“Tokyo Cap-and-Trade Program” for Large Facilities (Outline)

As of June 2020
Bureau of Environment
Tokyo Metropolitan Government

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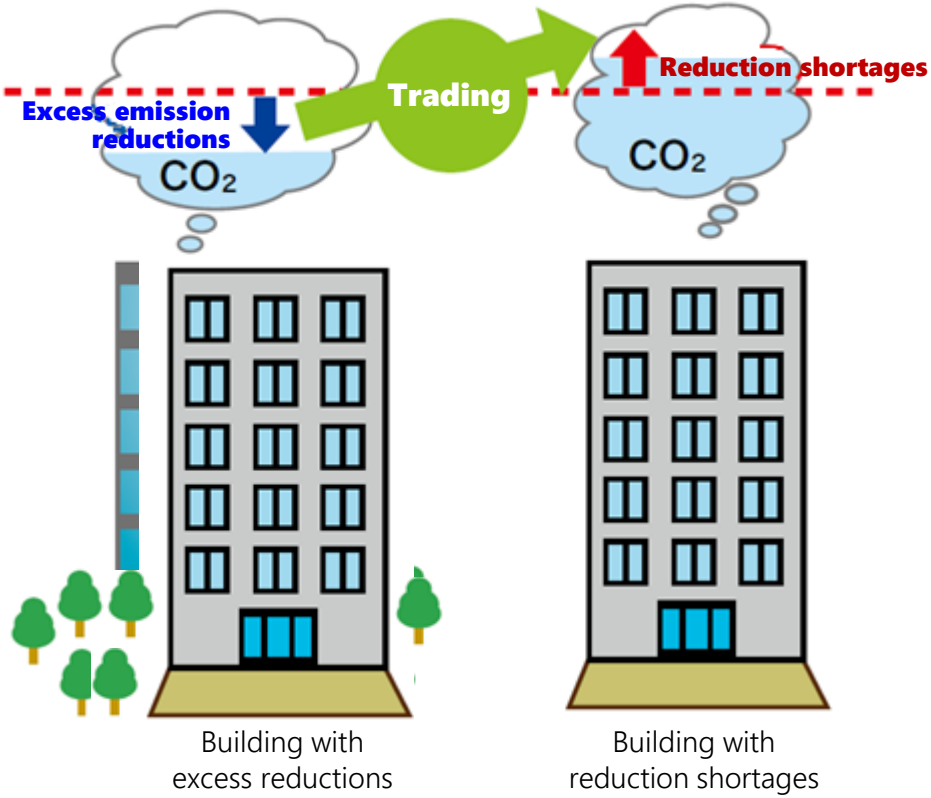
1. Outline of the Program

- **The world's first urban cap-and-trade scheme that also covers office buildings**
- Covered facilities promote reduction measures for themselves by upgrading to high-efficiency equipment and developing operational measures
- The Program allows covered facilities to rationally supplement their own reduction efforts by procuring reductions through emissions trading
- Various credits can be used in addition to trading between large facilities

Illustration of emissions trading



2. Compliance Period

■ Compliance period: Five years

Every five fiscal years from FY 2010 onward

■ Deadline of reduction obligations

The deadline is **the end of the <u>18-month</u>** adjustment period following the compliance period.

* If mandatory emission reductions and annual emissions are finalized within the 180 days leading up to the end of the adjustment period, the deadline will be the 180th day after finalization.

1st compliance period

Compliance period | Adjustment period | Deadline (end of September 2016)

FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016

2nd compliance period

Compliance period | Adjustment period | Deadline (end of September 2021)

FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021

3rd compliance period

Compliance period | Adjustment period | Deadline (end of September 2026)

FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026

3. Illustration of Efforts from FY 2020 Onward (3rd & 4th Compliance Periods)

2002 2007 2010 2015 2020 2025 2030 2050

Tokyo Carbon Reduction Reporting Program

○ ***Formulate Tokyo Climate Change Strategy***

Promote energy efficiency through voluntary efforts

Cap-and-Trade Program

[1st period]

Start-up period toward a significant reduction

[2nd period]

Period to establish and promote further reduction

[3rd period]

Continue energy efficiency and promote the use of renewable energy toward a decarbonized society

[4th period]

Continue energy efficiency and establish the use of renewable energy toward a decarbonized society

Zero Emission Tokyo

Realize zero emission facilities

How to reduce CO_2 on the demand side

Energy efficiency > Renewable energy

First, reduce energy consumption through higher energy efficiency
Second, aggressively use renewable energy

Energy efficiency & renewable energy

Promote CO_2 reduction through both **energy efficiency** and **expanded use of renewable energy** to realize a decarbonized society

Handling of renewable energy in the programs

Reflect CO_2 reduction effects of using renewable energy

Self-consumption of renewable energy
Renewable energy credits

Enhance CO_2 reduction by selecting renewable power

Self-consumption of renewable energy
Renewable energy credits
+
Mechanism for selecting low-carbon electricity

Expand CO_2 reduction by using renewable energy

Self-consumption of renewable energy
Renewable energy credits
Mechanism for selecting low-carbon electricity
⇒ Improved mechanism with an easier access

Establish CO_2 reduction by using renewable energy

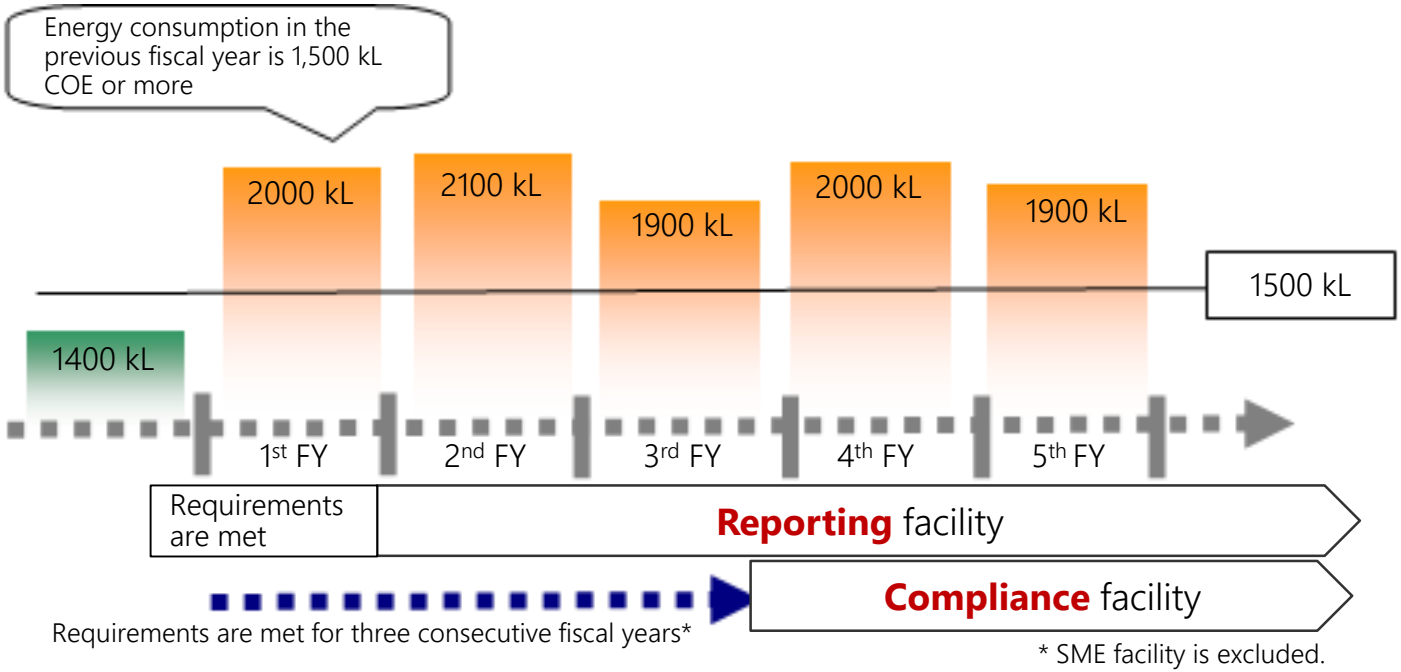
Use of renewable energy becomes popular as a means of reducing CO_2 on the demand side

Expand incentives (reductions) for the use of renewable energy

Tokyo in the Future

4. Covered Facilities - Requirements

Category	Requirements
Reporting facilities	**Annual consumption** of fuels, heat, and electricity in the previous fiscal year is **1,500 kL or more** in crude oil equivalent (COE)
Compliance facility	Annual consumption of fuels, heat, and electricity is 1,500 kL COE or more for **three consecutive fiscal years** (except for the fiscal year in the middle of which the use of the facility is started)
SME-owned facility with GHG reporting obligations (SME facility)	Annual consumption of fuels, heat, and electricity in the previous fiscal year is 1,500 kL COE or more. **More than 50% ownership of the facility is held by a small and medium-sized enterprises (SMEs)**



4. Covered Facilities - Obligations

Category	Positioning	Obligations
Reporting facility	Facility needing to specifically promote global warming countermeasures	• Calculation of energy consumption in crude oil equivalent and energy-related CO_2 emissions in the previous fiscal year (verification required) • Calculation of other gas emissions in the previous fiscal year (no verification required) • Setting reduction targets and plans
		• Appointment of general managers and technical managers
		• Development of a cooperative promotion system with tenants
		• Submission and disclosure of the plan including the above
Compliance facility	Facility with an obligation to reduce energy-related CO_2 emissions	• Obligations of a reporting facility shown above
		• Obligation to reduce energy-related CO_2 emissions
		Reduction by the facility itself
		Procurement of shortages of mandatory emission reductions through trading (using renewable energy, procuring reductions from other facilities, etc.)
		• Application for base-year emissions

An SME facility is required to submit and disclose a plan in the same manner as a reporting facility.
Please note that verification is not required for energy-related CO_2 emissions in the previous year.

4. Covered Facilities

- SME-Owned Facilities with GHG Reporting Obligations (SME Facilities)

- Large facilities whose **ownership is held by small and medium-sized enterprises (SMEs) by more than 50% are exempt from the reduction obligations, treated as SME-owned facilities with GHG reporting obligations (SME facilities)**
- Please note that **the submission and disclosure of the plan are required as before (verification is not required)**.

Definition of SMEs

- SMEs are businesses falling under any one of (1) to (6) below, considered based on the situation **as of the end of each fiscal year:**

(1) Small and medium-sized enterprise operators provided in the Small and Medium-sized Enterprise Basic Act except those with over half of their capital contributed by a large company and others falling under certain criteria
(2) Joint cooperatives etc.
(3) Business cooperatives etc.
(4) Shopping district promotion cooperatives etc.
(5) Environmental health industry associates etc.
(6) Individuals

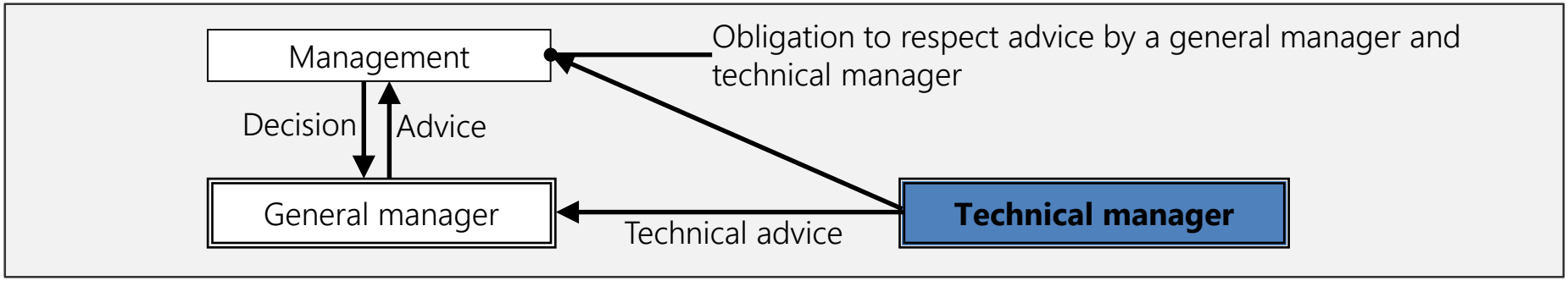
Notes:

The national government, local governments, medical corporations, incorporated educational institutions, religious corporations, specific purpose companies, general incorporated foundations, public interest incorporated foundations, or specified non-profit corporations are not included in the SME operators category.

Foreign SME operators are treated in the same manner as those of Japan.

5. Appointment of General Managers and Technical Managers - Requirements

Each reporting facility is required to appoint a general manager and technical manager.



■ General manager is supposed to:

(1) Work in a section that oversees duties concerning global warming countermeasures and have the authority and responsibility to make decisions on the implementation of its global warming countermeasures; and

(2) Complete the training course specified by TMG.

■ Technical manager is supposed to:

(1) Have at least one of the qualifications specified by TMG;

(2) Have the ability to perform an energy efficiency and conservation audit; and

(3) Complete the training course specified by TMG.

* Outsourcing is allowed provided that one person may be appointed as technical manager of up to five facilities.

● Qualifications recognized by TMG

Certified Energy Manager, Registered First Class Architect, First Class Architectural Work Manager, First Class Electrical Work Manager, First Class Plumbing Work Manager, Building Mechanical and Electrical Engineer (BMEE), or Consulting Engineer (construction, electricity and electronics, machinery, sanitary engineering, environment, total technology management (construction, electricity and electronics, machinery, sanitary engineering, environment))

6. Scope of Facilities - Concept

In principle, the scope of facilities is defined as the unit of a building or structure except for housing. Multiple buildings and/or structures are regarded as a single facility if they:

(1) Share points to receive power or gas from energy suppliers; or

(2) Are close or adjacent to each other and owned by the same owner*. This category includes:

*1) **Neighboring buildings** with primary users in common

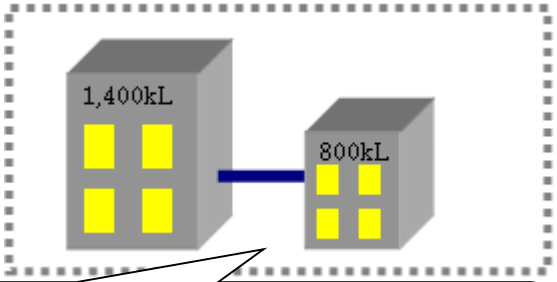
2) **Neighboring buildings and structures (except flat car/bicycle parking lots)** with primary users of buildings identical to business operators using structures

3) **Neighboring buildings and flat car/bicycle parking lots** recognized by TMG that there is functional connection between buildings and parking lots based on how they are used

4) **Neighboring structures** owned by the same owner

6. Scope of Facilities - Examples of a Single Facility

(1) Buildings with integrated energy management

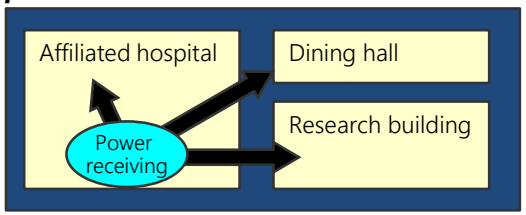


If their total energy consumption is 1,500 kL COE or more, they are considered as a single reporting facility.

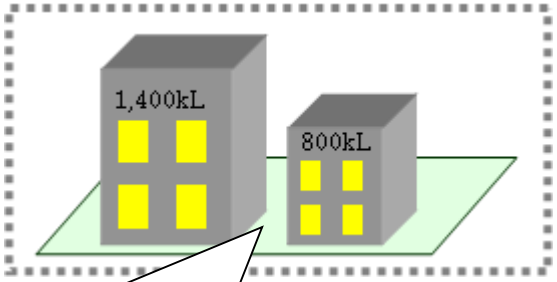
* **Integrated energy management**

1) Buildings share points to receive power or gas from energy suppliers
2) Heat supply facilities have interconnected ducts.

