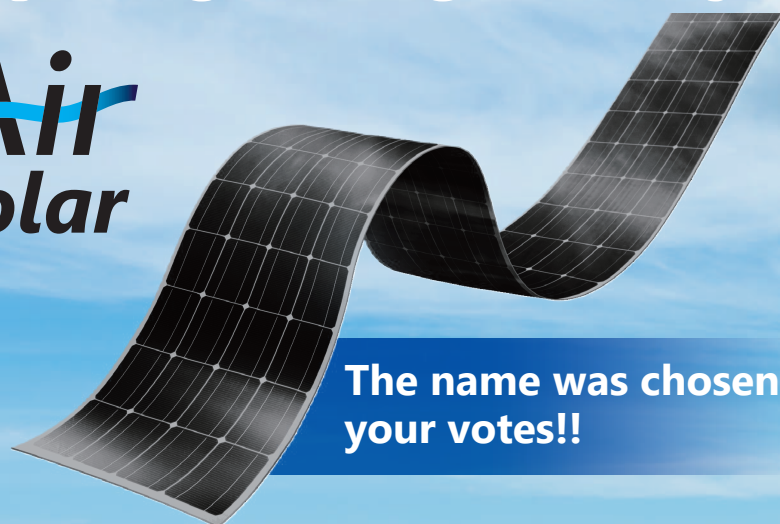


Light and flexible next-generation solar cells developed  
in Japan will help realize a  
“power-generating future city”

**Air  
Solar**



The name was chosen by  
your votes!!

# CREATING A BRIGHTER FUTURE FOR ALL

A Green and Resilient Global City Tokyo Opens up a Future

\* Air Solar is a solar cell that uses a crystal structure called perovskite.

September 2025





Photo: Double caldera on Aogashima Island



**CREATING A BRIGHTER FUTURE FOR ALL**  
**A Green and Resilient Global City Tokyo Opens up a Future**

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Photo: Ogasawara Greenfinch on Hahajima Island








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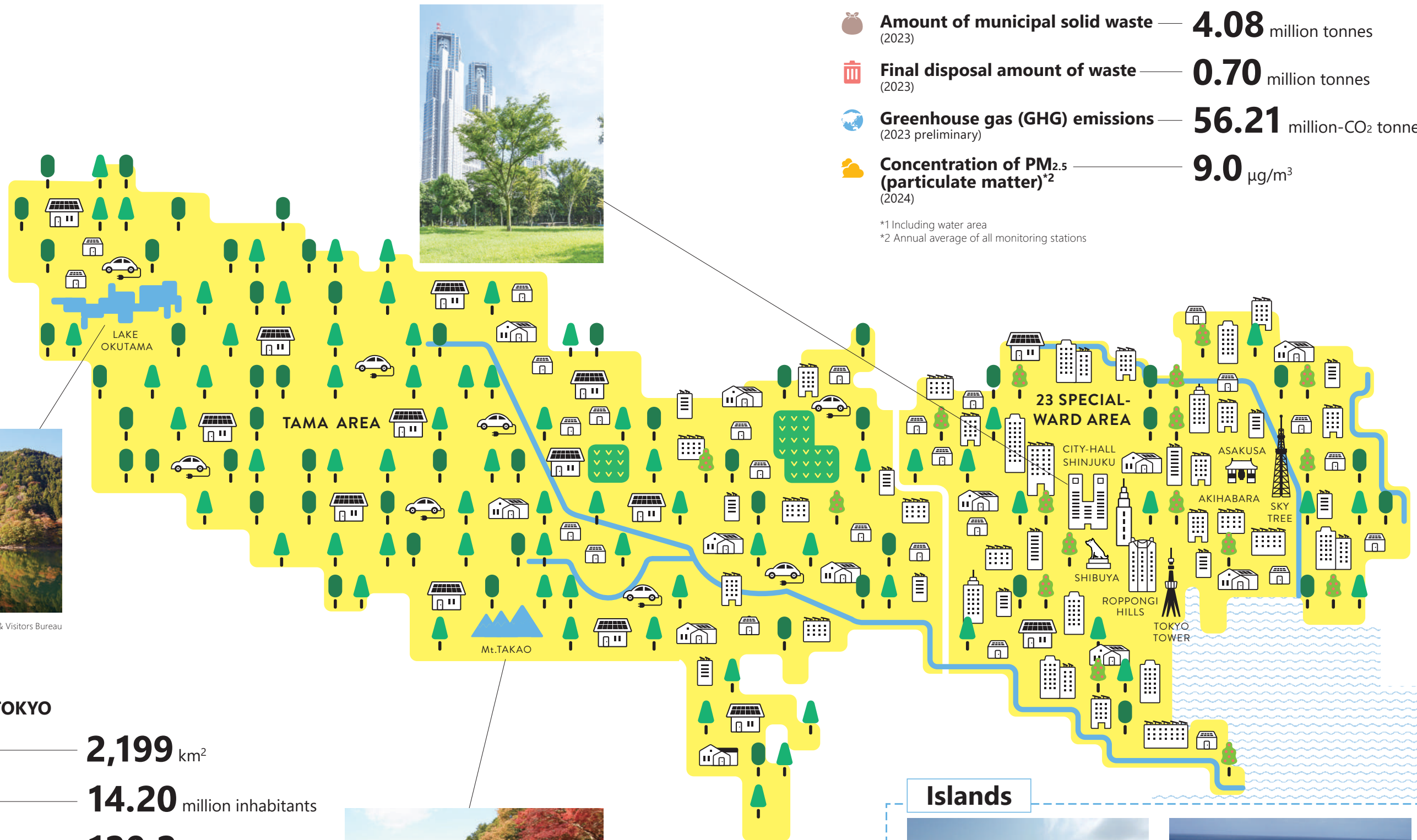
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# TOKYO DATA

