Japan - Tokyo Cap-and-Trade Program

General Information

**Summary**

- **Status:** ETS in force
- **Jurisdictions:** Tokyo Metropolis

Launched in April 2010, the Tokyo ETS—the cap-and-trade program of the Tokyo Metropolitan Government (TMG)—is Japan’s first mandatory ETS and is linked to the Saitama ETS. Under the ETS, large buildings, factories, heat suppliers, and other facilities that consume large quantities of fossil fuels are required to reduce emissions below a facility-specific benchmark.

Entities covered under the program are assigned a higher or lower target depending on factors such as expected energy efficiency gains and the extent to which they consume energy supplied by other facilities.

**Year in Review**

In FY2017—the most recent year for which data has been released by the TMG—emissions were reduced by 27% overall among covered entities compared to base-year emissions. The introduction of high-efficiency heat sources, light fittings, and other equipment has been key to reducing emissions in the buildings sector. Buildings have continued to decrease emissions despite an increase in gross floor space, indicating a decrease in emissions intensity in the sector.

In March 2019, the TMG announced the targets for the third compliance period (FY2020-FY2024), which will require facilities to reduce emissions by 25% or 27% depending on their category. The third period also aims to expand the use and production of low-carbon and renewable energy through additional incentives for covered entities to reduce their compliance obligations by switching to cleaner electricity.

On 26 March 2020, the TMG released emission data for FY2018 indicating that on aggregate covered entities had decreased emissions by 27% below the baseline year, overachieving the 15-17% target set for the second compliance period (FY2015 – FY2019). Twenty-one and 79 percent of the covered facilities are reported not to have met and overachieved their targets, respectively.

Due to COVID-19, the Tokyo CaT Program postponed the deadline for the submission of annual reports by two months. MRV rules were also reformed via the establishment of an online verification process.

<table>
<thead>
<tr>
<th>Overall GHG emissions (excluding LULUCF)</th>
<th>Emissions: 64.8 MtCO2e (2017)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall GHG emissions by sector</td>
<td></td>
</tr>
<tr>
<td>Sector Name</td>
<td>MtCO2e</td>
</tr>
<tr>
<td>Commercial</td>
<td>25.5</td>
</tr>
<tr>
<td>Residential</td>
<td>17.1</td>
</tr>
<tr>
<td>Transport</td>
<td>9.8</td>
</tr>
<tr>
<td>Industry</td>
<td>4.3</td>
</tr>
<tr>
<td>Waste</td>
<td>1.8</td>
</tr>
<tr>
<td>Overall GHG reduction target</td>
<td>BY 2020: 25% reduction from 2000 GHG levels</td>
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</tbody>
</table>
BY 2030: 30% reduction from 2000 GHG levels
BY 2050: Net zero CO2 emissions (‘TMG Zero Emissions Strategy’)

**Carbon Price**

*Current Allowance Price (per t/CO2e): ~JPY 600 (USD 5.50) (estimated standard transaction price in 2019)*

**ETS Size**

<table>
<thead>
<tr>
<th>Emissions covered by the ETS</th>
<th>0.20</th>
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<tbody>
<tr>
<td>GHG covered</td>
<td>CO2</td>
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</table>

**Sectors covered and thresholds**

Consumption of fuels, heat, and electricity in commercial and industrial buildings.

Building owners are subject to surrender obligations, but large tenants (floor space above 5000m2 or over six million kWh electricity usage per year) can assume obligations jointly or in place of building owners.

**INCLUSION THRESHOLDS:** Facilities that consume energy equivalent to at least 1,500kL of crude oil per year.

**Point of regulation**

Downstream

**Number of liable entities**

1,123 facilities (2019):
- Office/commercial buildings: 954
- Factories: 169

No information available yet.

**Cap**

A Tokyo-wide cap is aggregated from emissions baselines set at the facility level.

**Compliance factor:**

**FIRST PERIOD (FY2010-FY2014):** 8% or 6% reduction below base-year emissions

**SECOND PERIOD (FY2015-FY2019):** 17% or 15% reduction below base-year emissions

**THIRD PERIOD (FY2020-FY2024):** 27% or 25% reduction below base-year emissions

The higher compliance factor applies to office buildings, as well as to district heating and cooling (DHC) plants (excluding facilities that use a large amount of DHC). The lower compliance factor applies to factories and office buildings that use DHC for more than 20% of their entire energy consumption.

Facilities demonstrating outstanding performance in emissions reductions, as well as in the introduction, use, and management of energy equipment, are certified as top-level facilities that receive lower compliance factors according to their rate of progress. The certification standards represent the highest-level energy efficiency measures currently feasible, stipulating more than 200 different energy-saving measures.

**Phases & Allocation**

**Trading period**

**FIRST PERIOD:** 1 April 2011 to 30 September 2016

**SECOND PERIOD:** 1 April 2015 to 30 September 2021

**THIRD PERIOD:** 1 April 2020 to 30 September 2026

Each of the above trading periods includes an 18-month adjustment period.

**Allocation**

The baselines for facilities are set according to the following formula: base-year emissions x (1 - compliance factor) x compliance period (5 years).
Base-year emissions are based on the average emissions of three consecutive years between FY2002 and 2007, as chosen by each entity. Credits are issued to facilities whose emissions fall below their baselines.