Example:



(2) Neighboring buildings of the same owner located adjacent to each other

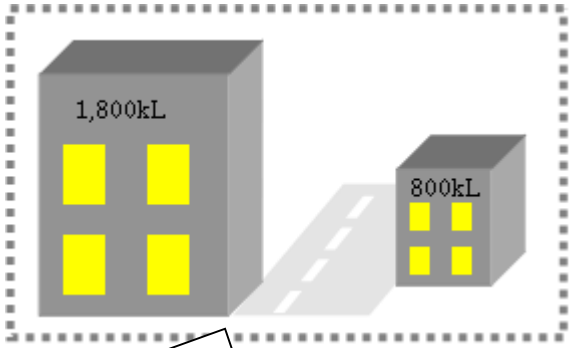


If their total energy consumption is 1,500 kL COE or more, they are considered as a single reporting facility.

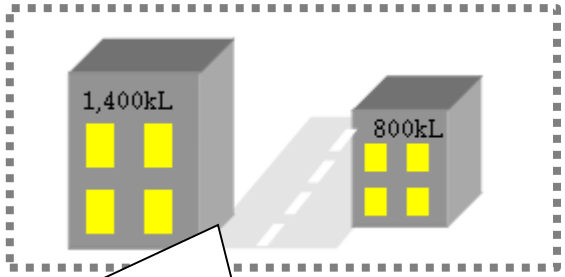
* **Difference between being "adjacent" and "close"**

If one building (and its surrounding land) is next to another without any other building, road, water channel, or railroad track in between, they are described as being "adjacent." If there is any other object between the two buildings, they are described as being "close."

(3) Neighboring buildings of the same owner located close to each other



Since one of them is a core building with energy consumption of 1,500 kL COE or more, they are considered as a single reporting facility.



Since none of them is a core building with energy consumption of 1,500 kL COE or more, they are not considered as a reporting facility.

6. Scope of Facilities - Changing Facility Boundaries

■ What is a change in facility boundaries?

An application can be made to change facility boundaries determined upon the designation as a reporting facility if:

A. Facilities are divided:

If the number of buildings included in a facility is decreased due to changes in integrated energy management or ownership, facility boundaries can be changed by making an application.

B. Facilities are integrated:

If the number of buildings included in a facility is increased due to changes in integrated energy management or ownership (provided that incremental buildings are reporting facilities), facility boundaries can be changed by making an application.

* A change in facility boundaries deprives an existing reporting facility of the designation and designates a new facility as a reporting facility.

7. Obligors

■ Owners of covered facilities (in principle)

■ Businesses that can assume obligations on behalf of or jointly with owners

- Businesses who have the authority to implement major equipment renovations
- Incorporated management associations in properties with building unit ownership
- Beneficiaries in trust properties, including special purpose companies, limited liability companies, and investment corporations
- Parties entrusted with management or disposition of properties owned by investment corporations or special purpose companies
- Parties entrusted with the authority of instructions concerning trust properties
- Special purpose companies in the PFI business
- Compliance tenants ☆
- A tenant that emits 50% or more of emissions from its facility ☆
- Tenants that emit 50% or more of emissions from their facility in total (among which only a tenant emitting 10% or more of the emissions is applicable) ☆

☆ applies only when businesses assume obligations jointly with owners.

8. Covered GHGs

(1) Energy-related CO_2 emissions	Energy-related CO_2	Reporting required	Mandatory reduction
(2) Other gases	1) Non energy-related CO_2		Not mandatory reduction
	2) Gases other than CO_2 (CH_4, N_2O, HFC, PFC, SF_6, NF_3)		
	3) Use of water, discharge into sewage		

* Other gas reductions are available for the reduction obligations at the relevant facility but cannot be traded.

◆CO_2 emission factors for calculating GHG emissions

(1) Emission factors for energy-related CO_2 emissions

Electricity: 0.489 [tCO_2e/1000 kWh] Heat: 0.060 [tCO_2e/GJ]

* 0.382 for the first compliance period, the same value for the second and third compliance periods

(2) Emission factors for other gases

1) Non energy-related CO_2
2) Gases other than CO_2

3) Use of water, discharge into sewage

See p. 7 of Guidelines for Monitoring and Reporting Other Gases*

* Same value for the second and third compliance periods

Change the emission factors to those based on the latest emissions.

Emission activity types		1st compliance period	2nd compliance period	3rd compliance period
Use of water	[$tCO_2e/1000m^3$]	0.200	0.251	**0.266**
Discharge into sewage	[$tCO_2e/1000m^3$]	0.450	0.439	**0.400**

9. Revocation of Designation - Requirements

- If the requirements in the table below are applicable, the compliance period will be reduced as indicated below. If the requirement (2), (3), or (4) in the table below is applicable, the ending fiscal year of the compliance period can be selected. Once the selected ending fiscal year is determined, it cannot be changed except for the case in which (1) becomes applicable by the selected ending fiscal year.
- The designation is revoked after the confirmation of the fulfillment of reduction obligations corresponding to the changed compliance period.

Requirements		Compliance period
(1)	Discontinuation of business or suspension in its entirety	Until the fiscal year before the fiscal year of discontinuation or suspension (until FY 2019)
(2)	Energy consumption in the previous fiscal year is less than 1,000 kL COE	Until the fiscal year before the fiscal year of size reduction*1 (until FY 2018)
		Until the fiscal year of size reduction*1 (until FY 2019)
		Until the ending fiscal year of the compliance period that contains the fiscal year of size reduction*1 (until FY 2019)*2
(3)	Energy consumption is less than 1,500 kL COE for the past three consecutive fiscal years	Until the fiscal year before the last one of the three fiscal years (until FY 2018)
		Until the last fiscal year of the three fiscal years (until FY 2019)
		Until the ending fiscal year of the compliance period that contains the last fiscal year of the three fiscal years (until FY 2019)*2
(4)	SMEs held more than 50% ownership in the previous fiscal year	Until the fiscal year before the fiscal year of size reduction*1 (until FY 2018)
		Until the fiscal year of size reduction*1 (until FY 2019)
		Until the ending fiscal year of the compliance period that contains the fiscal year of size reduction*1 (until FY 2019)*2
(5)	Change in facility boundaries	Until the fiscal year before the fiscal year of making application for the change (until FY 2019)

The ending fiscal year of the compliance period can be selected

The ending fiscal year of the compliance period can be selected

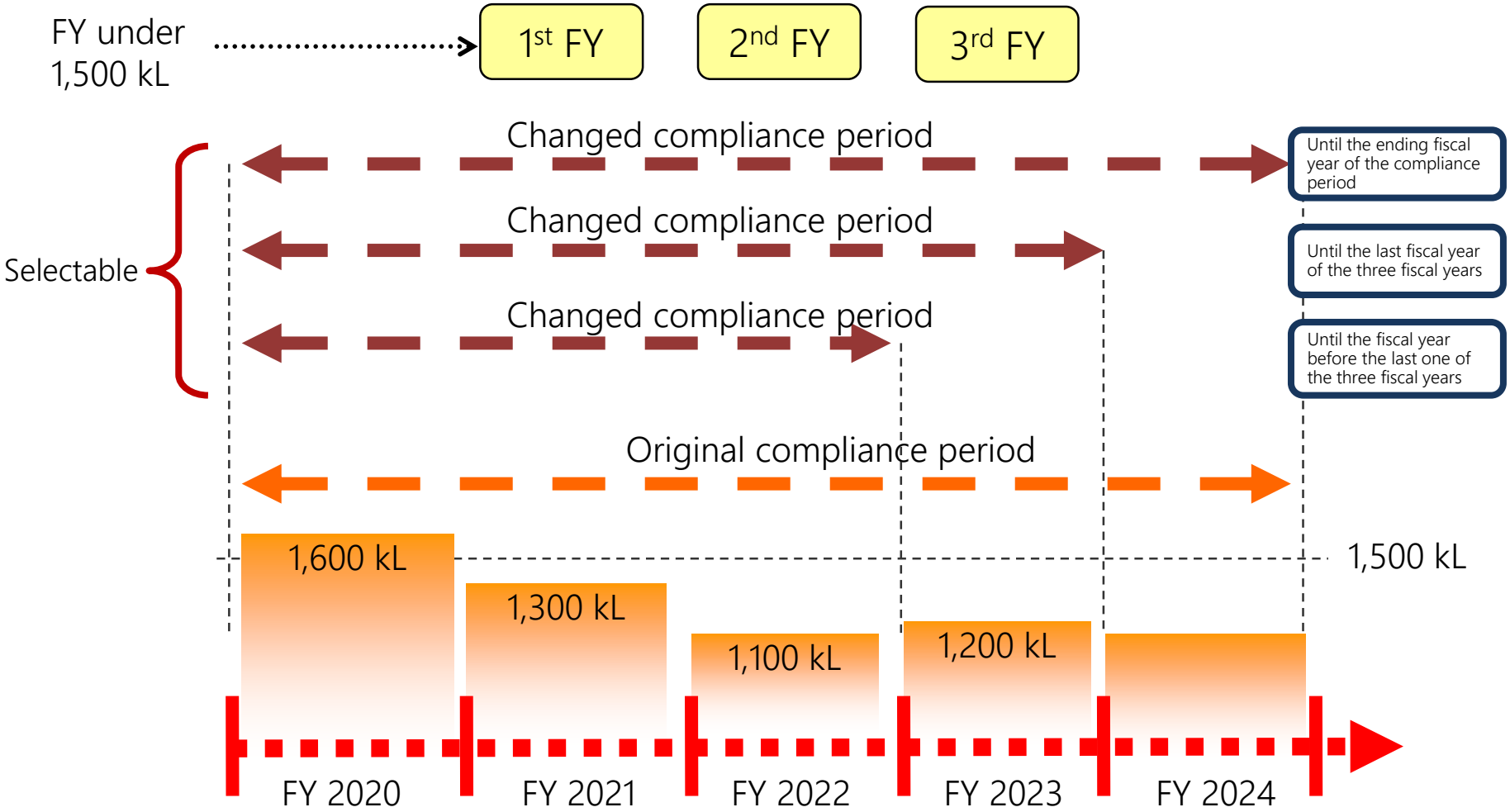
The ending fiscal year of the compliance period can be selected

*1 The fiscal year of size reduction refers to the **fiscal year with less than 1000 kL** or **fiscal year with SMEs holding more than 50% ownership**.
*2 The same compliance period applies as when selecting **Until the fiscal year of size reduction** or **Until the last fiscal year of the three fiscal years**.

9. Revocation of Designation - Examples

■ Examples of revocation of designation

Energy consumption is less than 1,500 kL in crude oil equivalent for the past three consecutive fiscal years



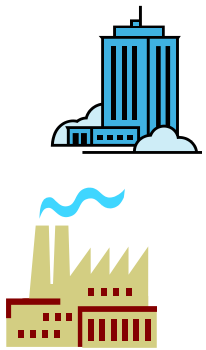
10. Mandatory Emission Reductions

Base-year emissions × Compliance factor × Compliance period → Mandatory emission reductions

Base-year emissions × Compliance period − Mandatory emission reductions → Emissions allowance

Reduce emissions during the compliance period up to the emissions allowance given by the formula above

- Base-year emissions: 10,000 tCO_2e
- Compliance factor for the 3rd compliance period: 27%



Emissions allowance: 36,500 tCO_2e
(Limit of CO_2 emissions allowed for five years)

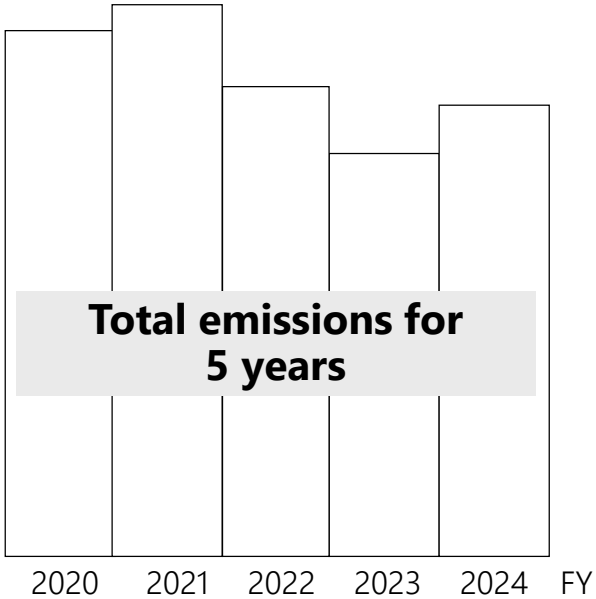
- **Mandatory emission reductions**
  10,000 tCO_2e × 27% × 5 years = 13,500 tCO_2e
- **Emissions allowance**
  10,000 tCO_2e × 5 years - 13,500 tCO_2e = **36,500 tCO_2e**

2020 2021 2022 2023 2024 FY

(Compliance period: Five years)

≥

Fulfillment of reduction obligations



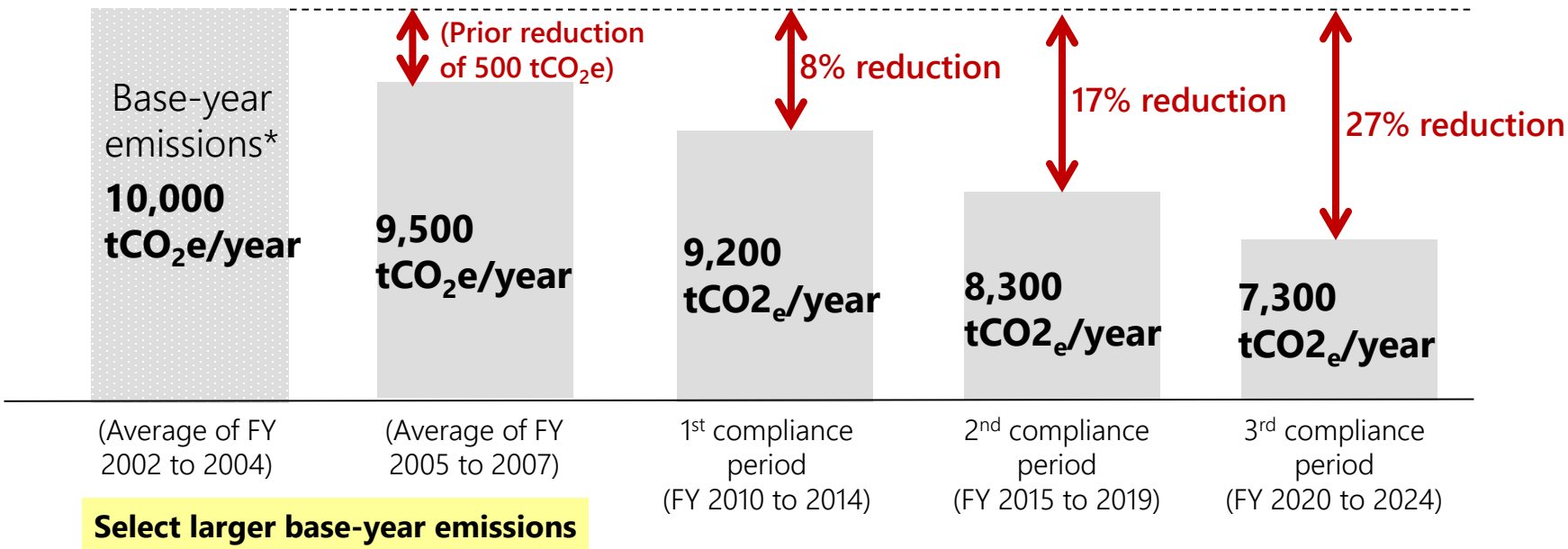
11. Calculation of Base-Year Emissions - Existing Facilities