## ENVIRONMENTAL INFORMATION

	<b>Greenery</b> <sup>*1</sup> (2023)	<b>52.1%</b>
	<b>Amount of municipal solid waste</b> (2023)	<b>4.08</b> million tonnes
	<b>Final disposal amount of waste</b> (2023)	<b>0.70</b> million tonnes
	<b>Greenhouse gas (GHG) emissions</b> (2023 preliminary)	<b>56.21</b> million-CO <sub>2</sub> tonnes
	<b>Concentration of PM<sub>2.5</sub> (particulate matter)</b> <sup>*2</sup> (2024)	<b>9.0</b> µg/m <sup>3</sup>

\*1 Including water area  
\*2 Annual average of all monitoring stations



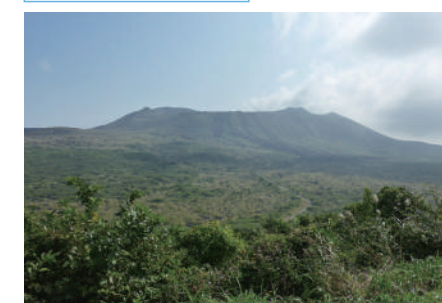
## PROFILE OF TOKYO

	<b>Area</b> (2024)	<b>2,199</b> km <sup>2</sup>
	<b>Population</b> (January 2025)	<b>14.20</b> million inhabitants
	<b>GDP</b> (2022)	<b>120.2</b> trillion yen (21.2% of national GDP)
	<b>Number of enterprises</b> (2021)	<b>628</b> thousand
	<b>Number of foreign tourists</b> (2024)	<b>24.79</b> million