Baselines for new entrants are based on past emissions or on emissions intensity standards.

**Flexibility**

<table>
<thead>
<tr>
<th>Banking and borrowing</th>
<th>Banking is only allowed between consecutive compliance periods. Borrowing is not allowed.</th>
</tr>
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<tbody>
<tr>
<td>Offsets and credits</td>
<td>Credits from four offset types are allowed in the Tokyo ETS.</td>
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</table>

**SMALL AND MID-SIZE FACILITY CREDITS:** Emissions reductions from non-covered small and medium-sized facilities in Tokyo.

**Quantitative Limits:** None.

**OUTSIDE TOKYO CREDITS:** Emissions reductions achieved from large facilities outside of the Tokyo area. Large facilities are those with an energy consumption equivalent to at least 1,500 kL of crude oil in a base year and with base-year emissions of 150,000 tonnes or less.

**Quantitative limits:** Credits are issued only for the reduction amount that exceeds the compliance factor. These credits can be used for compliance for up to one-third of facilities' reduction obligations.

**RENEWABLE ENERGY CREDITS:** Credits from solar (heat, electricity), wind, geothermal, or hydro (under 1,000 kW) electricity production are converted to 1.5 times the value of standard credits until the end of the second compliance period and will be converted on a 1 to 1 basis from the third compliance period. Credits from biomass (biomass rate of 95% or more, black liquor excluded) are converted with the factor 1. These credits encompass the following types: Environmental Value Equivalent, Renewable Energy Certificates, and New Energy Electricity, generated under the Renewable Portfolio Standard Law.

**Quantitative limits:** None.

**SAITAMA CREDITS (VIA LINKING):**
1. Excess Credits: Emissions reductions from facilities in Saitama with base-year emissions of 150,000 tonnes or less. Issuance of credits from FY2015.
2. Small and Mid-Size Facility Credits issued by Saitama Prefecture. Issuance of credits from FY2012.

**Quantitative limits:** None.

All offsets have to be verified by verification agencies.

**EMISSIONS REDUCTION METHODS:**
1. Low Carbon Electricity and Heat: In order to evaluate energy efficiency efforts of the covered facilities, CO2 emission factors of the supply side (electricity and others) are fixed during each compliance period. When covered facilities procure electricity or heating from TMG-certified suppliers with lower emission factors, they can reduce the difference between these emission factors from their emissions to be reported to the TMG.
2. Renewable Energy: When covered facilities generate electricity from renewable sources for their own use, they can deduct this amount of electricity from the total energy usage of the facility. During the third compliance period, covered entities can also purchase “non-fossil value” (renewable energy) certificates generated through the Japanese feed-in-tariff program.

**Market Stability Provisions**

In general, covered facilities trade over the counter and TMG does not control carbon prices. However, the TMG sells its own offset credits for trading in case of excessive price development.
Compliance

**Compliance Period**

- **Five years**
  - **FIRST PERIOD:** FY2010-2014
  - **SECOND PERIOD:** FY2015-2019
  - **THIRD PERIOD:** FY2020-2024

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

- **REPORTING FREQUENCY:** Annual emissions reporting, including emission reduction plans. All seven GHGs have to be monitored and reported: CO2, CH4, N2O, PFCs, HFCs, SF6, and NF3. Large tenants, i.e., those with a floor space above 5,000m² or over six million kWh electricity use per year, are required to submit their own emissions reduction plans to the TMG in collaboration with building owners.

- **VERIFICATION:** These annual reports require third-party verification.

- **FRAMEWORK:** These are based on ‘TMG Monitoring/Reporting Guidelines’ and ‘TMG Verification Guidelines.’

**Enforcement**

In the case of noncompliance, the following measures may be taken:

- **FIRST STAGE:** The governor orders the facility to reduce emissions by the amount of the reduction shortfall multiplied by 1.3.

- **SECOND STAGE:** Any facility that fails to carry out the order will be publicly named and subject to penalties (up to JPY 500,000 [USD 4,587]) and surcharges (1.3 times the shortfall).

Linking

**Links with other Systems**

Linking with the Saitama Prefecture started in April 2011 when the Saitama ETS was launched. Tokyo and Saitama credits are officially eligible for trade between the two jurisdictions. During the first compliance period, 15 credit transfers took place between the Saitama Prefecture and Tokyo (nine cases from Tokyo to Saitama, six cases from Saitama to Tokyo).

Other Information

**Institutions involved**

- Tokyo Metropolitan Government

**Evaluation / ETS review**

- TMG established a committee of experts to analyze the structure of the Tokyo Cap-and-Trade Program post-2020 and finalized the third compliance period's caps in March 2019. From FY2020, the program will enter a new stage to achieve the 2030 target and transition to a net zero-carbon society, promoting continued energy savings and expanding the utilization of low-carbon (renewable) energy.

**Revenue**

- No information available yet.

**Implementing Legislation**

- The Tokyo Metropolitan Security Ordinance and Regulation for the Enforcement of the Tokyo Metropolitan Environmental Security Ordinance
- Detailed documents on the Tokyo ETS can be found on the TMG website
- TMG Zero Emissions Strategy
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