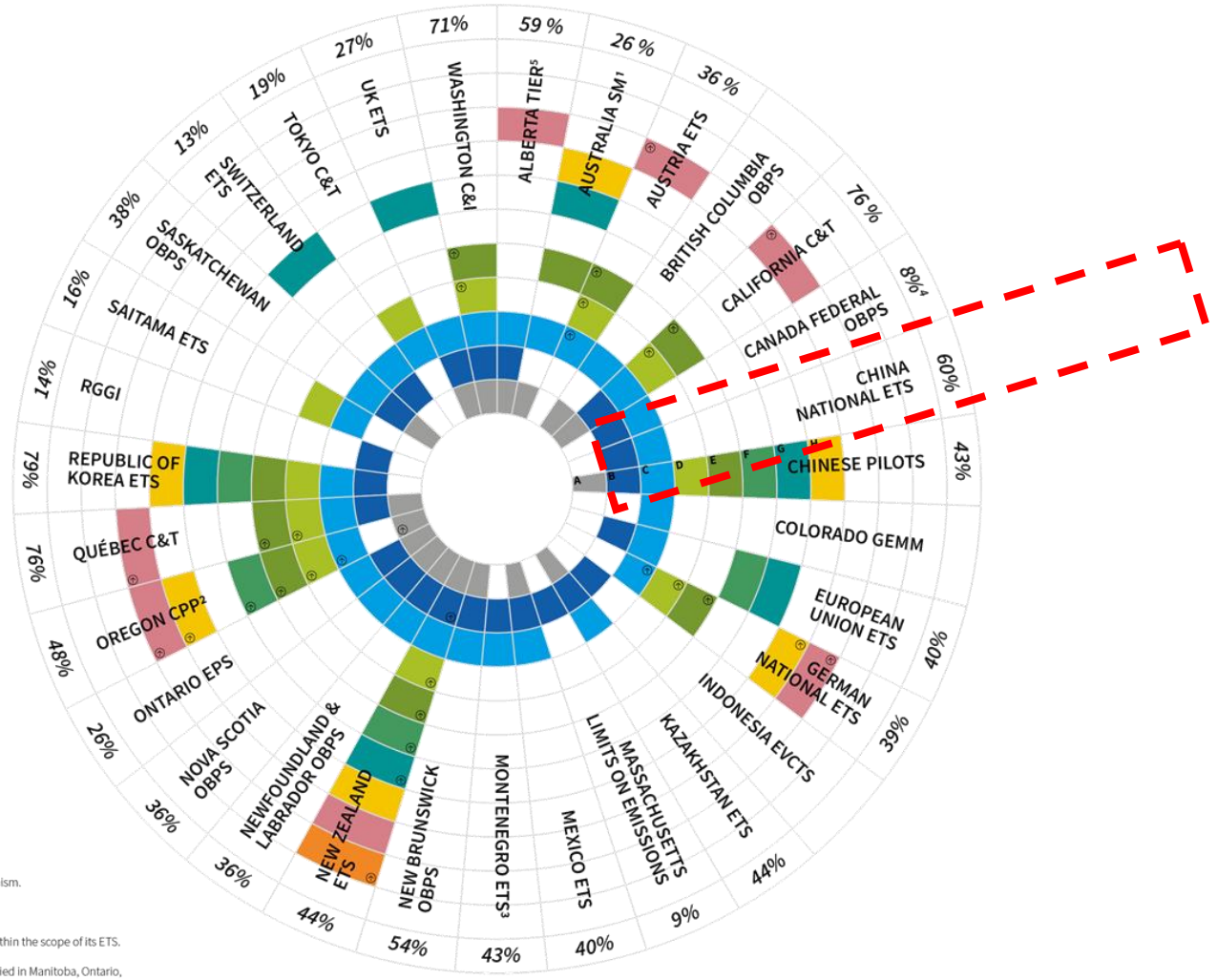
2 Emissions resulting from fuels used in petroleum and natural gas production are excluded.

3 While only one power sector entity is currently operational, Montenegro has explicitly included industrial processes within the scope of its ETS.

4 The 2021 value of 8% is not consistent with the current application of the federal OBPS. In 2021, the federal OBPS applied in Manitoba, Ontario, Prince Edward Island, Yukon, Nunavut and partially in Saskatchewan. The federal OBPS no longer applies in Ontario and Saskatchewan.