Facilities that have been designated as compliance facilities since the beginning of the Program

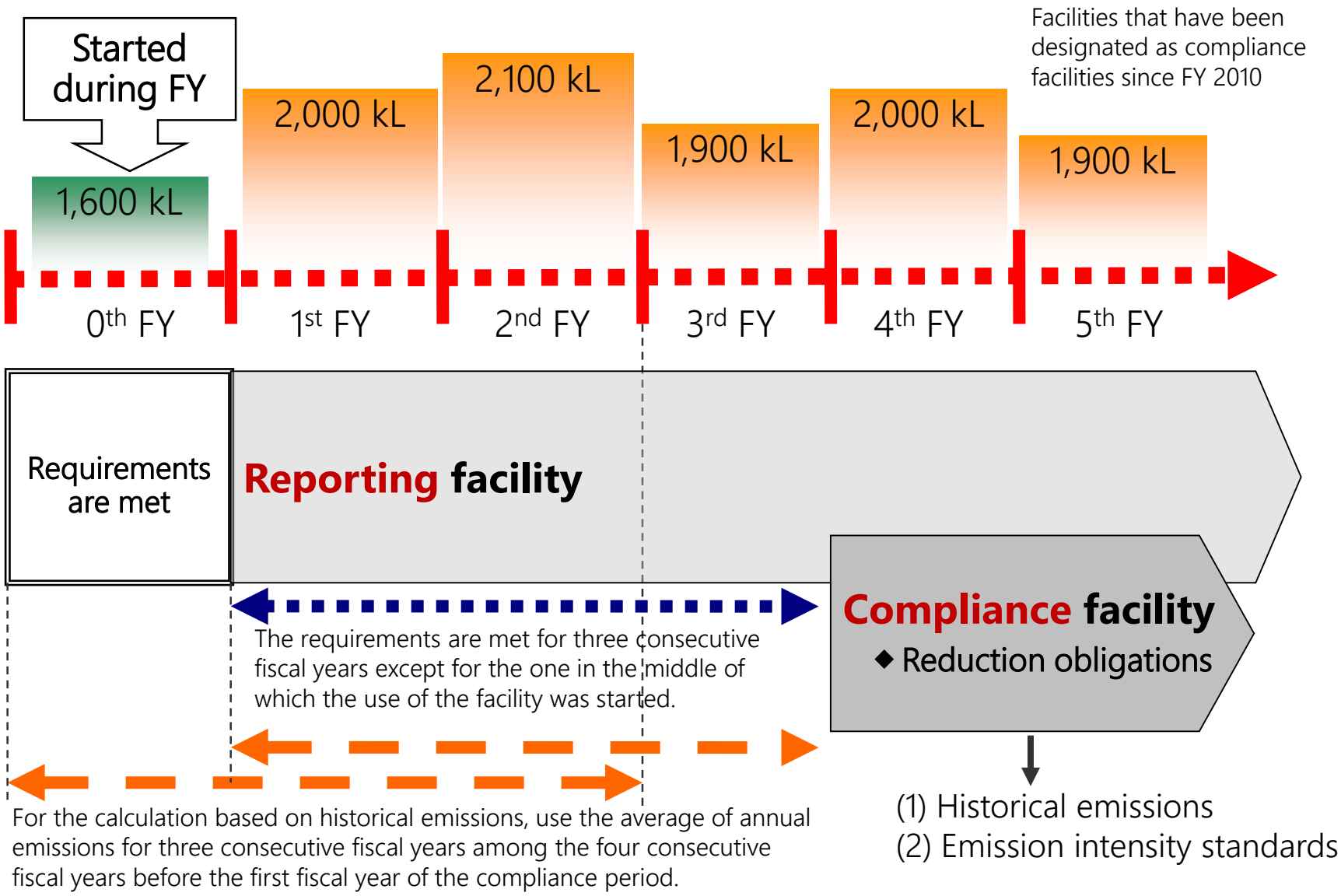
In principle, calculate the average emissions of three consecutive fiscal years between FY 2002 and FY 2007* (Businesses can choose any three consecutive fiscal years)

* If the Governor identifies a year or two with irregular emissions among the three fiscal years, covered facilities can choose from the average of two years or the emission of a single year by excluding the year or two with irregular emissions.

***Example*: A facility with historical emission reductions can select earlier fiscal years for the calculation.**



11. Calculation of Base-Year Emissions - New Facilities (1)



11. Calculation of Base-Year Emissions - New Facilities (2)

(1) Criteria for selecting the method based on historical emissions

- Facilities are required to meet the conditions of all applicable items in the operations management standards with respect to the Category 1 (commercial facilities) or Category 2 (industrial facilities) in all relevant fiscal years or periods.
- Facilities are supposed to carry out self-checks and submit an operations management report to TMG. **(The operations management report does not need verification.)**

Operations management items for facilities under Category 1 (excerpt)

Operations management items			Operations management conditions
Air conditioning and ventilation system	6	Preventing the operation of air conditioning systems when not required	Start using the room within one hour of starting the air conditioning system; stop the air conditioning system before finishing using the room
	7	Preventing excessive room temperature settings	A set temperature or actual temperature of the air-conditioned room is 26°C or higher during cooling and 22°C or lower during heating
Lighting and electrical equipment	10	Preventing lighting when not required	Turn on/off lighting according to hours for using the room

(2) Calculations using emission intensity standards

- The following table shows emission intensity standards by business category.
- The business category (use at facilities) corresponds to that of the Building Standards Act.

Emission intensity standards by business category (excerpt)

Business category	Emission intensity standards	
	2nd & 3rd compliance periods	[Unit]
Office facilities	100	[$kgCO_2e/m^2$ year]
Office facilities (public office buildings)	75	[$kgCO_2e/m^2$ year]
Information and communications facilities	380 (Data centers: 610)	[$kgCO_2e/m^2$ year]
Broadcast stations	260	[$kgCO_2e/m^2$ year]
Commercial facilities	160 (Food-related businesses: 225)	[$kgCO_2e/m^2$ year]
Accommodation facilities	180	[$kgCO_2e/m^2$ year]
Educational facilities	60 (Science facilities at universities: 95)	[$kgCO_2e/m^2$ year]
Medical facilities	185	[$kgCO_2e/m^2$ year]
Cultural facilities	90	[$kgCO_2e/m^2$ year]
Distribution facilities	55 (Refrigerated warehouses: 90)	[$kgCO_2e/m^2$ year]
Parking lots	25	[$kgCO_2e/m^2$ year]
Factories and facilities other than those above	95% of historical emissions	

11. Calculation of Base-Year Emissions
- Irregular Fiscal Years (1)

In the second and subsequent compliance periods, covered facilities can choose from the **average of two years** or the **emissions of a single year** by excluding **a year or two** with irregular emissions.

1. Requirements for irregular fiscal years

Fiscal years meeting both of the requirements laid in A and B below:

A. Required reasons including:

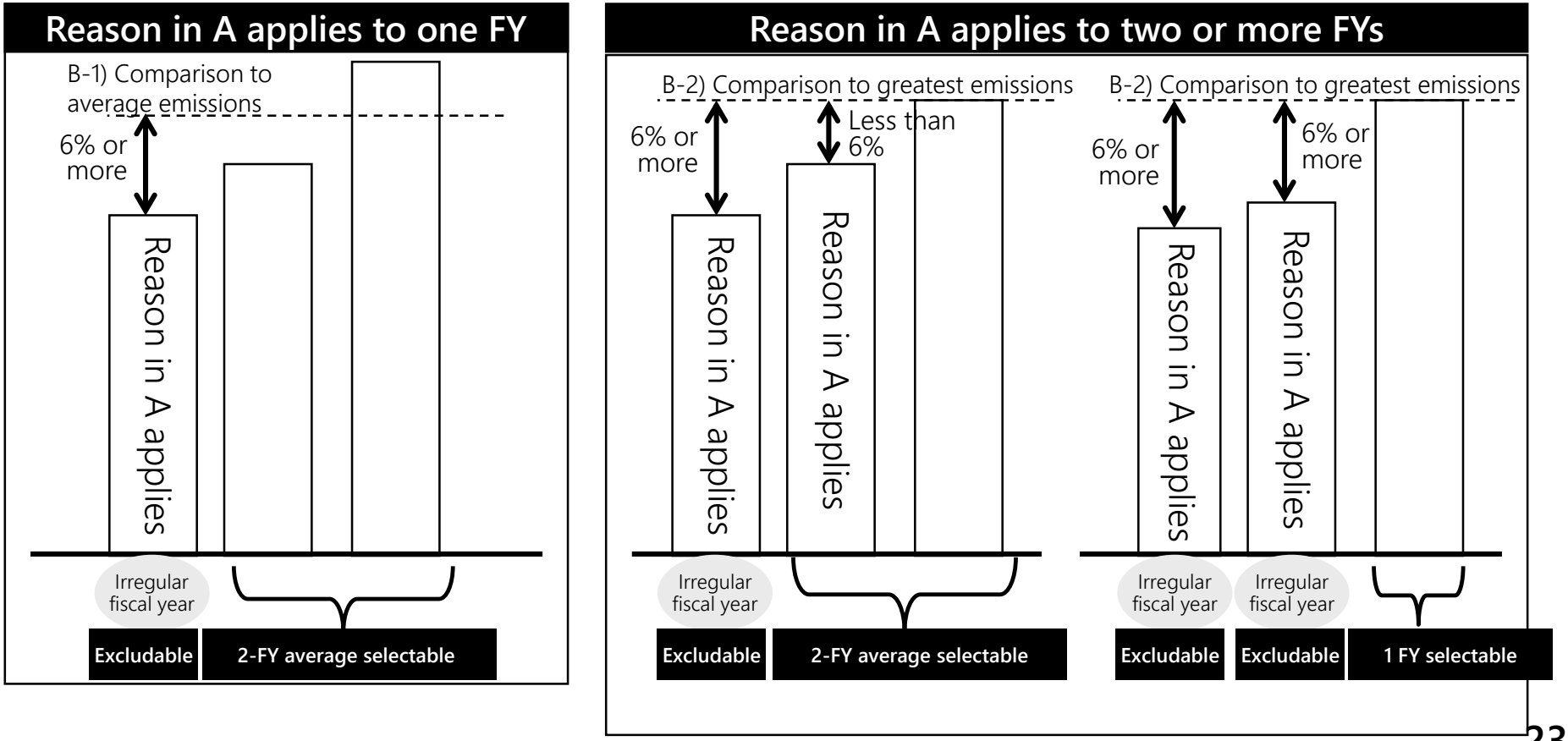
Considerable part of the facility was not used for extended periods due to renovation.

B. When any one of the above reasons applies, annual emissions meet either one of the following conditions:

1) When any one of reasons provided in A above applies to just one fiscal year: The emissions are smaller by 6% or more compared to the average energy-related CO_2 emissions for two fiscal years that do not correspond to any one of reasons in A.
2) When any one of reasons provided in A above applies to two or more fiscal years: The emissions are smaller by 6% or more compared to the fiscal year with the greatest energy-related CO_2 emissions among three fiscal years.

11. Calculation of Base-Year Emissions
- Irregular Fiscal Years (2)

2. When covered facilities can choose from the **average of two years** or the **emissions of a single year** by excluding **a year or two** with irregular emissions: [Illustrated explanation]



12. Changes in Base-Year Emissions

A mechanism (**mandatory application**) to increase or decrease base-year emissions when there is a significant change in the purpose of use or size of facilities in the calculation period

Notes for changes in base-year emissions

(1) **Selecting the calculation period**

* In the second and third compliance periods, the calculation period B can be selected.

First compliance period
A. From base year onward

Addition

Second compliance period
A. From base year onward
B. After the end of the previous compliance period
* After the end of March 2015

Third compliance period
A. From base year onward
B. After the end of the previous compliance period
* After the end of March 2020

(2) **Applicable changes include those in:**

- Floor area
- Purpose of use
- Amount of equipment
- Floor area of heat receivers (in the case of heat suppliers)

* If an increment or decrement calculated based on these changes is equal to or **more than 6%**, changes in base-year emissions are necessary.

12. Changes in Base-Year Emissions - Calculation Period

A. From base year onward

When there is a change in the purpose of use, size, or energy supply of facilities from base year onward, identify the details of the change to calculate an increment or decrement.

B. After the end of the previous compliance period (* from April 2020 onward for the third compliance period)

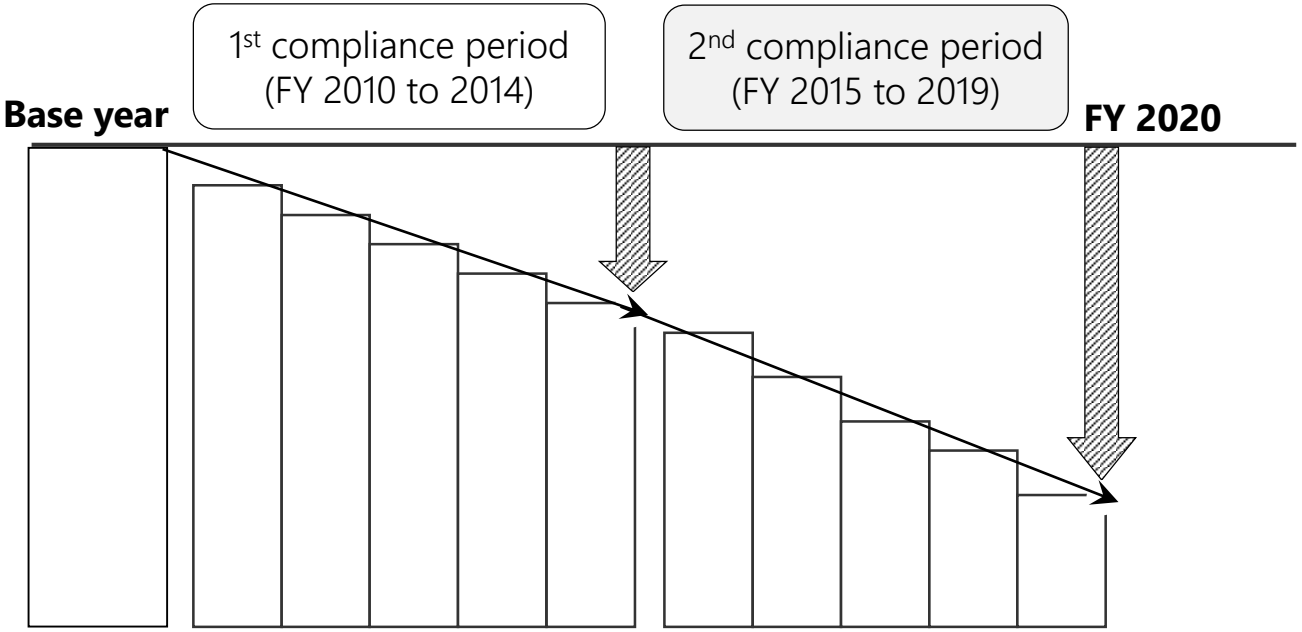
If a facility has been designated as a compliance facility since before the second compliance period, it can calculate an increment or decrement by identifying the details of the change after the end of March 2020, starting from the third compliance period.

