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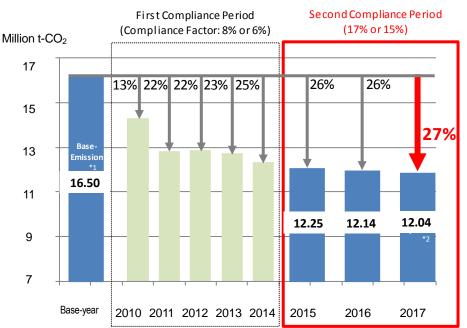
> Tokyo Metropolitan Government Bureau of Environment

# Results of Tokyo Cap-and-Trade Program in the 8th Fiscal Year Covered Facilities Continue Reducing Emissions in Second Compliance Period -

In FY2017, emissions from covered facilities amounted to 12.04 million tonnes, achieving a 27% reduction from Base-Emission (a 1% or 0.1 million tonne reduction from the previous year) as a result of continuous energy efficiency efforts and increased use of Low-Carbon Electricity / Heat.

Continuing the Program through the second compliance period, the Tokyo Metropolitan Government (TMG) will encourage CO<sub>2</sub> reductions to enable all covered facilities to meet their obligations.





\*1 Base-Emission is the average emissions of three consecutive fiscal years selected by facilities between FY2002-FY2007. \*2 Aggregated value as of February 6, 2019 resulting from emission factors for electricity, etc. in the second compliance period

## About the Tokyo Cap-and-Trade Program:

In FY2010, TMG started the Tokyo Cap-and-Trade Program for large facilities according to the Tokyo Metropolitan Environmental Security Ordinance.

#### **Compliance factors:**

8% or 6% in the first compliance period from FY2010 to FY2014

17% or 15% in the second compliance period from FY2015 to FY2019

### **Covered facilities:**

Approximately 1,200 facilities which have an annual energy usage equivalent to 1,500 kL or more of crude oil

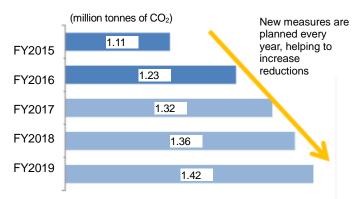
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# **Reference**

### Analysis of implementation or planning of measures

Reductions resulting from measures implemented or planned by covered facilities



- Further reductions are expected as new energy efficiency measures are implemented or planned to meet obligations for the second compliance period.
- Many reduction measures have been focused on updating to high-efficiency equipment, such as LED lights.

## **Reduction measures indicated in GHG Emission Reduction Plans**

Measures for heat sources, air conditioning, and lighting	Quantity	Reductions (tonnes)
Installation of high-efficiency heat source equipment	401	155,721
Installation of high-efficiency pumps for air conditioning and energy-saving control	380	34,592
Installation of high-efficiency air conditioning equipment	406	40,815
Installation of high-efficiency packaged air conditioning equipment	105	3,652
Installation of variable-air-volume systems for air conditioning equipment	37	6,464
Installation of systems for cooling using outside air	287	26,256
Installation of external air volume control based on CO <sub>2</sub> concentration	133	17,770
Installation of total heat exchangers	45	3,818
Installation of high-efficiency fans	277	20,393
"Cool Biz" and appropriate room temperatures during summer	119	14,644
Implementation of warming-up control	34	712
More careful timing of starting up air-conditioning before using rooms	147	14,093
Installation of building energy management systems	46	8,623
Visualization of energy consumption included in above	8	623
Demand control systems	6	537
Installation of high-efficiency lighting and energy saving control	1,922	138,028
LED lights included in above	1,633	117,707
Hf lights included in above	104	10,338
Sensors included in above	103	3,123
Relaxing illumination conditions	312	21,908
Total or partial lights-out during lunch break and outside business hours	24	784
Installation of energy saving control for elevators	132	3,029
Total (above measures and others)	11,823	1,420,773

## Selection of Low-Carbon Electricity or Heat as a means to meet obligations

- In the second compliance period, a new mechanism has been introduced to accept equivalence to CO<sub>2</sub> reductions when covered facilities procure electricity or heating from TMG-certified suppliers with lower emission factors.
- In FY2017, this mechanism was used by 115 facilities for Low-Carbon Electricity and 124 facilities for Low-Carbon Heat.

 Low-Carbon Electricity;
 a) 0.4t-CO2 /1,000kWh or less, and introduction rate of renewable energy of 20% or more

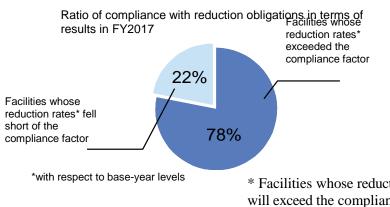
 b) 0.4t-CO2 /1,000kWh or less, and introduction rate of low-carbon thermal power of 40% or more

 Low-Carbon Heat;
 CO2 emission factor of 0.058 t-CO2 / GJ or less

Facilities selecting low-carbon electricity or heat in FY2017

Categories	No. of facilities	Total reductions	Average ratio of reductions to emissions
Low-Carbon Electricity	115	Approx. 28,000 t-CO <sub>2</sub>	Approx. 3.0%
Low-Carbon Heat	124	Approx. 6,700 t-CO <sub>2</sub>	Approx. 0.5%

# Prospects for compliance with obligations in second compliance period

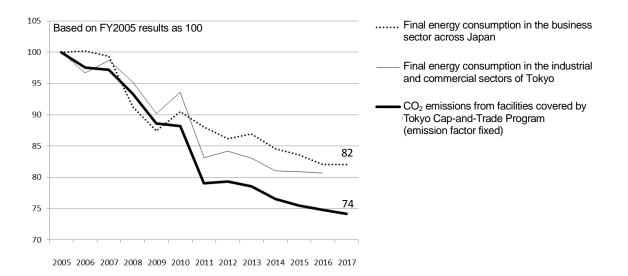


- Approximately 80% of facilities achieved reductions over their compliance factors in the second fiscal year of the second compliance period.
- Many facilities are expected to meet their obligations through their own reduction measures in the second compliance period as well.

\* Facilities whose reduction rates with respect to base-year levels will exceed the compliance factor for the second compliance period (17% or 15%) if emissions in FY2017 are maintained

# **Comparison with National Levels**

Trend of CO<sub>2</sub> emissions from facilities under the program shows that the facilities have achieved continued significant reductions more than national levels compared to those in energy consumption in the business sector across Japan and the industrial and commercial sectors of Tokyo.\*



\* The changes in CO<sub>2</sub> emissions from facilities covered by the Tokyo Cap-and-Trade Program almost correspond to those in energy consumption at the facilities as the emissions are calculated by fixing CO<sub>2</sub> emission factors.

#### Data sources:

- Final energy consumption across Japan announced by the Agency for Natural Resources and Energy: http://www.enecho.meti.go.jp/statistics/total\_energy/pdf/stte\_025.pdf
- Final energy consumption in Tokyo announced by TMG: http://www.kankyo.metro.tokyo.jp/climate/zenpan/emissions\_tokyo.files/2016\_sokuhou.pdf
- CO<sub>2</sub> emissions from large facilities in Tokyo (FY2005-FY2009) announced by TMG: http://www.kankyo.metro.tokyo.jp/climate/large\_scale/overview/current\_program/index.files/zenseidomatome.pdf