© Tokyo Convention & Visitors Bureau

## Islands



Mt. Mihara, Oshima Island

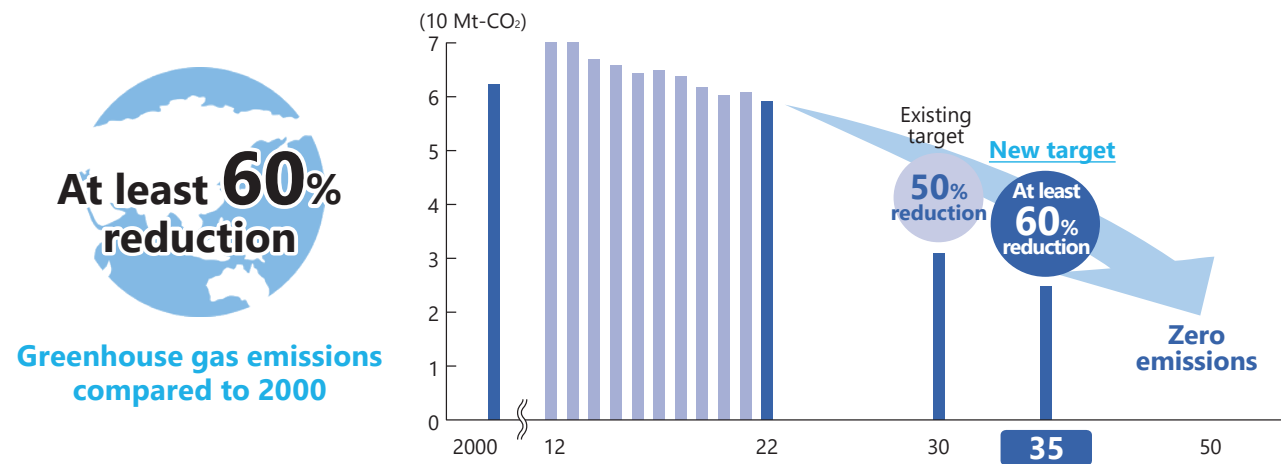


Minami-jima Island, Ogasawara Islands

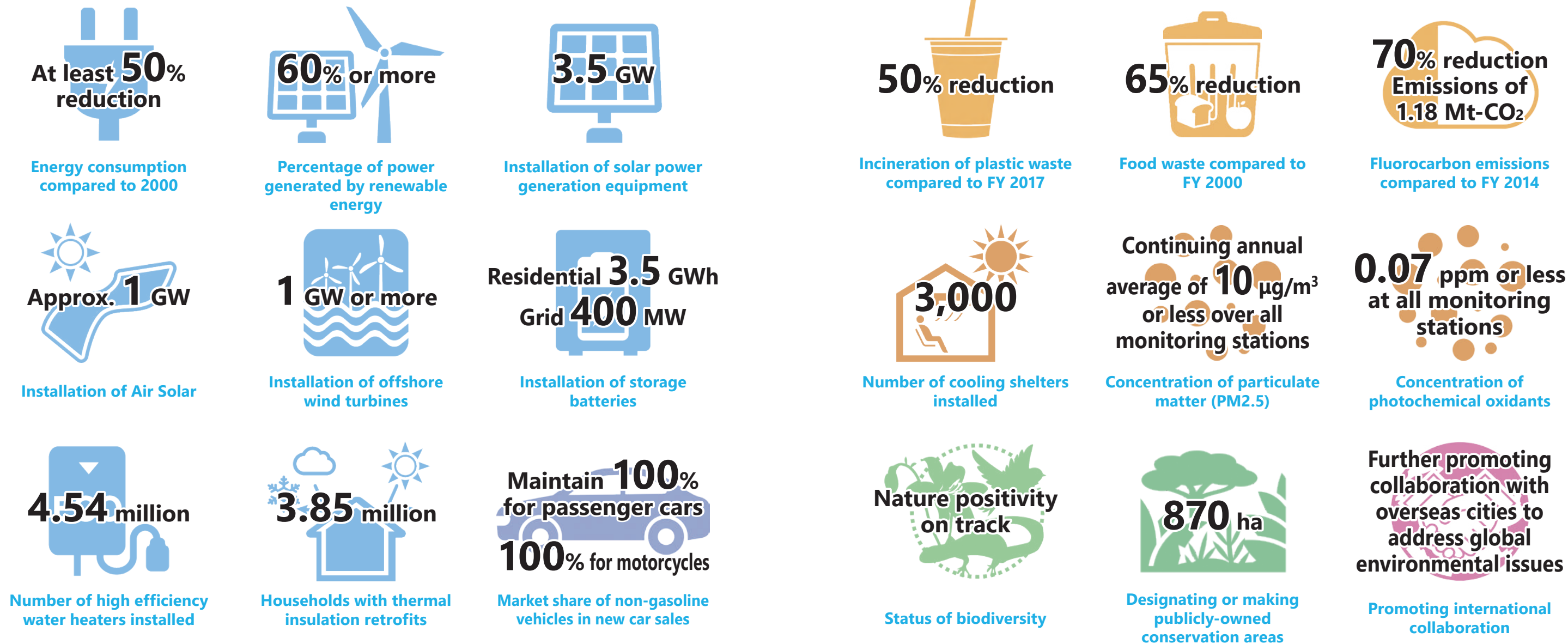
© Tokyo Convention & Visitors Bureau



Tokyo Metropolitan Government (TMG) will proactively advance cutting-edge environmental and energy initiatives, aiming to halve carbon emissions by 2030 ("2030 Carbon Half") and achieve further reductions by 2035.



**Main 2035 Goals**



Public fast chargers



Number of fuel cell commercial vehicles introduced



Incineration of plastic waste compared to FY 2017



Number of cooling shelters installed



Status of biodiversity



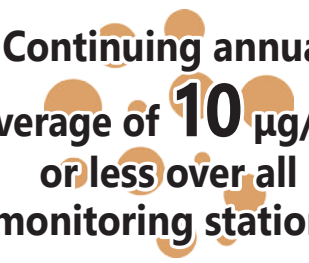
Chargers at apartment buildings



Number of hydrogen stations for commercial vehicles



Food waste compared to FY 2000



Concentration of particulate matter (PM2.5)



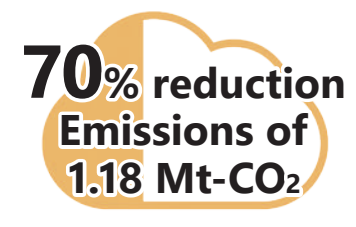
Designating or making publicly-owned conservation areas



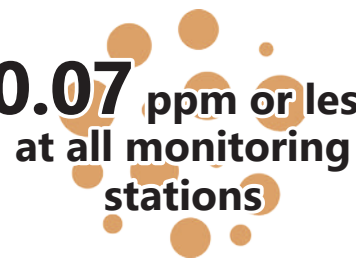
Establishing a Green Hydrogen supply system



Municipal solid waste recycling rate



Fluorocarbon emissions compared to FY 2014



Concentration of photochemical oxidants



Promoting international collaboration



## Updating the Zero Emission Tokyo Strategy

To realize a 2050 Zero Emission Tokyo, TMG is committed to Carbon Half, a plan to halve greenhouse gas (GHG) emissions by 2030, and expanding a variety of initiatives to help achieve it.

In order to further accelerate its efforts in light of the worsening climate crisis and significant changes in social conditions, TMG formulated the Zero Emission Tokyo Strategy Beyond Carbon Half in March 2025 with an eye toward a 2030 Carbon Half and 2035 beyond that. We have established a new goal of reducing greenhouse gas emissions by at least 60% compared to 2000 levels by 2035 and set 31 individual targets to achieve the goal, continuing to promote effective initiatives.

We are committed to realizing a decarbonized city that acts as a model for the world by strategically making every effort, such as making renewable energy a major energy source, maximizing energy efficiency, integrating hydrogen energy into society, and strengthening adaptation measures.



## Upgrading Initiatives through Diverse Perspectives, Including Those of Future Generations

Since FY 2023, the Tokyo Renewable Energy Implementation Expert Board and other networks of experts have provided us with valuable recommendations to achieve our goals.