Fiscal year	Base year			・・・	2nd compliance period			3rd compliance period	
	2002	2003	2004		・・・	2018	2019	2020	2021
					Compliance	Compliance	Compliance	Compliance	Compliance
Calculation period A	○	○	○	○	○	○	○	○	●
Calculation period B	This period is not subject to the calculation of an increment/decrement in the base-year emissions							○	●

○: Calculation period for an increment/decrement in the emissions due to a change in the purpose of use, size, or energy supply
●: Fiscal year in which a change meeting the requirements for changing the base-year emissions occurs

13. Compliance Factors - Overview

(1st & 2nd compliance periods)



- The first compliance period (FY 2010 - 2014)
  Positioned as **a start-up period for the changes toward a significant emissions** reduction
  With the compliance factor set at 8% or 6%
- The second compliance period (FY 2015 - 2019)
  Positioned as **the period to establish and promote more significant CO_2 reduction**
  With the compliance factor set at 17% or 15%

13. Compliance Factors - Overview (3rd & 4th compliance periods)

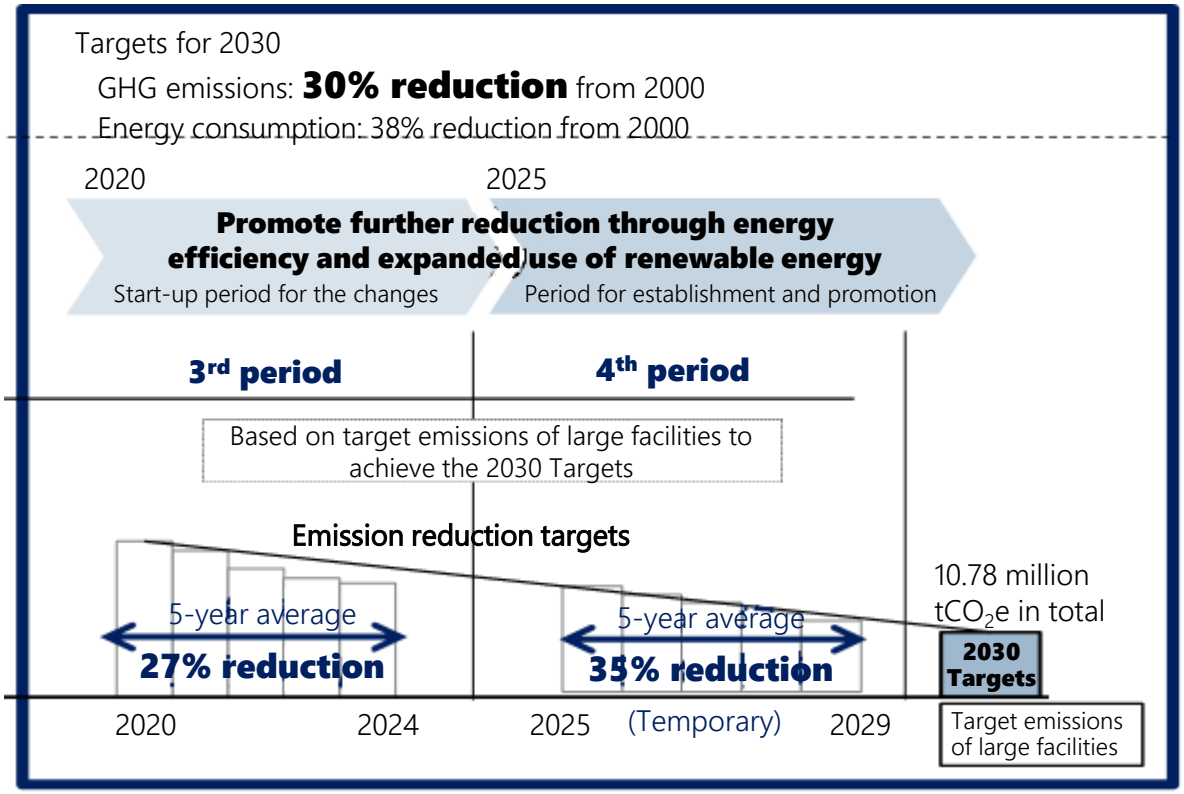
- The third and fourth compliance periods are a phase to promote further reduction through ongoing energy efficiency and expanded use of renewable energy, positioned as a new stage to advance efforts toward achieving the 2030 targets*1 and a subsequent decarbonized society.

  *1 "Reduce Tokyo's greenhouse gas emissions by 30% below 2000 levels by 2030" (from Tokyo Environmental Master Plan)

- TMG considers the third compliance period (FY 2020 - 2024) as a start-up period for the changes to promote reduction through both ongoing energy efficiency and expanded use of renewable energy toward a decarbonized society and the subsequent fourth compliance period (FY 2025 - 2029) as a period for establishment and promotion. We divide reductions toward the 2030 Targets into a ratio of 3:7, setting an average compliance factor for the third compliance period at 27% and a temporary one for the fourth compliance period at 35%*2.

  *2 This is a temporary factor that will be examined before the start of the fourth compliance period and finalized in consultation with experts.

Scheme of back casting



13. Compliance Factors - Category

Category			Compliance factor		
			1st compliance period	2nd compliance period	3rd compliance period
I	I-1	Office buildings etc.*1	**8%**	**17%**	**27%**
	I-2	Facilities among office buildings etc., which use a larger amount of heat-related energy supplied by others *2	**6%**	**15%**	**25%**
II		Factories *3	**6%**	**15%**	**25%**

*1 Office buildings, commercial facilities, accommodation facilities etc., and heat suppliers, except for those included in Category I-2

*2 District heating and cooling plants supply 20% or more of the entire energy consumption at the facilities. (If the utilization rate is changed due to an increase or decrease in heat source equipment after being designated as a compliance facility, attach the Report on Changes in the Utilization Rate of Heat Supplied from Others to the GHG Emissions Reduction Plan for the relevant fiscal year and submit them.)

*3 Facilities not belonging to Category I-1 or I-2, including factories, water supply and sewage facilities, and waste treatment facilities

13. Compliance Factors - Determination of Category

■ Determine or change categories for applicable compliance factors when:

(1) Base-year emissions are determined; (2) A category should be determined before determining base-year emissions in order to apply for top-level facility certification; or (3) Base-year emissions are changed.

■ Criteria for determining a category for mixed-use facilities

- A facility falls into Category I if the total energy-related CO_2 emissions from the purpose of use under Category I account for more than 50% of the emissions of the entire facility during base periods shown in the table on the right side.
  - * A ratio of floor area for each purpose of use can be regarded as a ratio of energy-related CO_2 emissions.

■ Base year for the utilization rate of heat-related energy supplied by others

- When determining base-year emissions, the base periods in the above list apply.
- When changing base-year emissions, the base period for the compliance factor for the fiscal year of the change is that fiscal year and the base period for the compliance factor for the next and subsequent fiscal years is the next fiscal year.
- Under the same base-year emission, if a significant change occurs in the use of heat supplied by others including joining or withdrawing from a district heating and cooling or elimination or addition of heat sources at facilities, the base period will be determined as follows:

  The base period for the fiscal year of the change is that fiscal year.
  The base period for the next and subsequent fiscal years is the next fiscal year.

Timing of determination or change	Calculation of base-year emissions	Base period
When determining base-year emissions	Average amount of annual energy-related CO_2 emissions	All fiscal years for which the average amount is calculated
	Amount obtained by multiplying the emission activity index value by the emission intensity standards	Three consecutive fiscal years before the first fiscal year of the compliance period
Before determining base-year emissions	—	The first and second fiscal years in the three consecutive fiscal years before the first fiscal year of the compliance period
When changing base-year emissions	—	One year after any change that has required a change in base-year emissions (It may be reduced up to six months if the facility needs to immediately determine its category.)

* This list does not cover the determination of base-year emissions due to a change in facility boundaries.

13. Compliance Factors - New facilities

The compliance factors for new facilities depend on the fiscal year in which the facilities become subject to reduction obligations.

- **Existing facilities** are those that have been subject to reduction obligations since the beginning of the Program.

- **New facilities** are those that have been subject to reduction obligations since FY 2010, becoming compliance facilities in:

  A. **The middle of the first compliance period,**

  B. **The second compliance period, or**

  C. **The third compliance period.**

13. Compliance Factors - New facilities

A. Compliance facilities in the middle of the first compliance period

- Provisions for the third compliance period

  <u>The compliance factors for the first compliance period (8% or 6%) will be applied</u> for five fiscal years from when the facilities become subject to the reduction obligations. The **<u>compliance factors for the second compliance period (17% or 15%) will be applied</u>** for the next five fiscal years.

  <u>The compliance factors for the third compliance period (27% or 25%) will be applied</u> in the remaining part of the third compliance period

Overview ***Example*:** Subject to reduction obligations since FY 2012

Compliance period		1st compliance period					2nd compliance period					3rd compliance period				
Fiscal year		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Existing facilities		8%/6%	8%/6%	8%/6%	8%/6%	8%/6%	17%/15%	17%/15%	17%/15%	17%/15%	17%/15%	27%/25%	27%/25%	27%/25%	27%/25%	27%/25%
New facilities		8%/6%	8%/6%	8%/6%	8%/6%	8%/6%	17%/15%	17%/15%	17%/15%	17%/15%	17%/15%	27%/25%	27%/25%	27%/25%	27%/25%	27%/25%
	A	RF	8%/6%	8%/6%	8%/6%	8%/6%	8%/6%	17%/15%	17%/15%	17%/15%	17%/15%	17%/15%	27%/25%	27%/25%	27%/25%	27%/25%
	CF from	RF	RF	**8%/6% 1st yr.**	**8%/6%**	**8%/6%**	**8%/6%**	**8%/6% 5th yr.**	**17%/15% 6th yr.**	**17%/15%**	**17%/15%**	**17%/15%**	**17%/15% 10th yr.**	**27%/25% 11th yr.**	**27%/25%**	**27%/25%**
	1st P	RF	RF	RF	8%/6%	8%/6%	8%/6%	8%/6%	8%/6%	17%/15%	17%/15%	17%/15%	17%/15%	17%/15%	27%/25%	27%/25%
			RF	RF	RF	8%/6%	8%/6%	8%/6%	8%/6%	8%/6%	17%/15%	17%/15%	17%/15%	17%/15%	17%/15%	27%/25%

* "RF" in the table stands for a reporting facility not subject to reduction obligations yet. "CF" stands for a compliance facility.

13. Compliance Factors - New facilities

B. Compliance facilities in the second compliance period

- Provisions for the third compliance period
  <u>The compliance factors for the first compliance period (8% or 6%) will be applied</u> for five fiscal years from when the facilities become subject to the reduction obligations
  <u>The compliance factors for the second compliance period (17% or 15%) will be applied</u> in the remaining part of the third compliance period (starting in the sixth fiscal year)

Overview ***Example*:** Subject to reduction obligations since FY 2017

Compliance period		1st compliance period					2nd compliance period					3rd compliance period				
Fiscal year		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Existing facilities		8%/6%	8%/6%	8%/6%	8%/6%	8%/6%	17%/15%	17%/15%	17%/15%	17%/15%	17%/15%	27%/25%	27%/25%	27%/25%	27%/25%	27%/25%
New facilities	B			RF	RF	RF	8%/6%	8%/6%	8%/6%	8%/6%	8%/6%	17%/15%	17%/15%	17%/15%	17%/15%	17%/15%
					RF	RF	RF	8%/6%	8%/6%	8%/6%	8%/6%	8%/6%	17%/15%	17%/15%	17%/15%	17%/15%
	CF from					RF	RF	RF	**8%/6% 1st yr.**	**8%/6%**	**8%/6%**	**8%/6%**	**8%/6% 5th yr.**	**17%/15% 6th yr.**	**17%/15%**	**17%/15%**
	2nd P						RF	RF	RF	8%/6%	8%/6%	8%/6%	8%/6%	8%/6%	17%/15%	17%/15%
								RF	RF	RF	8%/6%	8%/6%	8%/6%	8%/6%	8%/6%	17%/15%

* "RF" in the table stands for a reporting facility not subject to reduction obligations yet. "CF" stands for a compliance facility.

13. Compliance Factors - New facilities

C. Compliance facilities in the third compliance period

◆ Provisions for the third compliance period

<u>In principle, the compliance factors for the second compliance period (17% or 15%) will be applied</u>

* The compliance factors for the first compliance period (8% or 6%) will be applied as a transitional measure until the fourth fiscal year in the third compliance period (the compliance factors for the second compliance period (17% or 15%) will be applied in the fifth fiscal year)

Period of transitional measures

A period of transitional measures is provided to take into account the fact that compliance factors for the first compliance period are applied to facilities becoming subject to the reduction obligations in the middle of the second compliance period and it takes a certain time to build a new building from design to completion.

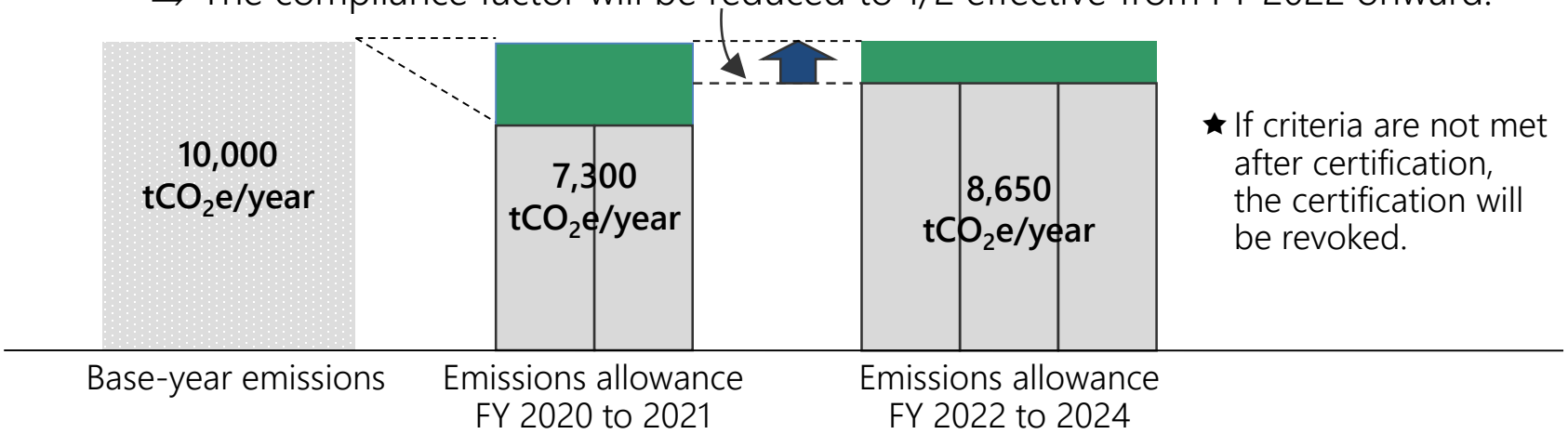
Compliance period		1st compliance period					2nd compliance period					3rd compliance period				
Fiscal year		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Existing facilities		8%/6%	8%/6%	8%/6%	8%/6%	8%/6%	17%/15%	17%/15%	17%/15%	17%/15%	17%/15%	27%/25%	27%/25%	27%/25%	27%/25%	27%/25%
New facilities	**C** CF from 3rd P								RF	RF	RF	**8%/6%**	**8%/6%**	**8%/6%**	**8%/6%**	**17%/15%**
										RF	RF	RF	**8%/6%**	**8%/6%**	**8%/6%**	**17%/15%**
											RF	RF	RF	**8%/6%**	**8%/6%**	**17%/15%**
												RF	RF	RF	**8%/6%**	**17%/15%**
													RF	RF	RF	**17%/15%**

* "RF" in the table stands for a reporting facility not subject to reduction obligations yet. "CF" stands for a compliance facility.

14. Compliance Factor for Top-Level Facilities

Facilities which achieve significant progress against global warming and meet the standards established by the governor of Tokyo are certified as top-level facilities, receiving **a compliance factor relaxed to 1/2 or 3/4**.*

***Example*:** A top-level facility with a compliance factor reduced to 1/2 from FY 2022.
⇒ The compliance factor will be reduced to 1/2 effective from FY 2022 onward.



