Tokyo Metropolitan Government
Bureau of Environment

TMG finalizes the cap for Tokyo Cap-and-Trade Program after 2020

On March 29, the Tokyo Metropolitan Government (TMG) revised the regulations for the Enforcement of the Tokyo Metropolitan Environmental Security Ordinance. The revisions include a decision on the cap for the third compliance period (FY 2020 – FY 2024) of the Tokyo Cap-and-Trade Program.

From 2020, the program will enter a new stage to promote continued energy-saving and further use of renewable energy to achieve the 2030 target (30% reduction compared to 2000) and subsequently realize a Zero Emission Tokyo.

1. Amendments applied in the third compliance period (FY 2020 – FY 2024) of the Tokyo Cap-and-Trade Program

○ The current base-emissions and setting method continue

① For facilities which are already subject to the reduction obligations before the start of the third compliance period

- The base-emissions applied in the second compliance period remain applicable

② For facilities which are newly subject to the reduction obligations during the third compliance period

- Just as for new entrant facilities in the first and second compliance periods, the emission rate is set using historical emission results or the specific standard emission unit (based on 2005 - 2007 emissions), as set by TMG

○ The compliance factors for the third compliance period are set

The compliance factor is set for each category based on the characteristics and future energy efficiency margin of the facility

Category		Third compliance period compliance factor (compared to the base emissions)	Actions implemented in the third compliance period
Category I-1	Office buildings, etc.*1	27%	• The compliance factor is 2% lower for medical facilities for which electricity is vital to preserve life and health (measures to alleviate significant reduction from the second to the third compliance periods) • For new entrant facilities from the third compliance period onward, the compliance factors in the second compliance period (17 or 15%) are applied in principle (transitional measures are introduced) • For top-level facilities, the compliance factors are reduced to 1/2 or 3/4
Category I-2	Among office buildings, etc.*1, facilities using a large ratio of heat-related energy supplied from other facilities*2	25%	
Category II	Factories, etc.*3	25%	

*1 Office buildings, commercial facilities, hotels and heat suppliers (excluding those in Category I-2)
*2 Facilities for which 20% or more of their energy consumption is supplied from district heating and cooling plants
*3 Facilities, such as factories, water supply and sewage facilities, and waste disposal facilities other than those segmented in Category I-1 or I-2

○ Enhancement of the mechanism for selecting low-carbon electricity

① The following additional items are specified as "low-carbon electricity (renewable electricity)" (accommodation to diverse electricity options)

- Electricity using environmental values (non-fossil value certificates) is also regarded as electricity using renewable energy
- The "Electricity Menu" provided by electricity suppliers is added to the low-carbon electricity (only when the emission factor of the whole electricity provided by the electricity supplier is 0.37 [t-CO_2/1,000 kWh] or less

② The total amount is included as the reduction when low-carbon electricity with a CO_2 emission factor of 0.37 [t-CO_2/1,000 kWh] or less is procured

- The upper limit of utilizing the reduction amount calculated when low-carbon electricity procured, set in the second compliance period, is abolished

③ Reduction can be added when electricity with a higher renewable energy electricity source rate (30% or higher) is procured (additional grant)

○ Banking System

Excess emission reductions and offset credits can be carried over to the next compliance period to offset the shortage of a facility's own reduction obligation or for use in emissions trading with other facilities.

* To encourage early reduction, the banking system has been introduced since the program started. At the same time, given concern that unlimited banking authorization may affect the actual additional reduction in subsequent periods, banking can only be utilized until the next compliance period.

2. Future schedule

FY 2019	Dissemination of the caps for the third compliance period
	Revision of guidelines
April 1, 2020	Enforcement of amendments

3. References

(Reference 1) Concept of the compliance factors from FY 2020 (the third and fourth compliance periods)
(Reference 2) Mechanism for Selecting Low-Carbon Electricity in the third compliance period
(Reference 3) Methods to fulfill the reduction obligations

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[Tokyo Cap-and-Trade Program] Concept of the compliance factors from FY 2020 (the third and forth compliance periods)

Reference 1

◎ From "2020", the program will enter "a new stage" to achieve "2030 targets" and subsequently realize a "Zero Emission Tokyo"

Global trend

Reducing GHG emissions **"by half or less"** by 2050

In the latter half of this century, **"net-zero GHGs"** (Common global target toward less than the 2°C specified by the Paris Agreement)