5 The Alberta TIER system covers forestry fuel use.

SECTOR COVERAGE



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CHINA FACTSHEET

CHINA

CHINA NATIONAL EMISSIONS TRADING SYSTEM

- Began in 2021 as the world's largest ETS, now covering around 8 billion tCO_2
- Operates as an intensity-based ETS
- Covers the power sector and started expansion to selected industrial sectors in 2024

ETS DESCRIPTION

China's national ETS began operating in 2021, with the objective of contributing to the effective control and gradual reduction of CO_2 emissions. China's national ETS is the world's largest in terms of covered emissions, estimated to cover around 8 billion tCO_2 – or more than 60% of the country's CO_2 emissions.

The China national ETS regulates more than 3,500 companies from the power, steel, cement, and aluminum smelter sectors with annual emissions in excess of 26,000 tCO_2e. Covered entities must surrender allowances for all their covered emissions. The allowances in the China national ETS are 100% freely allocated using an output-based approach. Compliance obligations are currently limited and vary between different types of facilities. The system's coverage will expand to other sectors over time.

In January 2024, China launched its national GHG voluntary emission reduction trading market, the Chinese Certified Emissions Reduction scheme (CCER). This came after six years of suspension, during which time it was undergoing reform. This reform could contribute to the implementation of an offsetting scheme in the domestic ETS (see 'Offset Credits' section).

The national ETS builds on the successful experience of regional carbon markets implemented in seven regions. These pilots continue to operate in parallel with the national ETS, covering sectors and entities not included in the national system.

YEAR IN REVIEW

In January 2024, the State Council of China promulgated the "Interim Regulations for the Management of Carbon Emissions Trading" (Interim Regulations) that establishes a robust legal foundation for the national ETS, which took effect as of May 2024. It further enhances enforcement measures and non-compliance penalties for different stakeholders.

In October, the Ministry of Ecology and Environment (MEE) released the allocation plan and compliance work plan for the power sector for 2023 and 2024. The allocation plan updates benchmarks and excludes indirect emissions. It also sets a limit on banking and cancels borrowing. According to this plan, the compliance is shifting from a two-years cycle to a one-year cycle.

After the launch of the CCER program in January 2024, the Certification and Accreditation Administration (CNCA) announced the list of accredited verifiers in June 2024. In August, the MEE started accepting new project applications and verifications. As of April 2025, there are five accredited validation and verification agencies for the CCER program. More than 70 emission reduction projects have applied for CCER project status, and nine of these projects have successfully had their emission reductions issued, totaling 9.48 million tonnes CO_2e.

In force
Under development
Under consideration

SECTORS

POWER[1]

INDUSTRY

CAP

~8,000 $MtCO_2$ (2024)

GREENHOUSE GASES

CO_2

CF_4 and C_2F_6 (only for aluminum smelter sector)

OFFSET CREDITS

Domestic (national) with quantitative limits

ALLOCATION

Free Allocation: Output-based Benchmarking

AVERAGE 2024 PRICES

Average secondary market price: CNY 95.96 (USD 13.33)

CHINA FACTSHEET

In March 2025, the MEE published a work plan for extending the sectoral coverage of the national ETS after a public consultation in September 2024. The plan expands the ETS to include the steel, cement, and aluminum smelter sectors, implemented over two phases. Phase 1 (2024 to 2026) aims to familiarize companies in these sectors with the national ETS and enhance emissions data quality. Phase 2 (starting in 2027) aims to decrease the emission intensity and further improve the functioning of the system. This scope expansion brings an additional 1,500 companies into the Chinese national ETS, increasing the system's emissions coverage by 3 billion tCO_2e.

EMISSIONS & TARGETS OF CHINA

OVERALL GHG EMISSIONS (including indirect CO_2, excluding LULUCF), **2021**
(in $MtCO_2e$, share of total in %)

Energy	11,007	77%
Industrial processes	2,140	15%
Agriculture	931	7%
Waste	236	2%
Total	**14,314**	

CO_2 emissions from fuel combustion ($MtCO_2$)

Energy industries	5,354	37%
Manufacturing industries and construction	3,269	23%
Transport	1002	7%
Commercial, institutional, and residential	532	4%
Other energy	850	6%

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; reduction of 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)

ETS COVERAGE & PHASES

COVERED EMISSIONS

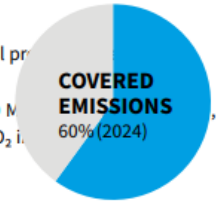
PHASES

There are currently no specific phases for the Chinese national ETS.