★ If criteria are not met after certification, the certification will be revoked.

Fulfillment of reduction obligations

In the case of base-year emissions of 10,000 tCO_2e and normal compliance factor of 27%:

(1) FY 2020 - 2021 (2 years): 14,600 tCO_2e (7,300 tCO_2e (10,000 tCO_2e × 27%) × 2 years)

(2) FY 2022 - 2024 (3 years): 25,950 tCO_2e (8,650 tCO_2e (10,000 tCO_2e × 13.5%) × 3 years)

⇒ Emissions for 5 years should not exceed 40,550 tCO_2e in total

* The provision is effective until the final fiscal year of the compliance period to which the fiscal year of the certification belongs. Only for facilities certified in the middle of the second compliance period, it is effective for five fiscal years after the certification. (For facilities certified during the third compliance period, it is effective until the final fiscal year of the third compliance period.)

15. Provisions for Medical Facilities

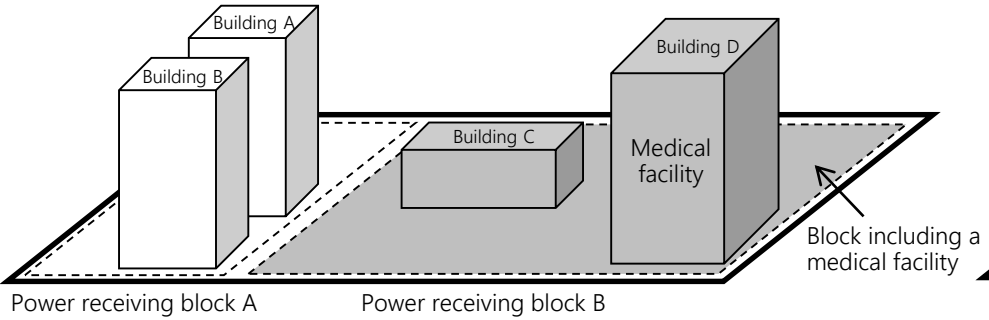
For **medical facilities for which electricity is vital to preserve life and health**, **the compliance factor will be reduced by 2%*** only in the third compliance period as a relaxation measure for a drastic change from the second compliance period to the third compliance period.

* This provision covers only facilities whose emissions related to medical facilities account for 1/2 or more of their emissions among facilities to which the compliance factor of 27% or 25% is applied during the third compliance period.

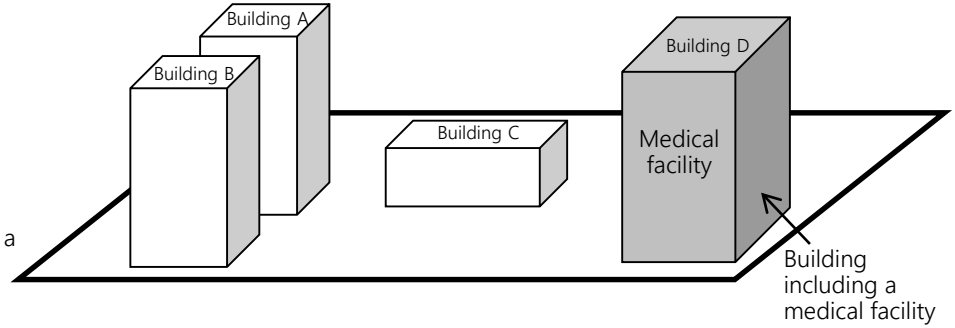
Medical facilities covered by the relaxation measure	Hospitals prescribed in Paragraph 5-1, Article 1, clinics prescribed in Paragraph 2, Article 1, and birthing centers prescribed in Paragraph 1, Article 2 of the Medical Service Act.
Reduction from compliance factor	2%

Summary: This provision is applied when a medical facility constitutes the main part of a power receiving block or building and emissions from the block or building account for 50% or more of the emissions from an entire (inclusive) facility.

Example of a power receiving block

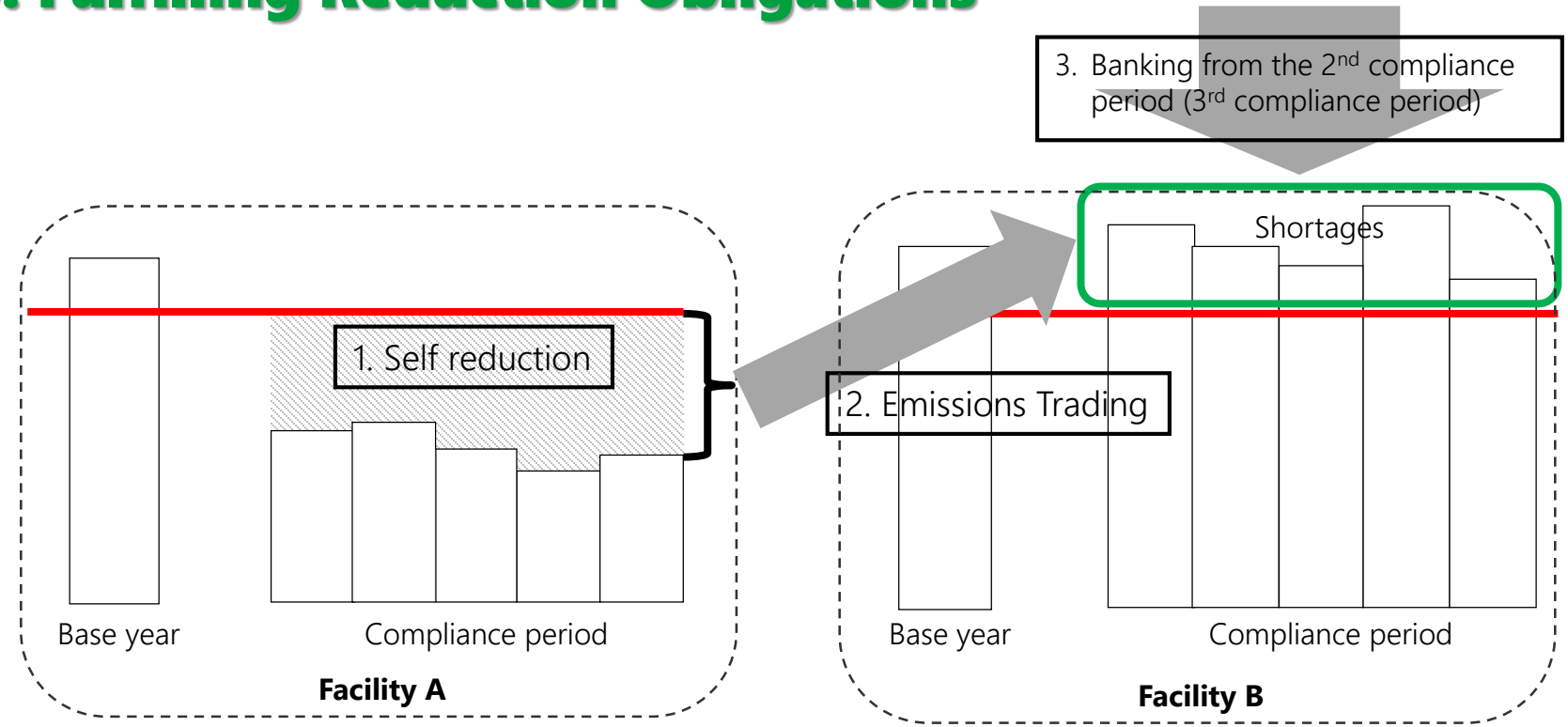


Example of a building



* The third compliance period will eliminate the relaxation of the compliance factor in connection with Article 27 of the Electricity Business Act that was implemented in the second compliance period.

16. Fulfilling Reduction Obligations



1. Self reduction

(1) Upgrading to high-efficiency energy consumption equipment and developing operational measures
(2) Mechanism for selecting low-carbon electricity/heat
(3) Mechanism for evaluating the reception of high-efficiency cogeneration

2. Emissions trading

(1) Excess emission reductions
(2) Small and mid-size facility credits
(3) Renewable energy credits
(4) Outside Tokyo credits
(5) Saitama credits

3. Banking from the second compliance period

17. Upgrading to High-Efficiency Equipment and Developing Operational Measures

Facilities promote reduction measures for themselves by upgrading to high-efficiency equipment and developing operational measures

Reduction measures for heat sources and air conditioning
Installation of high-efficiency heat source equipment
Introduction of high-efficiency pumps for air-conditioning and energy-efficiency control
Installation of high-efficiency air conditioning equipment
Installation of high-efficiency packaged air conditioners
Installation of variable-air-volume systems for air conditioning equipment
Installation of systems for cooling using outside air
Installation of total heat exchangers
Appropriate room temperatures
More careful timing of starting up air-conditioning before using rooms

Reduction measures for lighting and others
Installation of building energy management systems
Demand control systems
Introduction of high-efficiency lighting and energy-efficiency control
Installation of high-efficiency transformers
Relaxing illumination conditions
Total or partial lights-out during lunch break and outside business hours
Installation of high-intensity/luminous evacuation lighting
Introduction of human detection and lighting control with human sensors on lighting equipment
Introduction of time schedule control of lighting

18. Mechanism for Selecting Low-Carbon Electricity

A mechanism to recognize CO_2 reduction equivalent when electricity is procured from a TMG-certified supplier with a low CO_2 emission factor in order to encourage facilities to select a low-carbon electricity supplier

Formula: Annual emissions of the covered facility = CO_2 emissions of fuels – Reductions

Scheme of the mechanism for selecting low-carbon electricity

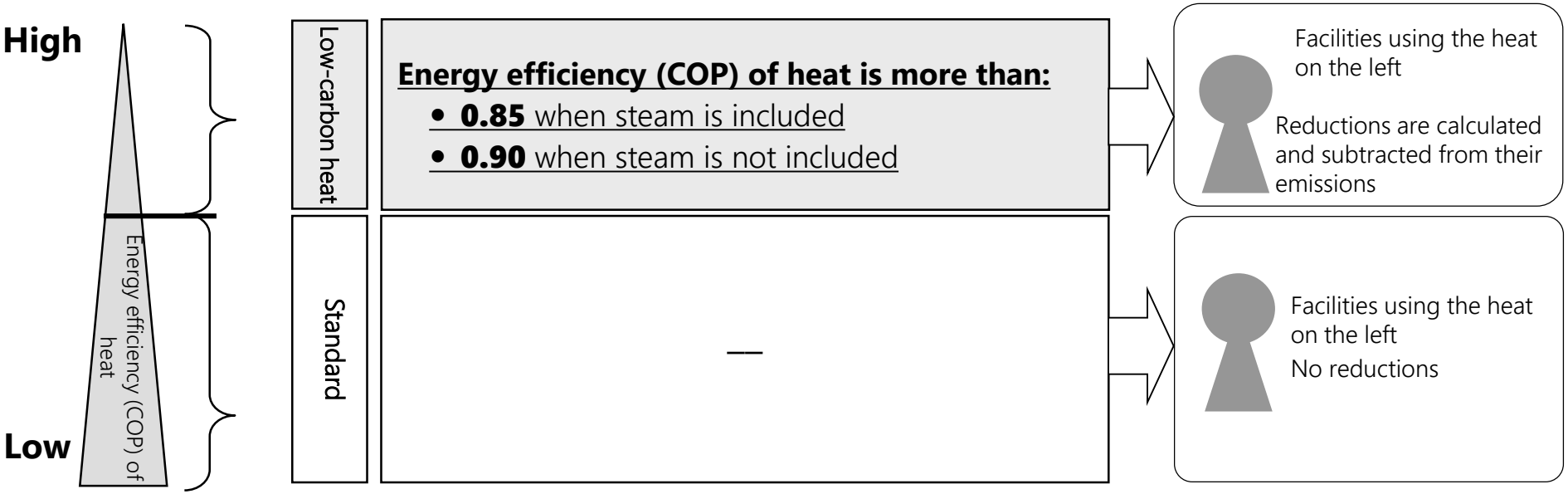
Low-carbon electricity	**Electricity suppliers whose CO_2 emission factor* is:** 0.37 tCO_2e/MWh or less * Whichever is the lowest of a basic emission factor (based on actual power generation mix) or an adjusted emission factor (a basic emission factor to which adjustment, including environmental values associated with the FIT program, and the use of environmental values, including non-fossil value certificates, are applied)	Facilities using the electricity on the left Reductions are calculated and subtracted from their emissions
Standard	—	No reductions
High-carbon electricity	**Electricity suppliers whose CO_2 emission factor is:** 0.7 tCO_2e/MWh or more	Facilities using the electricity on the left Emissions are calculated and added to their emissions

19. Mechanism for Selecting Low-Carbon Heat

A mechanism to recognize CO_2 reduction equivalent when heat is procured from a TMG-certified supplier with a low CO_2 emission factor in order to encourage facilities to select low-carbon heat suppliers

Formula: Annual emissions of the covered facility = CO_2 emissions of fuels – Reductions

Scheme of the mechanism for selecting low-carbon heat



20. Mechanism for Evaluating the Reception of High-Efficiency Cogeneration

(1) Evaluation of energy efficiency and CO_2 reduction brought by the use of high-efficiency cogeneration systems: The energy efficiency and CO_2 reduction effects of high-efficiency cogeneration systems are evaluated with new CO_2 emission factors of electricity in the second and subsequent compliance periods. Therefore, the adjustment of emissions implemented in the first compliance period is discontinued.

(2) Introduction of the mechanism for evaluating the reception of high-efficiency cogeneration: Low emission factors of electricity/heat received from high-efficiency cogeneration systems of other facilities can be applied to a certain extent to the calculation of emissions from recipient facilities.

Formula: Annual emissions of the covered facility = CO_2 emissions of fuels - Reductions

		1st compliance period	2nd and subsequent compliance periods
Facilities with high-efficiency cogeneration systems	Evaluation of energy efficiency and CO_2 reduction brought by the use of high-efficiency cogeneration systems	Subtract "reductions" from annual emissions of covered facilities if the requirements stipulated by TMG for high-efficiency cogeneration systems are met	(1) Discontinue the adjustment of emissions implemented in the first compliance period
	Subtraction of emissions resulting from electricity and heat supplied to the outside by cogeneration systems	Subtract CO_2 emissions resulting from electricity and heat supplied to the outside by cogeneration systems	Same as the 1st compliance period
Facilities receiving electricity/heat from cogeneration systems	Evaluation of low-CO_2 performance of the electricity and heat received from high-efficiency cogeneration systems	—	(2) Introduce a mechanism for evaluating the reception of high-efficiency cogeneration

21. Ensuring the Effectiveness of the Program

Compliance period: Five years

Adjustment period

Eighteen months* after the compliance period

* If mandatory emission reductions and annual emissions are finalized within 180 days until the end of the adjustment period, the deadline will be the 180th day of the finalization

Covered facilities

- Confirmation of the fulfillment of reduction obligations
- (If reduction obligations have not been achieved by the end of the compliance period) Acquisition of reductions (credit etc.) through trading

In case of non-compliance

Order for Action (Reduction of 1.3 times the shortage)

In case of violation of the order

Monetary fine (JPY 500,000 or less)

Disclosure of violations

The governor's office purchases the credits in shortage with the payment cost charged to the violating facility

22. Credit Types

Credits are GHG reductions and environmental values obtained through the implementation of reduction measures, which can be used to fulfill reduction obligations. They include:

Credit name	Description
Excess emission reductions	Reductions exceeding the obligation achieved by covered facilities
Small and mid-size facility credits	Reductions achieved through measures based on certification standards for small and medium-sized facilities in Tokyo
Renewable energy credits	Environmental values of renewable energy (**Other reductions:** Renewable energy credits issued from Renewable Energy Certificates and New Energy Electricity **Environmental value equivalent:** Environmental values created by equipment certified by TMG)
Outside Tokyo credits	Reductions achieved through energy efficiency measures by large facilities outside Tokyo (Limited to the amount exceeding mandatory emission reductions equivalent)
Saitama credits	Excess emission reductions and small and mid-size facility credits certified under the Saitama Target-Setting Emissions Trading System

Effective period of credits (banking etc.)