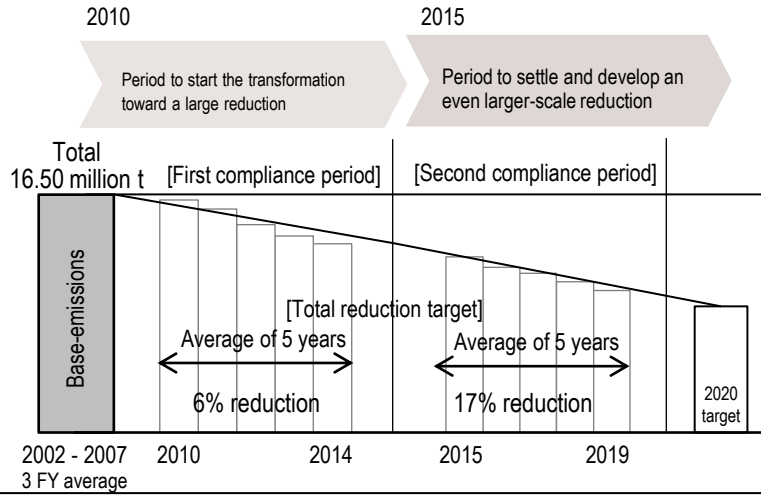
⇒ **"Realization of a non-carbon society"**

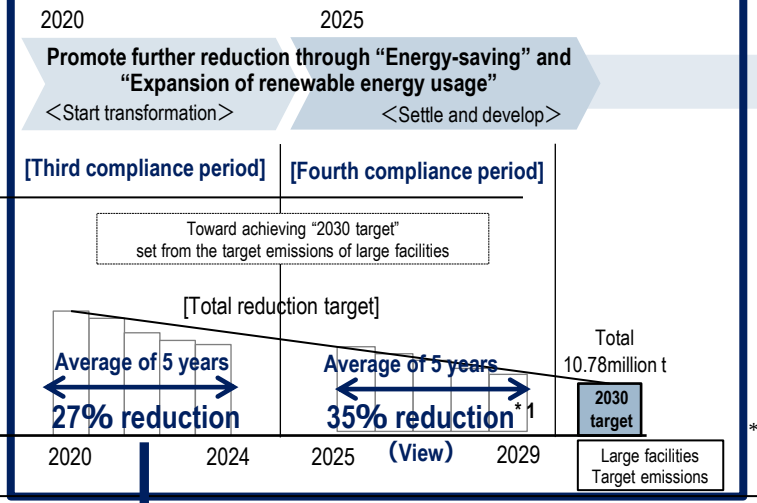
TMG Targets

<Target by 2020>
GHG emissions: Reducing by 25% compared to 2000
Energy consumption: Reducing by 30% compared to 2000

<Targets by 2030>
GHGs emissions: **30% reduction** compared to 2000
Energy consumption: 38% reduction compared to 2000

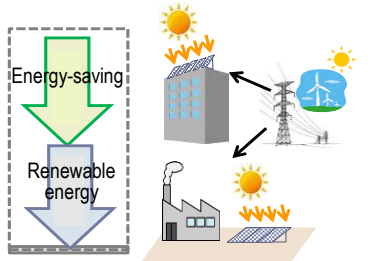
Zero Emission Tokyo





<Target figure>

Realization of zero emission facilities



Facilities with net-zero annual CO_2 emissions

* 1 The compliance factors in the 4th compliance period will be decided based on experts' considerations before the 4th compliance period commences

● Compliance factors in the third compliance period

Based on the characteristics of facilities and future energy-saving margins set per category

Category			Compared to base-emissions		
			First compliance period	Second compliance period	**Third compliance period**
I	I - 1	Office buildings, etc.*2	8%	17%	**27%**
	I - 2	Among office buildings, etc.*2, facilities using a large ratio of heat-related energy supplied from other facilities*3	6%	15%	**25%**
II		Factories, etc.*4	6%	15%	**25%**

* 2 Office buildings, commercial facilities, hotels and heat suppliers (excluding those in Category I-2)
* 3 Facilities for which 20% or more of their energy consumption is supplied from district heating and cooling plants
* 4 Facilities, such as factories, water supply and sewage facilities, and waste disposal facilities other than those segmented in Category I-1 or I-2

< Actions implemented in the third compliance period >

○ For medical facilities for which electricity is vital to preserve life and health

Energy-saving margins apply to medical facilities. As measures to alleviate significant reduction from the second to the third compliance period, the compliance factor is decreased by 2 % in the 3rd compliance period alone.

○ For new entrant facilities to which the third compliance period now applies

The compliance factors in the second compliance period (17 or 15%) are applied in principle.

* As for constructed buildings, given a certain period necessary from design to completion, transitional measures apply.