CAP OR TOTAL EMISSIONS LIMIT

The cap is the sum of the bottom-up total allowance allocation to all individual covered entities. The cap is adjusted according to the actual pr

The national ETS is estimated to have had an annual cap of ~4,500 M , ~5,100 $MtCO_2$ in 2021 and 2022, ~5,200 $MtCO_2$ in 2023 and ~8,000 $MtCO_2$ i.



SECTORS AND THRESHOLDS

Power (including combined heat and power, as well as captive power plants of other sectors), steel, cement, and aluminum smelter.

Compliance obligations are currently limited (see 'Allocation' section).

The scope is expected to be gradually expanded to cover other sectors: petrochemicals, chemicals, flat glass, copper smelter, paper, and aviation. Entities in these sectors have MRV obligation since 2015.

INCLUSION THRESHOLDS:
For 2019 to 2020: Entities with annual emissions of 26,000 tCO_2 or greater in any year from 2013 to 2019.
For 2021 to 2022: Entities with annual emissions of 26,000 tCO_2 or more in any year from 2020 to 2021.
From 2023: Entities with annual emissions of 26,000 tCO_2 or more in the previous year.

POINT OF REGULATION

Point source

CHINA FACTSHEET

TYPE OF ENTITIES
Companies[2]

NUMBER OF ENTITIES
~3,500 entities (2024)

ALLOWANCE ALLOCATION & REVENUE

ALLOWANCE ALLOCATION

Allowances are distributed for free, using benchmarking.

FREE ALLOCATION (Power sector): 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.

A pre-allocation method is adopted for the annual allowance allocation. Allocation is then adjusted ex-post to reflect the actual production in the respective compliance year.

Entities received allowances at 70% of their verified emissions in the previous year. Allocation was subsequently adjusted to reflect actual generation in 2023 and 2024. A unit load (output) adjustment factor distributed more allowances for coal-fired entities operating at load rates below 65%. This may have provided more allowances for less efficient power units.

According to the 2023 to 2024 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 allowance below 80% of their verified emissions will have their allocation adjusted upwards to 80% of their verified emissions. This means that 20% remains the maximum shortfall, similar to the previous compliance periods.

FREE ALLOCATION (Steel, cement, and aluminum smelter sector):
For the compliance year of 2024, covered entities will receive free allowance equal to their verified emissions.

The MEE will design and publish the annual allocation method for the compliance year 2025 and subsequent years, which will be output-based and intensity-controlled.

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

USE OF REVENUES
There is currently no arrangement for the use of revenues generated by the scheme.

FLEXIBILITY & LINKING

BANKING AND BORROWING

Borrowing was temporarily allowed in 2021 to 2022.
Banking was allowed with no limit in the first three compliance periods. In the following compliance period, covered entities are allowed to bank up to 10,000 tonnes plus 1.5 times their net sales over 2024 and 2025.

OFFSET CREDITS

The use of offset credits is allowed.

QUANTITATIVE LIMITS: Covered entities can use CCERs generated from projects not covered by the national ETS for up to 5% of their verified emissions.

QUALITATIVE LIMITS: There were no additional project or vintage restrictions.

In 2012, the National Development and Reform Commission (NDRC) issued the "Interim Measures for the Management of Voluntary GHG Emissions Reduction Transactions", which provided 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. MEE launched the CCER system in 2024 with new methodologies, registry, verifiers and exchange.

Only credits from projects registered in the new CCER program are eligible for offset use in China's national ETS after January 2025.