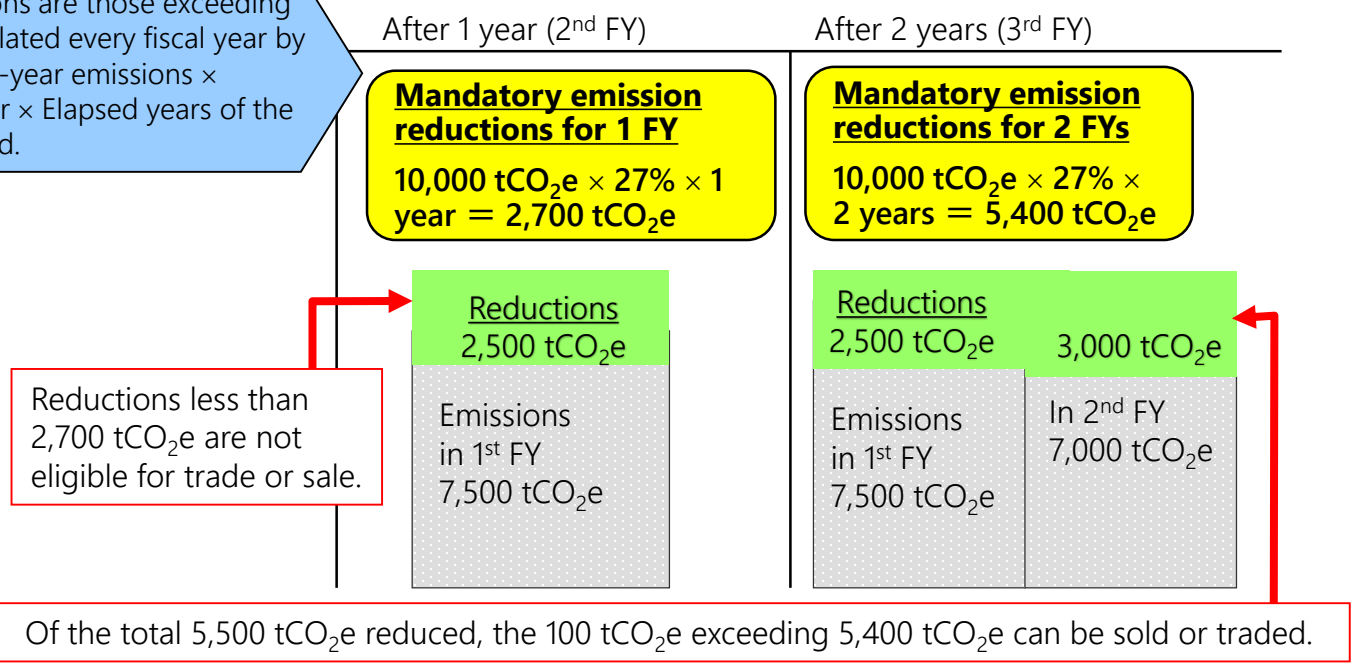
The reductions in the n-th compliance period can be used for reduction obligations in the n-th and n+1-th compliance periods and are effective until the end of the adjustment period of the n+1-th compliance period.

22. Credit Types - Excess Emission Reductions (1)

(A) The amount exceeding the mandatory emission reductions prorated for each year in a compliance period can be traded from the second fiscal year of the compliance period.

This mechanism enables businesses that achieve reductions exceeding their mandatory emission reductions by a certain amount every fiscal year to sell the achieved reductions even before the end of the compliance period.

Example: Tradable reductions are those exceeding the amount calculated every fiscal year by the formula: Base-year emissions × Compliance factor × Elapsed years of the compliance period.



* Calculation of excess emission reductions with reductions in other gases

Reductions in other gases are not available for emissions trading. However, covered facilities can increase the amount of excess emission reductions issued for CO_2 reductions by allocating the reductions in other gases to their reduction obligations first.

22. Credit Types - Excess Emission Reductions (2)

Seller

(B) Excess emission reductions can be calculated up to half of base-year emissions.

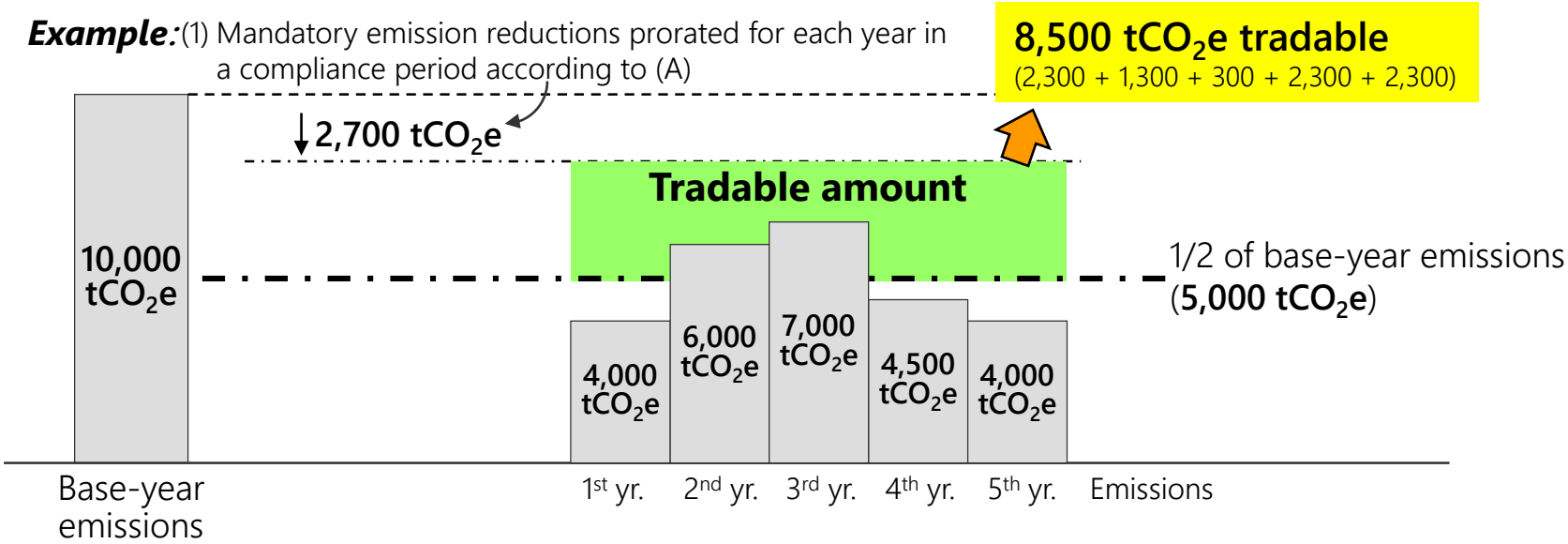
The limit is set to prevent facilities that achieve significant reductions without energy efficiency measures from accruing large benefits through emissions trading.

Trading

Buyer

Necessary amount can be used for reduction obligations without a limit.

Example: (1) Mandatory emission reductions prorated for each year in a compliance period according to (A)



22. Credit Types
- Small and Mid-Size Facility Credits (Reductions in Tokyo)

Seller

(A) Small and medium-sized facilities that submit a Carbon Reduction Report

(B) The scope of facilities is a building in principle, but can also be part of it, including a tenant and building unit owner (duplicate applications are prohibited). Multiple buildings can be put together in a single application.

* An applicant is required to have the authority to replace equipment in a small and medium-sized facility or obtain the consent of a person who has such authority.

Trading

Buyer

Necessary amount can be used for reduction obligations without a limit.

● List of specific reduction measures

Category	Specific reduction measures
1. Heat source/heat transfer equipment	Installation of high-efficiency heat source equipment (1.1)
	Installation of high-efficiency cooling tower (1.2)
	Installation of high-efficiency pumps for air-conditioning (1.3)
	Installation of variable flow controller for air conditioning pumps (1.4)
2. Air conditioning and ventilation system	Installation of high-efficiency packaged air conditioners (2.1)
	Installation of high-efficiency air conditioning equipment (2.2)
	Installation of total heat exchangers (2.3)
	Installation of high-efficiency air conditioning fans and ventilation fans (2.4)
	Installation of energy-efficiency air conditioning control system (2.5)
	Installation of energy-efficiency ventilating control system (2.6)
3. Lighting and electrical equipment	Installation of high-efficiency lighting (3.1)
	Installation of high-intensity evacuation lighting (3.2)
	Installation of high-efficiency transformer (3.3)
	Installation of energy-efficiency lighting control system (3.4)
4. Other	Installation of high-efficiency hot water supply system (4.1)
	Installation of energy-efficiency control system for elevator (4.2)
	Installation of high-efficiency air compressor (4.3)
	Installation of other high-efficiency pumps, blowers and fans (4.4)
	Installation of high-efficiency freezing and refrigerating system (4.5)
	Installation of high-efficiency industrial furnace (4.6)
	Installation of high-performance glass and other equipment (4.7)

Features

- Procedures for calculating/verifying reductions are simplified, requesting verification only at the first application during the compliance period, for example.
- For small and medium-sized facilities in Tokyo, their own reduction measures are promoted, encouraging upgrading to high-efficiency equipment based on the specific reduction measures presented by TMG, for example.

22. Credit Types - Renewable Energy Credits (1)

Seller

Environmental value equivalent Renewable Energy Certificates[*1]

New energy electricity generated under the RPS Law[*2]

*1 Issued or generated from FY 2008 onward.

*2 Issued or generated from FY 2008 onward and not used to fulfill reduction obligations under the RPS Law.

Trading

Buyer

Necessary amount can be used for reduction obligations without a limit.

● Conversion factors

◆ Renewable energy generated by the end of the 2nd compliance period

Solar light (heat), wind power, geothermal heat, hydro power	**1.5 times** to be certified as credit
Biomass	1.0 times to be certified as credit

◆ Renewable energy generated from the 3rd compliance period onward

Solar light (heat), wind power, geothermal heat, hydro power	**1.0 times** to be certified as credit
Biomass	

22. Credit Types - Renewable Energy Credits (2)

- **Renewable energy types certified as renewable energy credits**

  Solar light, including solar heat*, wind power, geothermal heat, hydro power (up to 1,000 kW) Biomass (1. Biomass energy ratio of electricity production must be 95% or more. 2. Black liquor is excluded.)

  * Only Renewable Heat Certificates will be applicable for the time being

- **Applicants for the certification of renewable power (heat) and the issue of renewable energy credits**

  The applicant must be the **end holder** of the Renewable Power (Heat) Certificate (who has been notified as the end holder to the Green Energy Certification Center) and a **reduction obligor of a covered facility**.

- **Notes**

  ✓ It must be **clearly indicated** that the Renewable Power (Heat) Certificate will be **used for the Program**.

  ✓ If the use of green energy under the Renewable Energy Certificate is applied under the Act on Promotion of Global Warming Countermeasures or CDP, the same facilities and fiscal years need to be subject to calculation.

22. Credit Types - Renewable Energy Credits (3)

● Effective period of renewable energy credits issued from Renewable Energy Certificates and New Energy Electricity (other reductions)

◆ **Amount issued*1 as Renewable Energy Certificates etc.*2 by the end of the 2nd compliance period**

Electricity generated or issued during the X-th compliance period:

Can be used to fulfill reduction obligations in the X-th and X+1-th compliance periods and is effective until the end of the adjustment period of the X+1-th compliance period.

◆ **Amount issued as Renewable Energy Certificates etc. from the 3rd compliance period onward**

Electricity generated in the n-th compliance period to which the final day of the power generation period belongs:

Can be used to fulfill reduction obligations in the n-th and n+1-th compliance periods and is effective until the end of the adjustment period of the n+1-th compliance period.

- Amount issued as Renewable Energy Certificates or New Energy Electricity from the third compliance period onward can be used to fulfill the reduction obligations of the compliance period to which the final day of the power generation period belongs and the next compliance period, regardless of the compliance period of the issue.

*1 The issue date of the Renewable Energy Certificates is, in principle, the issue date notified to the Green Energy Certification Center and the issue of new energy electricity generated under the RPS Law means the acceptance of the record statement for the New Energy Electricity submitted to the RPS office.

*2 Renewable Energy Certificates (Renewable Power Certificates and Renewable Heat Certificates) and new energy electricity generated under the RPS Law

22. Credit Types
- Outside Tokyo Credits (Reductions outside Tokyo)

Seller

- Large facilities outside Tokyo with annual energy consumption of 1,500 kL or more in a base year and base-year emissions of 150,000 tCO_2e or less (small and medium-sized facilities not to be covered for the time being)
- At the time of the initial application and the application for the certification of reductions, the total of estimated reduction rates achieved by the installation of energy-efficiency equipment or renewable energy power generation facilities must be equal to or higher than an estimated reduction rate specified by TMG.

Trading

Buyer

Up to 1/3 of mandatory emission reductions can be used for reduction obligations.

- **The main goal of the Tokyo Cap-and-Trade Program is to reduce the total CO_2 emissions in Tokyo.**
- **Considering the efficiency of measures taken by businesses making energy efficiency investments nationwide in a planned manner, the outside Tokyo credits allow the emission reductions achieved through energy efficiency measures by facilities outside Tokyo in the same size as those under the Program of TMG to be used to the extent that such use will not negatively impact reduction efforts in Tokyo.**

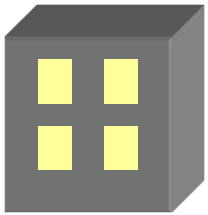
Calculation of reductions

- When issuing outside Tokyo credits, it is assumed that reduction obligations are applied in the same manner as those for large facilities in Tokyo. The outside Tokyo credits will be the reductions (up to a reduction rate specified by TMG every fiscal year) that exceed a compliance factor (a reduction rate specified by TMG).

22. Credit Types - Saitama Credits

(1) Excess emission reductions

Seller
(Facility in Saitama prefecture)

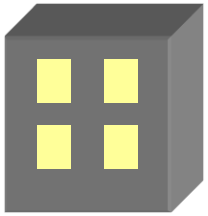


Excess emission reductions generated by facilities that have:

- Base-year emissions up to 150,000 tCO_2e
- Achieved goals (corresponding to fulfillment of reduction obligations in the Program of TMG) throughout compliance periods

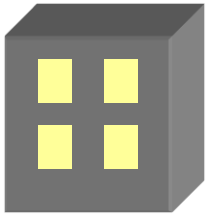
Trading

Buyer
(Facility in Tokyo)



(2) Small and mid-size facility credits issued by Saitama prefecture

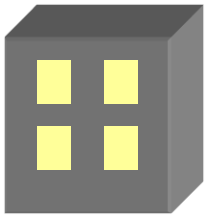
Seller
(Facility in Saitama prefecture)



- Credits issued by Saitama prefecture as small and mid-size facility credits

Trading

Buyer
(Facility in Tokyo)



* Non-transferrable credits include renewable energy credits of Saitama prefecture, outside Tokyo/Saitama credits, and forest removal credits.

* Excess emission reductions and small and mid-size facility credits of TMG can also be transferred to facilities in Saitama prefecture.

23. Registry

Registry

An electronic system to manage records of registration, transfer, and appropriation of credits for compliance. TMG keeps records in the registry based on the application for the issue or trading of credits made by businesses.

Registry mechanisms - Roles of compliance accounts and trading accounts

Compliance accounts: Indicate the status of the fulfillment of reduction obligations by facilities subject to reduction obligations, not recording the ownership of assets.