In FY 2024, the Tokyo Metropolitan Environmental Council held discussions from a wide range of perspectives on key issues in the zero emission field, aiming to further strengthen our initiatives.

We also held meaningful discussions with youth-led environmental groups, sharing their diverse proposals on our environmental policies.

By valuing and embracing these diverse voices, we have integrated their perspectives into the development of our strategy.



Tokyo Metropolitan Environmental Council

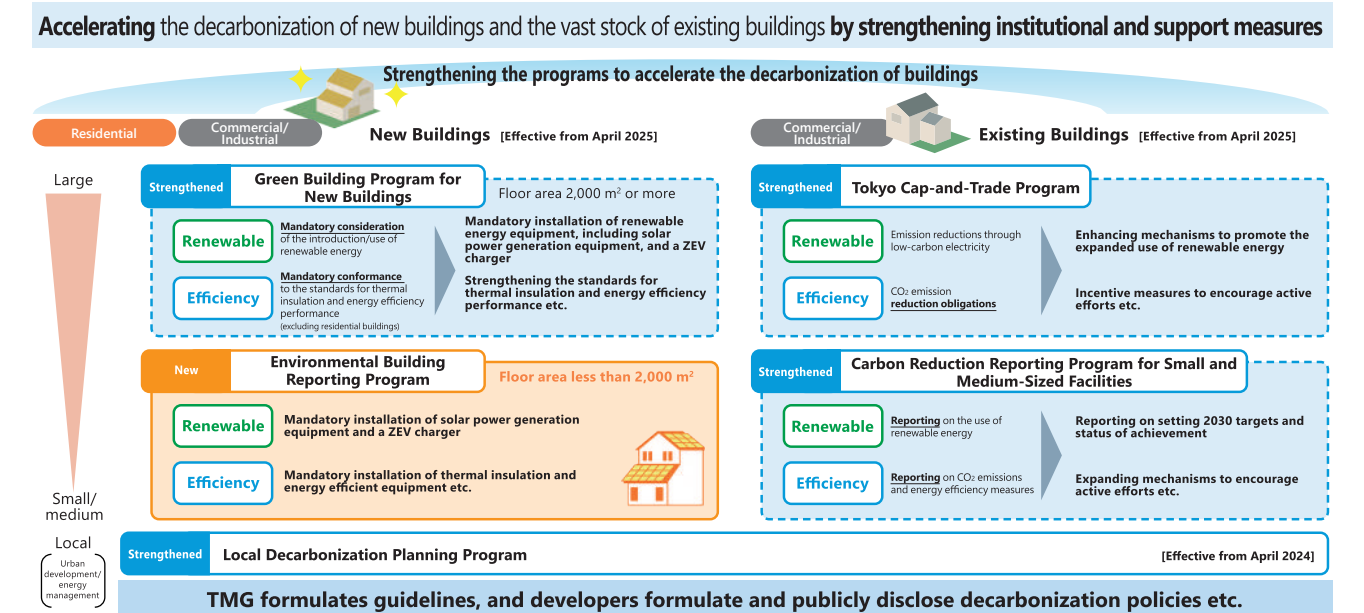


Discussion with future generations

## Strengthening and Expanding Programs Based on Ordinances

In April 2025, Japan's first program for solar power generation, thermal insulation performance, and energy efficiency performance launched covering new detached houses and other buildings.

In addition to strengthening and expanding the Tokyo Cap-and-Trade Program and other programs currently in place, TMG will establish a new program for small and medium-sized new buildings, which have so far eluded such institutional framework, in order to decisively promote the decarbonization of buildings in the commercial, industrial, and residential sectors.



Through these programs, TMG will promote deeper decarbonization and greater resilience, supporting a lifestyle that benefits both the planet and everyday households.

