

Japan - Tokyo Cap-and-Trade Program

General Information

ETS Description

The Tokyo Metropolitan Government's (TMG) Cap-and-Trade Program was launched in April 2010 and is Japan's first mandatory ETS. It covers around 20% of the metropolitan area's emissions.

The Tokyo ETS covers CO₂ emissions from large buildings, factories, heat suppliers, and other facilities that consume large quantities of fossil fuels. Covered facilities must surrender compliance units for emissions that exceed their baseline, which is based on absolute historical emissions and a compliance factor. Compliance factors are determined based on the type of facility and factors such as expected energy efficiency gains and the extent to which they consume energy supplied by other facilities.

Tokyo's ETS is linked to the Saitama Prefecture ETS, with credits mutually exchangeable between the two jurisdictions.

ETS Status

in force

Jurisdictions

Tokyo

Year in Review

The TMG's Cap-and-Trade Program's fourth compliance period started in April 2025. The program covers ~1,200 facilities that annually used the energy equivalent to or more than 1,500 kL of crude oil for three consecutive fiscal years. All allowances are freely allocated.

During the fourth compliance period (FY2025 to FY2029), the compliance factor rose to 50% for office buildings and 48% for factories. To boost the use of renewable energy, off-site renewable energy, including self-consignment and PPA, count as zero emissions, and certificates derived from renewable energy can be deducted from energy-related CO₂ emissions. In addition, actual emission factors, instead of fixed emission factors, are used to calculate emissions from electricity, heat, and city gas supplied by retailers, based on contracts at the facilities. A new system for excess emission reductions limits credits to those achieved through energy efficiency or renewable energy; credits are no longer awarded for certification improvements or emission factor adjustments.

In March 2025, the TMG published the results for the fourth fiscal year of the third compliance period (FY2023), showing that emissions from covered facilities totaled 11.32 MtCO₂. This is a 31% reduction below base-year emissions.

Sectoral coverage

Buildings
Industry

Emissions & Targets

Overall GHG Emissions excl. LULUCF (MtCO₂e)

56.2 MtCO₂e* (2023)

* The overall emissions figure for Tokyo is higher than the total of the emissions by sector because the former includes all GHGs, whereas the emissions by sector only measures CO₂ emissions.

GHG reduction targets

By 2035: At least 60% reduction from 2000 GHG levels (Zero Emission Tokyo Strategy Beyond Carbon Half)

By 2050: Net zero CO₂ emissions (Tokyo Environmental Master Plan)

Current Allowance Price (per t/CO₂e)

Average price: ~JPY 585 (USD 3.91)*

*August 2025 estimate. Prices are determined from OTC trading and the TMG estimates recent prices based on interviews. For this reason, no accurate average price can be determined.

Size & Phases

Covered emissions (2022)

19.00%

Verified ETS Emissions

11.30MtCO₂e

GHGs covered

CO₂

Phases

PHASE 1: 1 April 2010 to 30 September 2016

PHASE 2: 1 April 2015 to 31 January 2022

PHASE 3: 1 April 2020 to 30 September 2026

PHASE 4: 1 April 2025 to 30 September 2031

The Tokyo ETS has phases as well as compliance periods (see 'Compliance' section). A phase is defined as the compliance period plus an additional 18-month adjustment period, during which time facilities may continue to trade credits in order to reach their targets for the corresponding compliance period.

Cap or total emissions limit

PHASE 3: 12.2MtCO₂ (FY2024)

PHASE 4: 5.9 MtCO₂ (FY2030)

The total emissions limit under the Tokyo Cap-and-Trade program is the sum of the bottom-up installation-level emissions limits for all individual covered facilities.

The total emissions limit for the fourth compliance period under the Tokyo ETS is a 50% reduction on average over the five years compared to the base-year emissions which are the average emissions of any three consecutive years between FY2002 and FY2007 (see 'Allowance Allocation' section).

Sectors and thresholds

Types of fuel covered: Consumption of fuels, heat, and electricity in commercial and industrial buildings. Building owners are subject to surrender obligations, and all tenants are required to cooperate in owners' reduction measures. Large tenants (those with a floor space above 5,000 m² or electricity usage per year over six million kWh) are also required to prepare and submit their own emissions reduction report.

INCLUSION THRESHOLDS: Facilities that consume energy equivalent to at least 1,500 kL of crude oil per year for more than three consecutive fiscal years

Point of regulation

Downstream (industry, buildings)

Type of entities

Facilities

Number of entities

~1,200 facilities:

- Office/commercial buildings: ~1000
- Factories: ~200

Allowance Allocation & Revenue

Allowance allocation

All allowances in the Tokyo Cap-and-Trade Program are allocated for free.