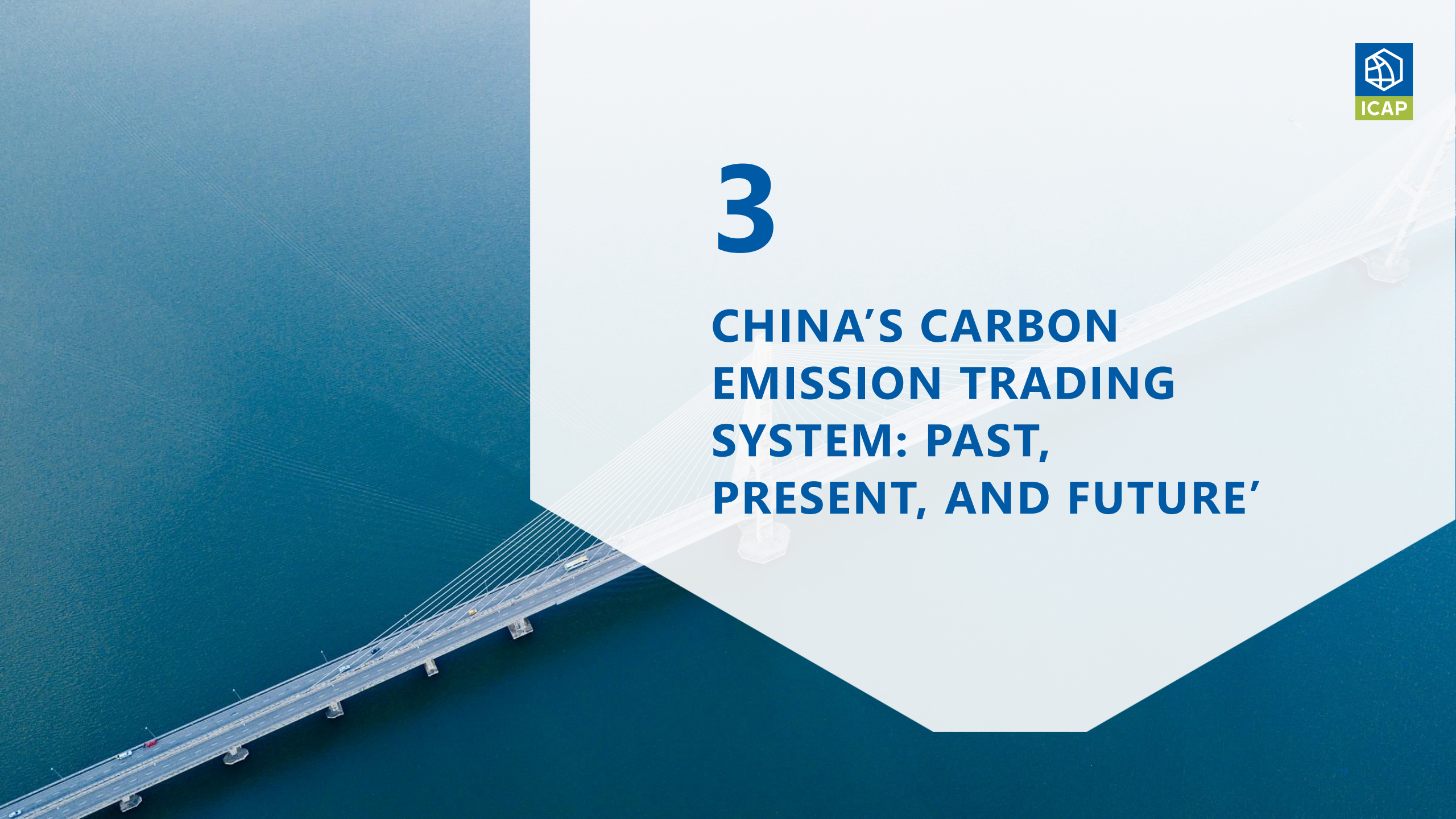
The National Center for Climate Change Strategy and International Cooperation (NCSC) operates the CCER registry. The Beijing Green Exchange is dedicated to CCER trading platforms.

LINKS WITH OTHER SYSTEMS

The China national ETS is not linked with any other system.

OTHER CARBON PRICING INSTRUMENTS IN THE JURISDICTION

ETS: Regional ETSs in Beijing, Chongqing, Fujian, Hubei, Guangdong, Shanghai, Shenzhen and Tianjin
Domestic crediting mechanism (national): China Certified Emissions Reduction (CCER)
Domestic crediting mechanisms: Local offset crediting mechanism in Beijing, Chongqing, Fujian, Hubei, Guangdong, Shanghai, Shenzhen, Tianjin, etc.



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CHINA'S CARBON EMISSION TRADING SYSTEM: PAST, PRESENT, AND FUTURE'

4

PANEL DISCUSSION

PANEL DISCUSSION

Johannes ENZMANN, DG CLIMA, European Commission

Wenya HAN, Policy Research Center for Environment and Economy, Ministry of Ecology and Environment

Li ZHOU, Tsinghua University.

Hongming LIU, EDF

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Q&A

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SUMMARY & OUTLOOK

THANK YOU!