## A home with high environmental performance enhances quality of life by creating positive synergy effects

### Reductions in electricity bills

If a 4-kW solar power system is installed at a new detached house,

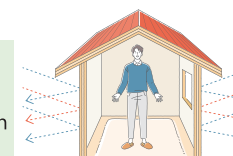
Approx.  
**92,400 yen** can  
be saved per year.

Estimate based on a household of two or more people living in a ward as of August 2024

### Healthy living

A comfortable room temperature maintained through thermal insulation leads to a healthy living.

- Reducing heat shock
- Alleviating allergies
- Preventing condensation and mold



### Contribution to CO<sub>2</sub> emission reductions

The amount of CO<sub>2</sub> reduced by a 4-kW solar power system for a year is equivalent to the removal effected by approximately 200 cedar trees.



### Preparation for power outages

Electricity is available during power outages. A storage battery allows electricity use at night.







# Realization of a Zero Emission Tokyo

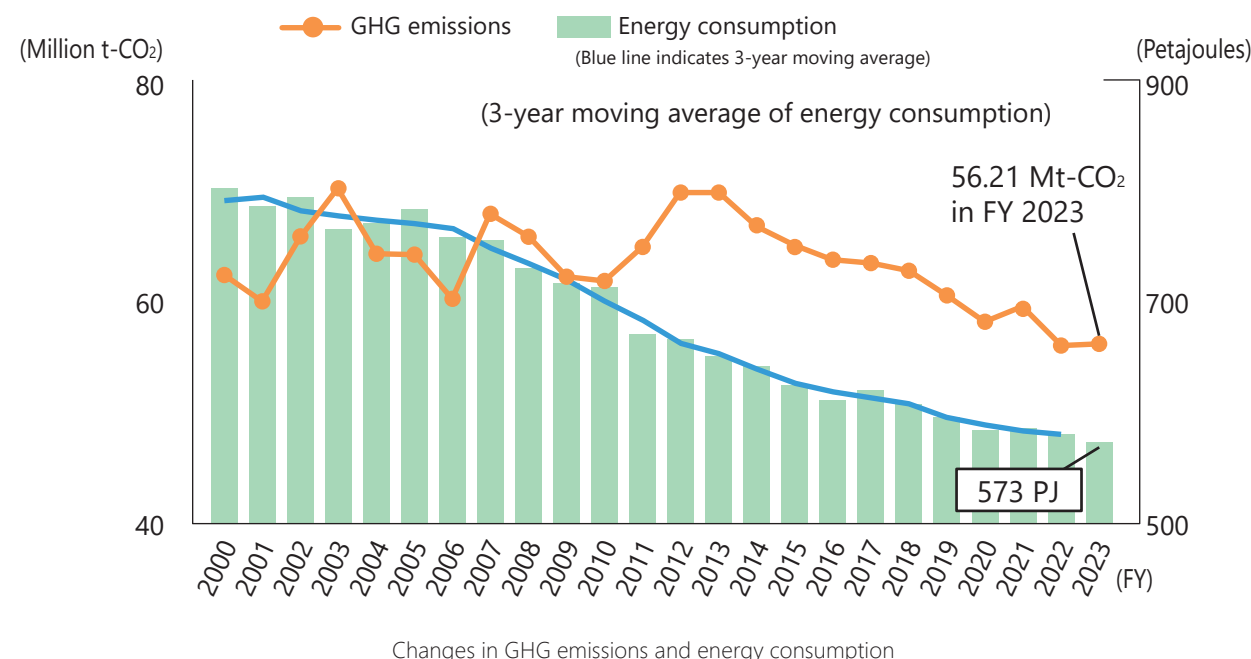
For the realization of a decarbonized society, it is essential to promote drastic transformations in various fields, including energy, urban infrastructure, and resource use.

TMG aims to realize a Zero Emission Tokyo in order to fulfill its responsibility as a major consumer of energy and resources and continue to be a city that achieves resilient and sustainable growth.

## ► Energy Consumption and Greenhouse Gas Emissions in Tokyo

Energy consumption in Tokyo passed its peak around FY 2000 and has been steadily decreasing since then.