○ "Top-Level Facilities"—the certification for outstanding global warming countermeasure efforts

TMG annually certifies "Top-Level facilities" that have demonstrated excellence in efforts to counter global warming. The compliance factors of the facilities are decreased by half or three quarters.

[Tokyo Cap-and-Trade Program] Mechanism for Selecting Low-Carbon Electricity in the third compliance period

Reference 2

■ Introduction of new incentives to foster further use of low-carbon electricity (renewable electricity)

● **The following additional items are specified as "low-carbon electricity (renewable electricity)"** (accommodation to diverse electricity options)

○ "Electricity using environmental value (non-fossil certificate*1, etc.) generated through the FIT (Feed-in tariff) system promoted by the Japanese Government" is also regarded as electricity using renewable energy.

○ The "Electricity Menu" provided by electricity suppliers is also added to the objectives (only when "the emission factor of the whole electricity provided by the electricity supplier in Tokyo is 0.37 or less (the certification standard decided by TMG). "

*1 The "non-fossil certificate" is limited to "designated renewable energy where the information of the electricity source will be certified based on certificates in the future - deliberations are being made.

● **The total amount is included as the reduction when the low-carbon electricity with a CO_2 emission factor of 0.37 [t-CO_2/1,000 kWh*2] or less (certified standard decided by TMG) is procured.**

○ The upper limit of utilizing the reduction amount calculated when low-carbon electricity is procured, set in the second compliance period, is abolished.

*2 The voluntary target value by the electric industry in 2030, based on the country's long-term supply and demand projection

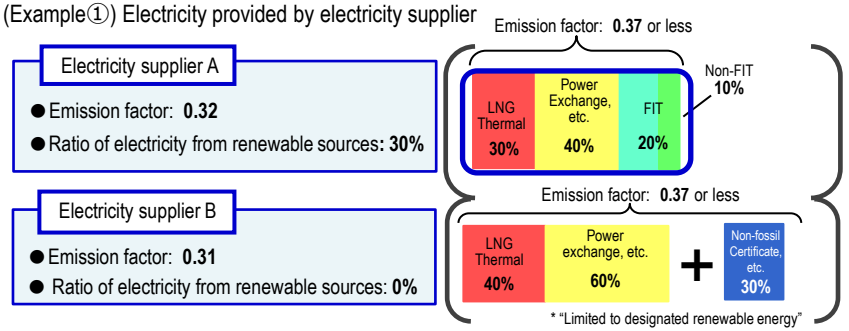
● **Reduction can be added when electricity with a higher renewable energy electricity source rate (30% or higher) is procured (additional grant) .**

【Low-carbon electricity (renewable electricity) in the Tokyo Cap-and-Trade Program】

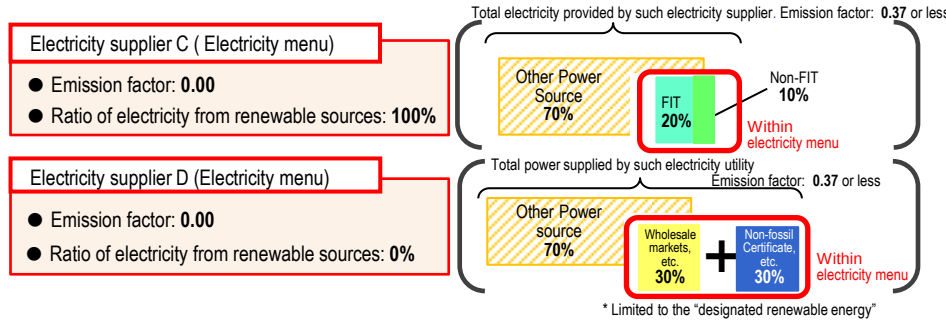
● **The CO_2 emission factor*3 of the certified standard (0.37 t-CO_2/1,000 kWh) *2 or less and electricity using renewable energy (electricity suppliers that may supply the corresponding power are certified by TMG.)**

*3 Whichever is smaller of the following two values, " the standard emissions factor" (based on the actual power source structure) or "the emission factor after adjustment" (value adjusted after the FIT system-related environmental value and usage of environmental values such as non-fossil certificates, etc. are reflected in the standard emission factor), is used to decide the factor.

(Example①) Electricity provided by electricity supplier



(Example②) "Electricity Menu" provided by electricity supplier * Electricity supplier certified by ② but not by ①.



[Calculating method of reduction by "procurement of low-carbon electricity" from electricity suppliers certified by TMG]

Reduction by the difference in emission factor

Procurement of low-carbon electricity by certified suppliers × (Fixed factor in the third compliance period (0.489) − Electricity emission factor of certified suppliers)

Abolish the upper limit of usage of reduction (× 0.5), etc. as specified in the second compliance period and calculate the entire reduction by the difference in the emission factor.