- Account holders: Covered businesses
- The account is opened for each reporting facility. (If there are multiple covered businesses, an account manager may be assigned as a representative.)

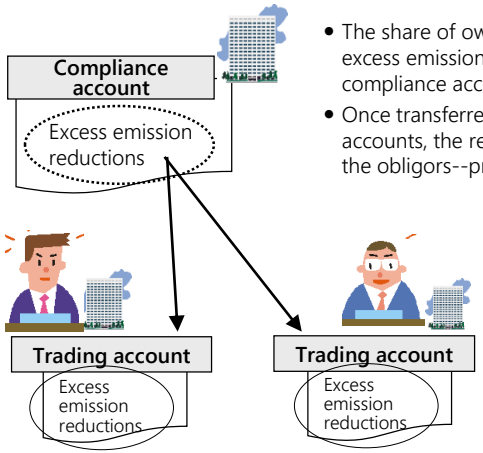
Trading accounts: Record each business's ownership of tradable credits and other assets.

- Account holders: Market participants, including covered businesses and others who wish to participate in emissions trading
- A covered business and account manager can open multiple accounts for each corporation or individual. (Others can open only one account in principle.)

Governor's management account: Used for program operation, including recording of appropriation of credits for compliance and invalidation of credits.

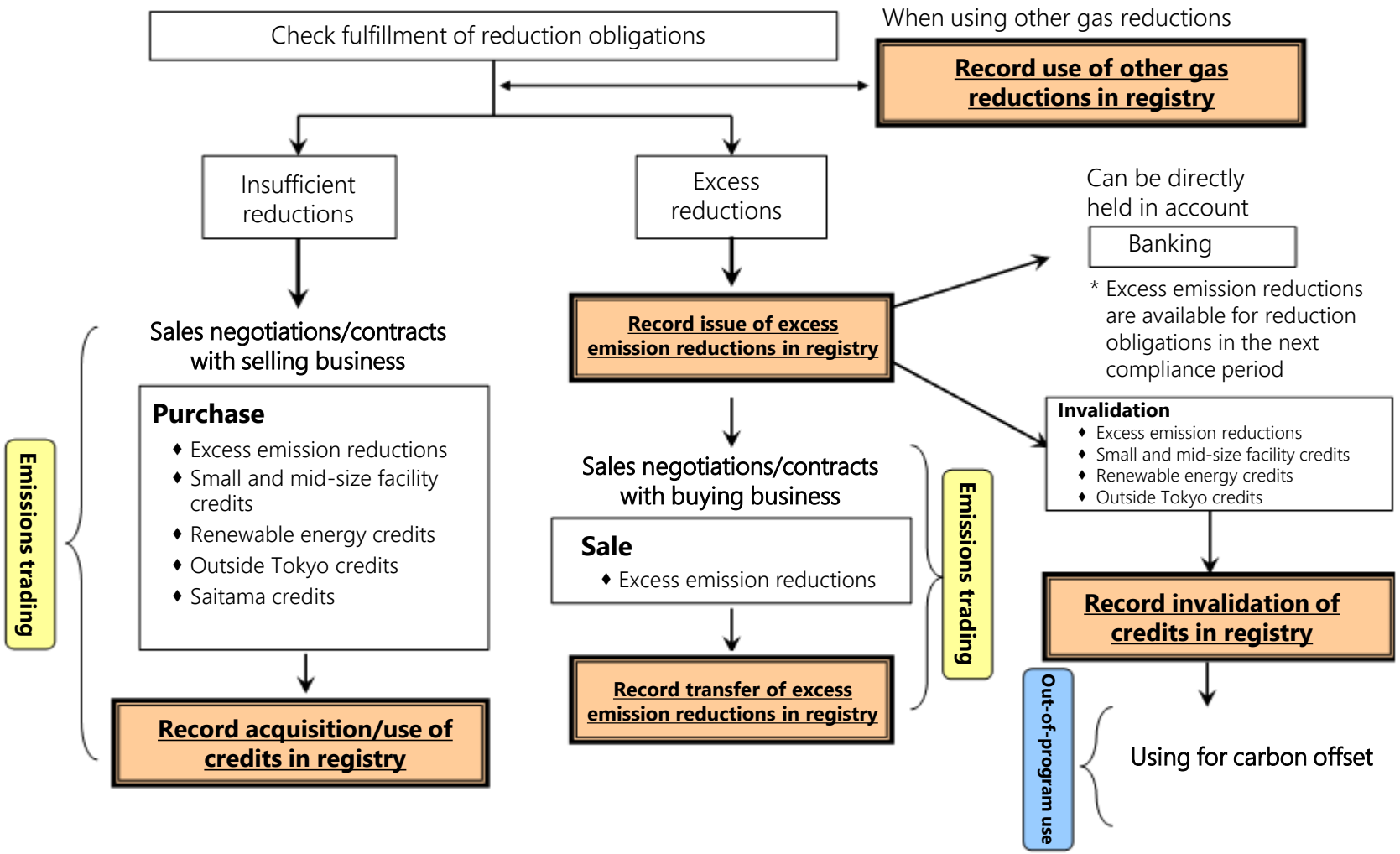
Transfer patterns	Significance of transfers
Trading account ⇒ Trading account	A general emissions trading. Credit owner record is amended.
Compliance account ⇒ Trading account	A transfer to determine between obligors an owner of excess emission reductions recorded in a compliance account.
Trading account ⇒ Compliance account	A transfer to a facility's compliance account in order to fulfill its obligations (to transfer to an appropriation account). Credits transferred to the compliance account cannot be returned to a trading account.
Compliance account ⇒ Compliance account	**Not eligible. Transfer must be done through the trading accounts.**

Example: Allocating excess emission reductions between two obligors (owners)



- The share of ownership is not clarified when excess emission reductions are held in the compliance account--property rights do not exist.
- Once transferred to and recorded in the trading accounts, the reductions become the property of the obligors--property rights exist.

23. Registry - Procedures after Opening an Account



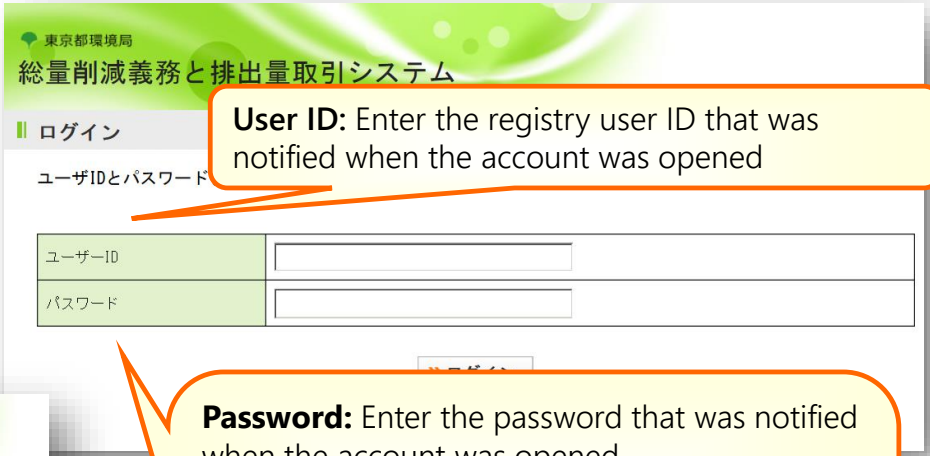
24. Using the Registry System

(1) Access the login page
https://www.kankyo.metro.tokyo.lg.jp/climate/large_scale/system_top.html

Click **Login** in the center

Operation manual gives detailed description of operating procedures

(2) Log in the Tokyo Cap-and-Trade Registry System



User ID: Enter the registry user ID that was notified when the account was opened

Password: Enter the password that was notified when the account was opened

- When you log in for the first time, the **Password change information entry** screen will open
- For the second and subsequent times, log in using the changed password

Notes:

You are responsible for managing the changed password.

If you forget your user ID or password, submit an **Application for notification of registry user information** to request the reissue of your password (reissue takes approximately 10 days).

* A user ID is different from a contact person ID.

24. Using the Registry System

When emission reductions are more than sufficient:

Issuable excess emission reductions appear in ①

When emission reductions are insufficient:

Reduction shortages appear in ②

When emissions trading is necessary:

Amount of held credits appears in ③*

① Issuable excess emission reductions + ③ Held credits < ② Reduction shortages

Emissions trading is necessary

* Add credits held in the trading account as well, if any.
The excess emission reductions in the second compliance period will be automatically issued to the compliance account as soon as the status of the fulfillment of reduction obligations is confirmed.

Status of fulfillment of reduction obligations

All values except the compliance factor are in CO_2e

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020 adjustment period	Total in compliance period
Base-year emissions	12,000	12,000	12,000	12,000	12,000		80,000
Business category	I-1	I-1	I-1	I-1	I-1		
Top-level facility							
Facility eased under Electricity Business Act							
Compliance factor	17%	17%	17%	17%	17%		
Energy-related CO_2 emissions	9,000	8500	8500	8500	8300		42800
Emission reductions	3,000	3,500	3,500	3,500	3,700		17,200
Appropriation of other gas reductions for compliance							
Appropriation of tradable credits for compliance							
Issued excess emission reductions							0
Emission reductions including trading	3,000	3,500	3,500	3,500	3,700	0	17200
Issuable excess emission reductions	960	2420	3880	5340	7000		

Emissions allowance in the remaining compliance period	0 tCO_2e
Emissions in the remaining compliance period with those in the previous fiscal year maintained	0 tCO_2e
Reduction shortages over mandatory emission reductions with emissions in the previous fiscal year maintained	0 tCO_2e
Emissions that can be transferred or appropriated for compliance in the next compliance period (banking) with emissions in the previous fiscal year maintained	7,000 tCO_2e

Amount of held credits

1st period credits	1,100 tCO_2e
2nd period credits	0 tCO_2e

Issuable excess emission reductions shown here are not those in each fiscal year, but those accumulated in each compliance period.

25. Emissions Trading - Trading Partners

- **Emissions trading is supposed to be carried out between the parties involved in the trading**

- **How to find credit sellers/buyers**
  - Use the Estimate Acceptance Information Registration feature in the Tokyo Cap-and-Trade Registry System
  - Use a private credit broker that sells or mediates credits available in the Program of TMG or an issuer of Renewable Energy Certificates

    List of matching fair exhibitors in the past (website of the Bureau of Environment)

    https://www.kankyo.metro.tokyo.lg.jp/climate/large_scale/trade/index.html

25. Emissions Trading - Trading Prices

Basic concept

- Prices for emissions trading are negotiated and agreed upon by participants involved in the trading.
- TMG does not set upper or lower limits, or other restrictions, on the trading prices.

Price information disclosed by TMG

- Declared prices listed in applications for credit transfer etc.
- Appraised prices based on TMG surveys

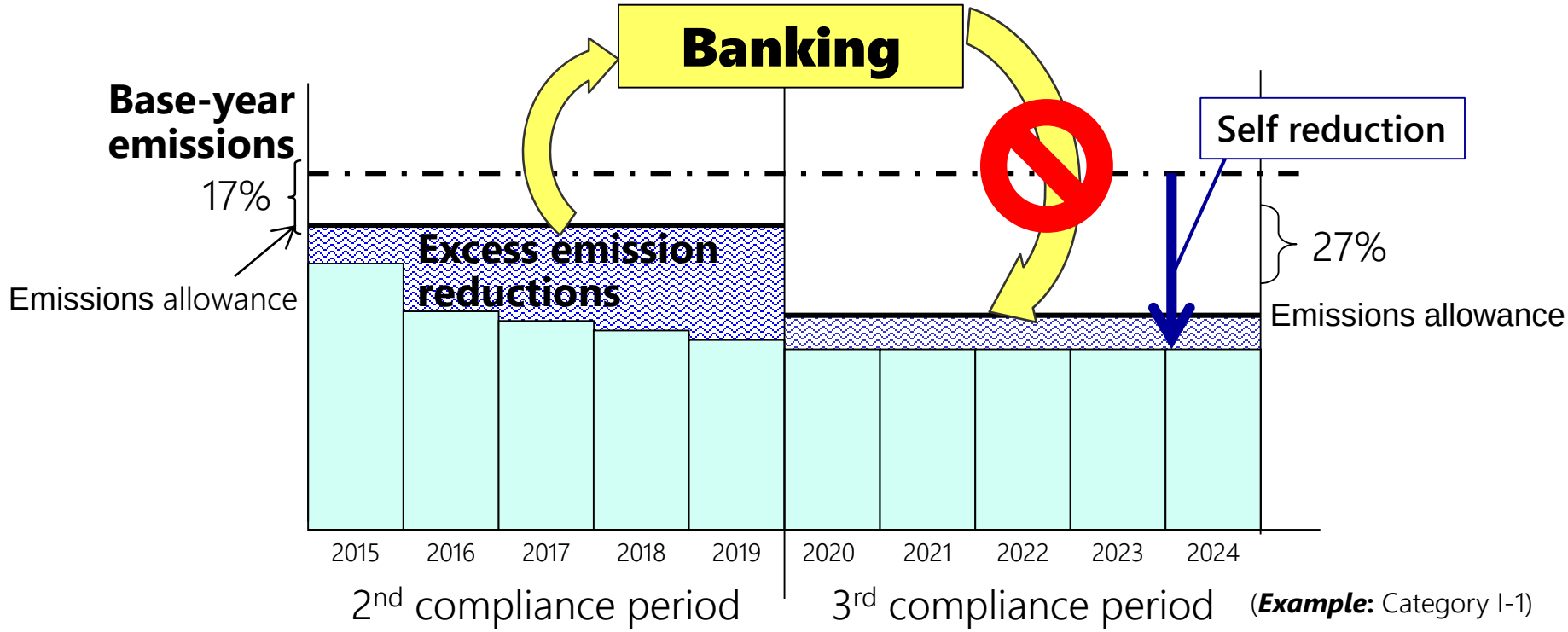
For more information, visit our website:
https://www.kankyo.metro.tokyo.lg.jp/climate/large_scale/trade/index.html

26. Issue and Banking of Excess Emission Reductions

- Excess emission reductions cannot be banked or sold until they are issued.
- From the second compliance period, excess emission reductions are issued ex officio by the Governor at the stage when mandatory emission reductions and total emissions are determined (when the status of the fulfillment of reduction obligations is determined) after the end of the compliance period.
  ⇒ In principle, application for issuing excess emission reductions is unnecessary.
- It is still possible to issue excess emission reductions at any time during the compliance period by making an application.
- Once excess emission reductions are issued and recorded in a compliance account (or a trading account), they can be banked without needing any additional procedures thereafter.
- If excess emission reductions are used for reduction obligations at an originating facility in the next compliance period, they may be banked in the compliance account without opening a trading account.

26. Issue and Banking of Excess Emission Reductions

- Issue of Excess Emission Reductions



<u>If the obligations can be achieved by self reduction in the 3rd compliance period:</u>

Excess emission reductions banked in the second compliance period cannot be appropriated for reductions in the third compliance period.