Under the Tokyo ETS, each facility has its own cap, which serves as the “baseline” defining the reduction target it must achieve. Baselines for facilities are set according to the following formula: *Base-year emissions* \times (1 - *compliance factor*) \times *compliance period* (five years). The compliance factor for each period is determined based on regulations established by the Governor of Tokyo. Prior to the start of each new compliance period, TMG holds expert meetings to gather opinions to aid in determining the compliance factors.

For facilities that have been designated as compliance facilities since the launch of the ETS, base-year emissions are based on average emissions of any three consecutive years between FY2002 and FY2007.

Base-year emissions for new entrants are calculated using either historical emissions (average annual emissions for three consecutive fiscal years of the four fiscal years immediately preceding the compliance period) or an emission intensity standard provided by the government (based on emissions from FY2005 to FY2007).

At the beginning of each new compliance period, all allowances are allocated for free to covered facilities for the full five years. Facilities with emissions below their baseline can receive excess emission reduction credits for the reductions below their baseline. Those facilities that exceed their baseline must purchase and surrender credits from other compliance facilities or offset credits to meet their compliance obligation. Credits may be issued for using renewable energy (see ‘Offset Credits’ section).

COMPLIANCE FACTOR:

First compliance period: 8% or 6% reduction below base-year emissions

Second compliance period: 17% or 15% reduction below base-year emissions

Third compliance period: 27% or 25% reduction below base-year emissions

Fourth compliance period: 50% or 48% reduction below base-year emissions

The lower compliance factor applies to factories and office buildings that use district heating and cooling for more than 20% of their energy consumption.

In the third and fourth compliance period, in medical facilities where electricity is vital to preserve life and health, the compliance factor is two percentage points lower than whichever category would otherwise apply.

The compliance factor is reduced by three percentage points for facilities with an electrification rate of less than 20% in the fourth compliance period alone.

Facilities demonstrating outstanding performance in emission reductions, as well as in the introduction, use, and management of energy efficient equipment, are certified as top-level facilities with the limit on the issuance of excess emission reductions removed.

The reduction of the compliance factor for certified top-level facilities was eliminated in principle except in certain cases in order to recognize facilities that are proactive in reducing emissions.

QUALIFYING FOR ADDITIONAL EMISSION REDUCTION CREDITS THROUGH THE USE OF RENEWABLE ELECTRICITY: In order to

evaluate the energy efficiency efforts of the covered facilities, supply side (electricity and others) CO₂ emission factors were fixed during each compliance period. Until the third compliance period, if covered facilities procured electricity from TMG-certified suppliers with low emission factors (0.37 tCO₂/1,000 kWh or less), they could deduct the difference between these emission factors (actual emission factor of purchased electricity at the covered facility and the fixed emission factor provided by TMG) from their reported emissions to reflect this lower emission factor of purchased electricity. If covered facilities generated electricity from renewable sources for their own use, they could deduct this amount of electricity from the total energy usage of the facility to be reported.

In the fourth compliance period, off-site renewable energy, including self-consignment and PPA, count as zero emissions, and certificates derived from renewable energy can be deducted from energy-related CO₂ emissions. In addition, actual emission factors, instead of fixed emission factors, are used to calculate emissions from electricity, heat, and city gas supplied by retailers, based on contracts with the facilities to evaluate the use of renewable energy at the covered facilities.

Flexibility & Linking

Offset credits

The use of offset credits is allowed.

28,200 tCO₂e of offset credits were issued in FY2024 and 10,957 tCO₂e were surrendered for compliance in FY2024.

QUALITATIVE LIMITS: Four types of offset credits are permitted, based on certification criteria. They complement emission reduction credits issued to facilities covered by the Tokyo ETS whose emissions fall below their baseline:

- Small and mid-size facility credits: Emission reductions from non-covered small and medium-sized facilities in Tokyo.
- Outside Tokyo credits: Emission reductions achieved from large facilities outside of the Tokyo area. Large facilities are those with an energy consumption of at least 1,500 kL of crude oil equivalent in a base year and with base-year emissions of 150,000 tCO₂ or less.
- Renewable energy credits: Renewable energy credits generated under the Tokyo ETS encompass the following types: Environmental Value Equivalent, Renewable Energy Certificates, and New Energy Electricity, generated under the Renewable Portfolio Standard Law. Credits from solar (heat, electricity), wind, geothermal, and hydro (under 1,000 kW) electricity production for use under the Tokyo ETS are converted on a one-to-one basis, as are credits from biomass (biomass rate of 95% or more, black liquor excluded).
- Saitama credits (via link): Emission reductions from facilities in Saitama with base-year emissions of 150,000 tCO₂ or less.