+

Reduction by the ratio of electricity from renewable sources

Procurement of low-carbon electricity by certified suppliers × Fixed factor in the third compliance period (0.489) × Ratio of electricity from renewable sources (30% or more) × 0.25

According to the ratio of electricity from renewable sources (30-100%), the amount corresponding to at most 25% of procured low-carbon power is granted additionally.

<Usage for mandatory reduction>

Annual emissions may be reduced.

("Annual emissions of the covered facilities"

− "Reduction by procurement of low-carbon electricity")

<Calculation example>

(Model case) Annual emission of covered facility: 10,000 t-CO_2. When all electricity used (about 14 million kWh) is procured from the above electricity supplier A (emission factor: 0.32, renewable energy power source ratio: 30%).

14,000× (0.489 − 0.32)
Reduction: **2,366** t-CO_2

+

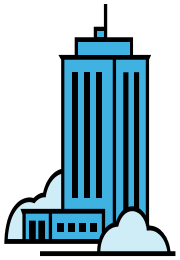
14,000×0.489×30%×0.25
Reduction: 513 t-CO_2

Annual emission of the facility (after reflecting the estimated reduction)
7,121 t-CO_2 (10,000 − (2,366 + 513))
(The ratio of the estimated reduction to the entire emissions: 30%)

[Tokyo Cap-and-Trade Program] Methods to fulfill the reduction obligations for the third compliance period

Reference 3

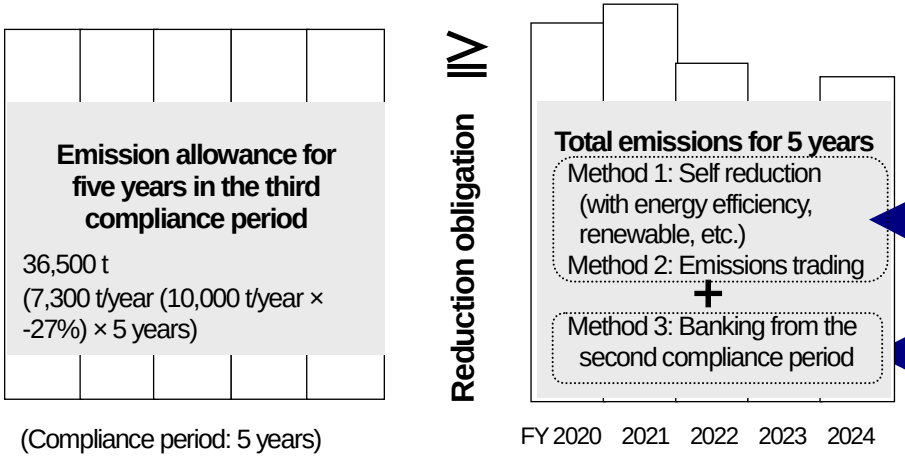
■For facilities with a compliance factor of 27% in the third compliance period



(Example)

- Base-year emissions: 10,000 tonnes/year
  (The value is set to the annual average emissions for any three consecutive fiscal years from the period of FY 2002 - 2007)
- Compliance factor in the third compliance period: 27%

[Implementation status of reduction obligation]



(Compliance period: 5 years)

1. Self reduction

[Energy efficiency measures]

○ Promoting measures to upgrade to and operate highly-efficient energy consumption facilities and equipment
(Reduce fuel, heat and electricity consumption)
Reduction of other gases can be used

[Utilization of renewable energy]

○ Mechanism for selecting low-carbon electricity/heat
In order to encourage facilities to choose low-carbon power/heat suppliers, differences in the emission factors of the contracted power/heat suppliers are reflected in the calculation of the emissions of the facilities.

2. Emissions trading

① Excess emission reductions
Emission reductions by other compliance facilities exceeding the obligation (within 1/2 of the base emissions)

② Small and midsize facility credits in Tokyo (Reductions in Tokyo)
Emission reductions achieved through energy efficiency measures by small and midsize facilities within the Tokyo area

③ Renewable energy credits (Environmental value equivalent, other reductions)
Environmental value of renewable energy

④ Outside Tokyo credits (Reductions outside the Tokyo area)
Emission reductions achieved through energy efficiency measures by large facilities outside the Tokyo area

⑤ Saitama credits (Other reductions)
Excess emission reductions and small and midsize facility credits in Saitama that are derived from the Target-Setting Emissions Trading Program in Saitama prefecture

3. Banking from the second compliance period

Excess emission reductions and credits in the second compliance period can be used for reduction obligations in the third compliance period.