27. Invalidation of Credits

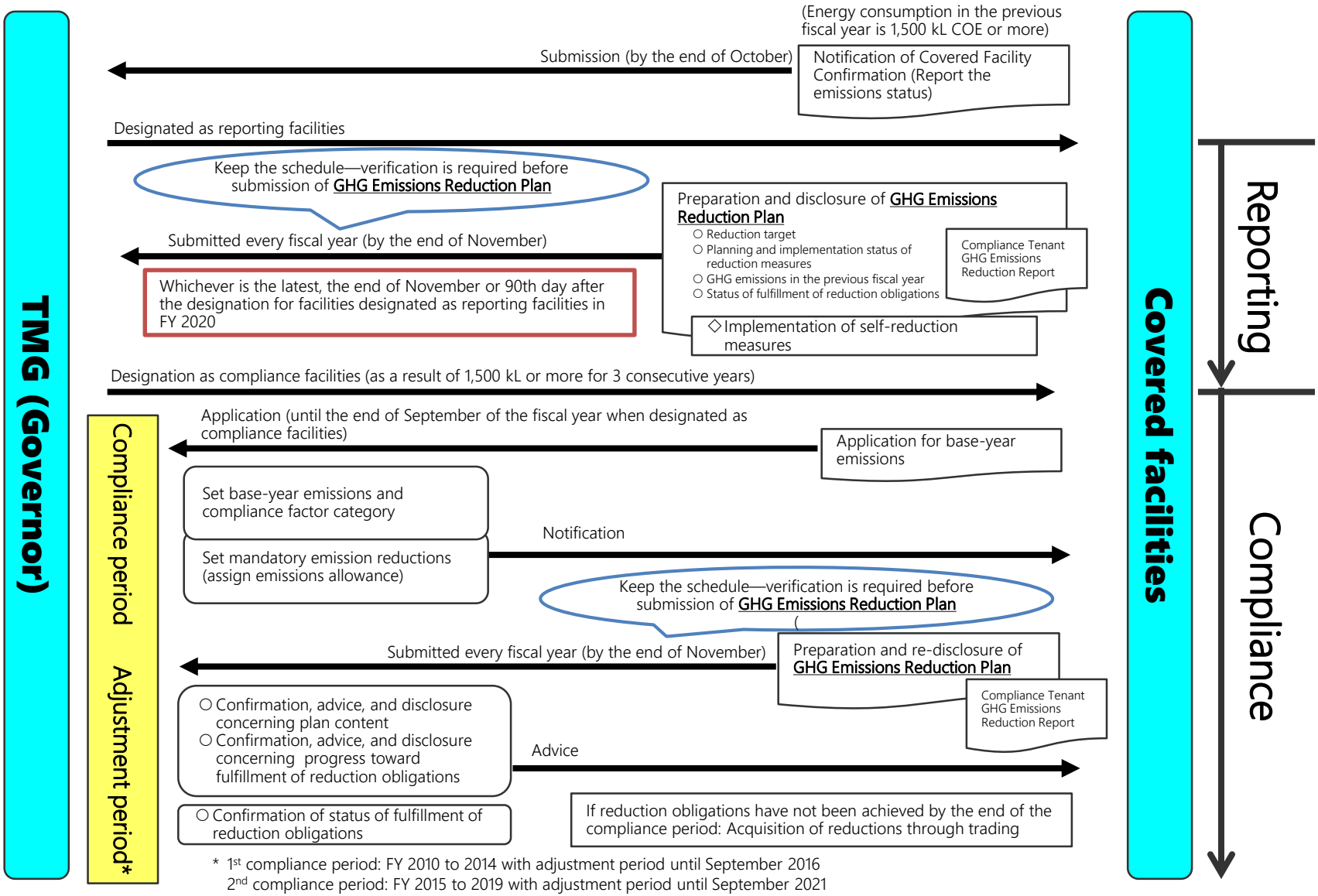
- Starting in FY 2018, credits can be invalidated (making them unavailable for appropriation for compliance under the Program of TMG) by application.
- The invalidation allows the applicant to **use the corresponding environmental value for carbon offset or other purposes than the fulfillment of reduction obligations under the Program of TMG**.

Application for invalidation of credits	
Applicant	The person who opened the trading account in which the credits to be invalidated are recorded
Application deadline	Same as the expiration date of the credits to be invalidated
Applicable credits	Excess emission reductions, small and mid-size facility credits, **renewable energy credits (environmental value equivalent), outside Tokyo credits (added in October 2019)**
Invalidated amount	Unlimited
Specification of invalidation	Serial number

* TMG's efforts for invalidation:
https://www.kankyo.metro.tokyo.lg.jp/climate/large_scale/mukouka/index.html

* A similar invalidation system has been introduced in Saitama prefecture.

28. Flow of the Tokyo Cap-and-Trade Program



* 1st compliance period: FY 2010 to 2014 with adjustment period until September 2016
2nd compliance period: FY 2015 to 2019 with adjustment period until September 2021
3rd compliance period: FY 2020 to 2024 with adjustment period until September 2026

29. Submission and Disclosure of GHG Emissions Reduction Plan

Submission of GHG Emissions Reduction Plan

Every year, covered facilities prepare a GHG Emissions Reduction Plan that includes the following, and submit it to the Governor. (Annual energy-related CO_2 emissions require verification by a registered verification agency[*1]).

- **Reduction targets:** Set quantitative reduction targets equal to or higher than compliance factors: 8% or 6% in the first compliance period, 17% or 15% in the second compliance period, or 27% or 25% in the third compliance period.
- **Planning and implementation of measures to achieve the targets:** Use self-reduction measures at covered facilities and emissions trading to implement economically and technically feasible measures and identify the results.
- **Annual emissions of energy-related CO_2:** Every fiscal year, identify the emission status and check the progress of measures.
- **Annual emissions of other gases:** Strive to set targets for a large amount of emissions. Set quantitative targets if the emissions of other gases account for 1/2 or more of emissions at covered facilities.

*1 An SME-owned facility with GHG reporting obligations (SME facility) is treated in the same manner as a reporting facility. However, verification is not required.

*2 Tenants over a certain size, considered as compliance tenants, are required to prepare and submit a plan describing their own measures and promote the measures based on the plan.

Disclosure

- Covered facilities must disclose mandatory emission reductions and base-year emissions, the compliance period, status of planning and implementation of measures to achieve the targets, and annual emissions in the previous fiscal year.

  ⇒Disclosure through the Internet or at facilities using signage and notice.
- The Governor is supposed to disclose the compliance period, reduction targets, status of planning and implementation of measures to achieve the targets, and annual emissions in the previous fiscal year.

30. Verification

Necessity of verification

To make sure of the fulfillment of reduction obligations and fairness of emissions trading, this Program requires verification by verification agencies registered with TMG.

Targets of verification

- Covered facilities:

  Application for base-year emissions (first time only), reporting of emissions (every fiscal year), application for certification of top-level facilities, certification of other gas reductions

- Other facilities:

  Certification of reductions and environmental value* of renewable energy used in emissions trading

  * Verification by verification agencies is not needed for the reductions or environmental value turned into Renewable Energy Certificates

Registered verification agencies

See the list on the website of the Bureau of Environment, Tokyo Metropolitan Government:
https://www.kankyo.metro.tokyo.lg.jp/climate/large_scale/authority_chief/registered_agency.html

Evaluation system for registered verification agencies

See the evaluation results on the website of the Bureau of Environment, Tokyo Metropolitan Government:
https://www.kankyo.metro.tokyo.lg.jp/climate/large_scale/authority_chief/hyouka/hyouka_kekka.html

Note

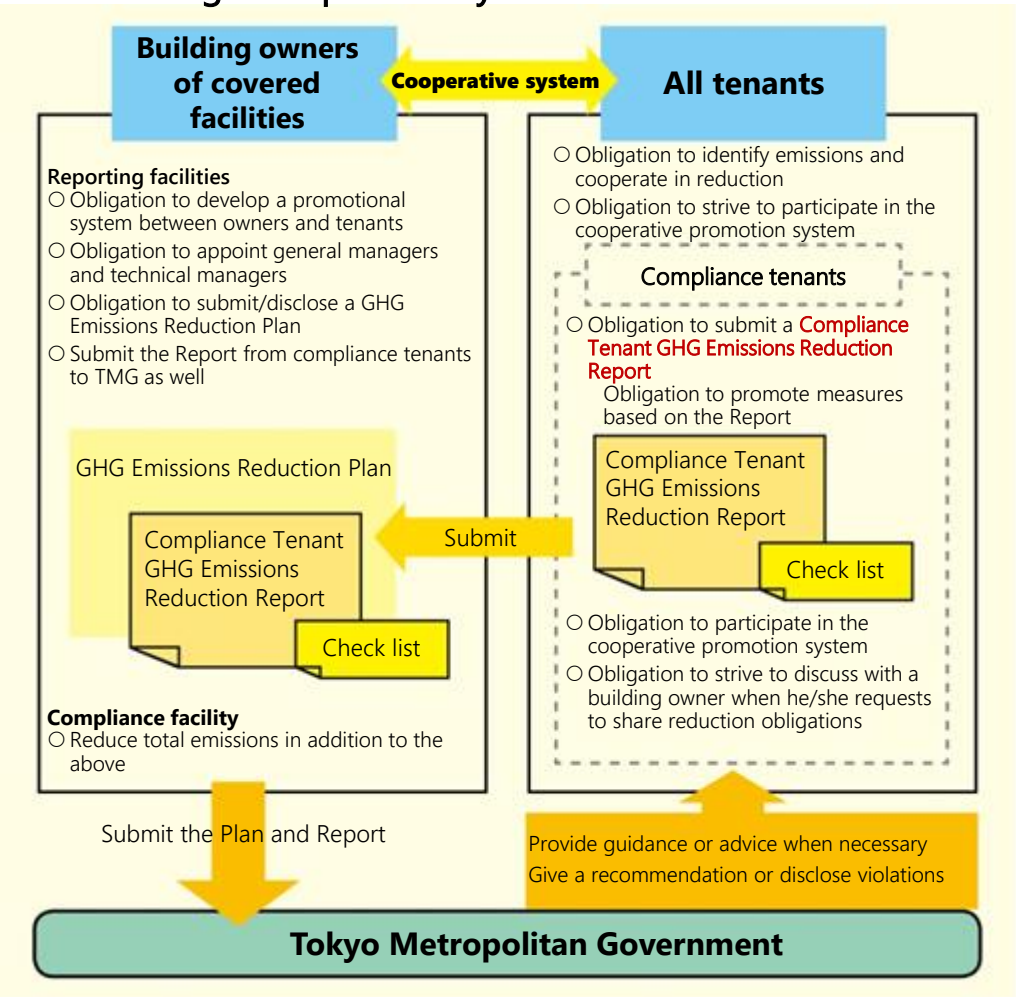
Verification work is concentrated in the period just before the deadline (end of November) of the GHG Emissions Reduction Plan.

Be sure to allow enough time for your request to a verification agency.

31. Rented Buildings

Introduce a mechanism to encourage owners and tenants to work together for energy efficiency

Building a cooperative system for owners and tenants



- All tenants are required to cooperate in owners' energy efficiency measures
- Compliance tenants are required to prepare and submit a Compliance Tenant Report

* **<u>Compliance tenants occupy a covered facility and</u>**

- Occupy a total floor area of 5,000 m^2 or more at the end of each fiscal year

  Or

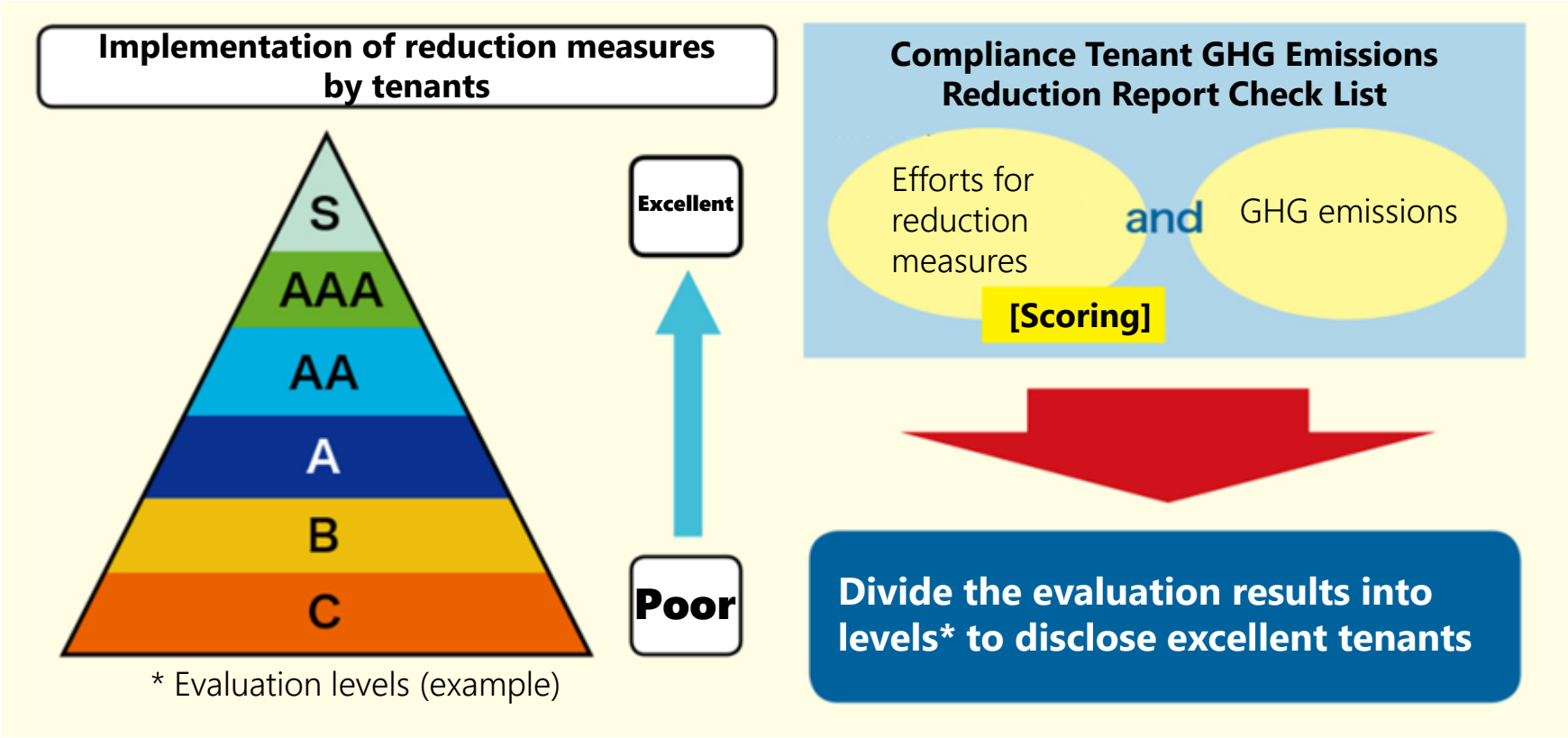
- Consumed 6,000 MWh or more of electricity in the previous fiscal year, regardless of the total floor area.

31. Rented Buildings

Introduce a mechanism to encourage owners and tenants to work together for energy efficiency

Mechanism of Tenant Evaluation and Disclosure Program

- Promote energy efficiency measures at rented buildings by evaluating and disclosing efforts of compliance tenants



32. How to Contact Us

Request for Your Cooperation

- **If you have any questions, use the Common Form (Question Sheets) and email it to us whenever possible.**
  (You can also use the message exchange feature in the Tokyo Cap-and-Trade Registry System.)
  Download the Common Form (Question Sheets):
  http://www.kankyo.metro.tokyo.jp/climate/large_scale/faq/question_download.html
- **We would like to share the answers to your questions with all of the other covered facilities.**
- For this reason, **the answers to typical questions may be summarized and posted as answers to frequently asked questions (FAQ) on the website of the Bureau of Environment, Tokyo Metropolitan Government.**

  We ask for your understanding and cooperation.

Send to the Consultation Desk of the Tokyo Cap-and-Trade Program, Emission Cap and Trade Section, Climate Change & Energy Division, Bureau of Environment, Tokyo Metropolitan Government

Email: ondanka31@kankyo.metro.tokyo.jp (For questions about the Program in general)
torihiki@ml.metro.tokyo.jp (For questions about emissions trading)
Fax: 03(5388)1380