QUANTITATIVE LIMITS: Quantitative limits apply only for Outside Tokyo credits: these 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.

All offset credits must be verified by a verification agency.

Banking and borrowing

Banking is allowed only between consecutive compliance periods.

Borrowing is not allowed.

Links with other Systems

Tokyo linked its program with the Saitama Prefecture ETS in April 2011. Tokyo and Saitama credits are officially eligible for trade between the two jurisdictions. About 60 credit transfers have taken place so far between Saitama and Tokyo.

Other carbon pricing instruments in the jurisdiction

- **Carbon tax:** Japan national carbon tax
- **ETS:** Japan national ETS (started in April 2026)

Compliance

Compliance mechanism

Covered facilities must surrender one compliance unit per tCO₂ that exceeds the facility's emissions limit (baseline).

Compliance Period

Five years.

Facilities must submit a “GHG Emissions Reduction Plan” and an implementation status report by the end of November every year.

Compliance units to meet each facility’s targets must be surrendered 18 months after the end of the compliance period (see ‘Phases’ section above).

Monitoring, Reporting, Verification (MRV)

FRAMEWORK: MRV is based on the “TMG Monitoring/Reporting Guidelines” and the “TMG Verification Guidelines”.

MONITORING: Annual emissions reporting, including emission reduction plans. Seven GHGs must be monitored and reported: CO₂, CH₄, N₂O, PFCs, HFCs, SF₆, and NF₃. Large compliance tenants, i.e., those with a floor space above 5,000 m² or over 6 million kWh of electricity use per year, are required to submit their own emissions reduction plans (“Compliance Tenant GHG Emissions Reduction Report”) to TMG in collaboration with building owners.

As of April 2025, actual emission factors, instead of fixed emission factors, are used to calculate emissions from electricity, heat, and city gas supplied by retailers, based on contracts at the facilities. This aims to incentivize the use of renewable energy.

REPORTING: GHG Emissions Reduction Plans including an implementation status report (and Compliance Tenant GHG Emissions Reduction Report if needed) must be submitted by the end of November of the year following the compliance year.

VERIFICATION: Annual emissions reports require third-party verification.

Penalties and enforcement

In the case of non-compliance, 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 3,340.95]) and surcharges (1.3 times the shortfall).

Market Regulation

Market Stability Provisions

Covered facilities and other market participants (trading account holders) trade over the counter, and the TMG does not control carbon prices.

Market Design

MARKET PARTICIPATION: Compliance facilities, i.e., those above the inclusion threshold (see ‘Sectors and Thresholds’ section); non-compliance facilities (trading account holders). TMG allows only “reduction credits” and not “emission credits”, i.e., one can earn credits only after achieving emission reductions. Only compliance facilities and legal entities with an office in Japan may open trading accounts.

MARKET TYPES:

Primary: All allowances are allocated for free.

Secondary: Covered facilities and other facilities which hold trading accounts trade credits over the counter. Businesses wishing to buy or sell credits can also go through a private intermediary to find a buyer and negotiate the price.

LEGAL STATUS OF ALLOWANCES: Allowances are not financial instruments under the Tokyo ETS.

Other Information

Institutions involved

Tokyo Metropolitan Government: Oversees the Tokyo Cap-and-Trade Program, via the Bureau of Environment

Regulatory Framework

[Tokyo Metropolitan Environmental Security Ordinance and Regulation for the Enforcement of the Tokyo Metropolitan Environmental Security Ordinance](#)

[Revised Tokyo Cap-and-Trade Program for the fourth compliance period](#)

[Outline documents for large facilities](#)

[Tokyo Environmental Master Plan](#)

[Zero Emission Tokyo Strategy Beyond Carbon Half](#)

Evaluation / ETS review

For every new compliance period, the TMG establishes a committee of experts to discuss and determine compliance factors and other important issues for the next compliance period.

The TMG held seven committee meetings from September 2022 to August 2023. It also ran public consultations in June 2023 and in 2025. In July and October 2025, the TMG held two committee of experts' meetings to align its program with GX-ETS and amended the Tokyo Metropolitan Environmental Security Ordinance in December 2025.

In March 2025, the TMG published the emission reductions results for FY2023,* showing that emissions from covered facilities totaled 11.32 million tonnes, a 31% reduction from the base-year emissions, due to progress in energy efficiency measures and the use of low-carbon electricity and heat.

*See: [Tokyo Cap-and-Trade Program: Significant Emission Reductions Continue at Covered Facilities in the Fourth Fiscal Year of the Third Compliance Period, TMG, March 2025.](#)

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