Greenhouse gas emissions in Tokyo increased after the Great East Japan Earthquake in March 2011, but have been trending downward since FY 2012 because of reduced energy consumption and improvements in the CO<sub>2</sub> emission factors of electricity.



## ► Sectoral Targets

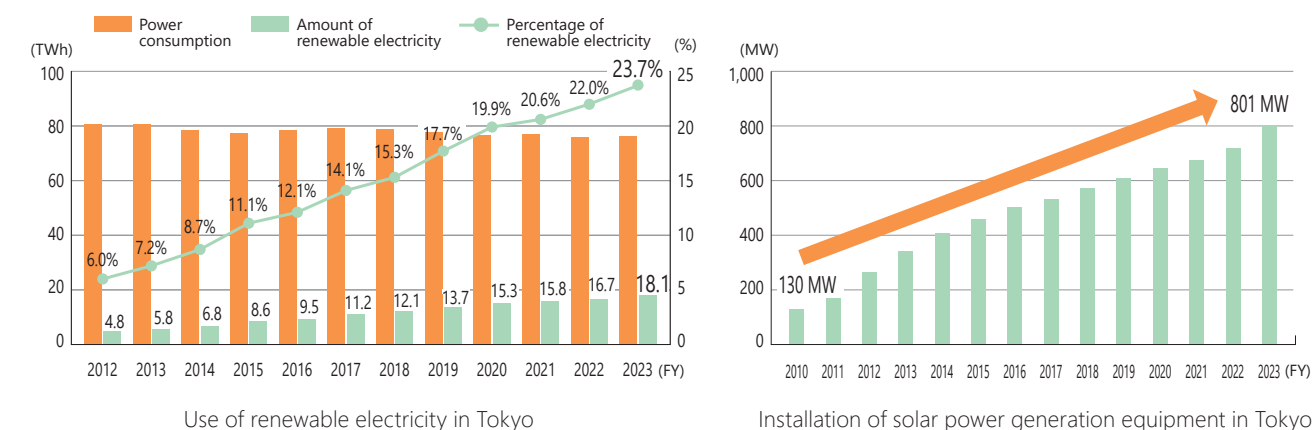
To realize a 2030 Carbon Half, sectoral targets have been set for energy-related CO<sub>2</sub> emissions and energy consumption to promote reduction measures in each sector.

Energy-related CO <sub>2</sub> emissions			Energy consumption		
	FY 2023 (preliminary results)	2030		FY 2023 (preliminary results)	2030
Industrial/commercial sectors	-10.2%	Approx. 50% reduction	Industrial/commercial sectors	-24.9%	Approx. 35% reduction
Residential sector	+19.3%	Approx. 45% reduction	Residential sector	+2.1%	Approx. 30% reduction
Transport sector	-52.6%	Approx. 65% reduction	Transport sector	-55.7%	Approx. 65% reduction

## Making Renewable Energy a Major Energy Source

To realize a Zero Emission Tokyo, it is inevitable that we need to further promote energy efficiency and convert from fossil fuels to decarbonized energy, such as renewable energy.

Aiming to decarbonize all the energy used by 2050, TMG will develop efforts focusing on the local production and consumption and expanded use of renewable electricity until 2030.

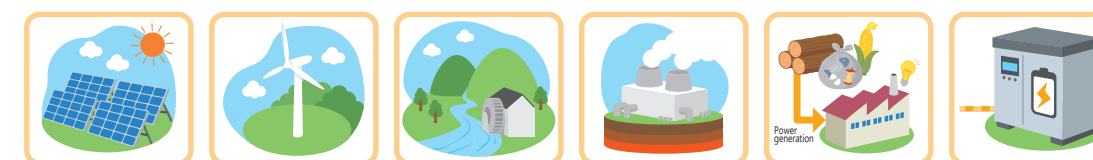


## ► Drastically Increasing the Use of Renewable Power

### Promoting local production and consumption of renewable energy at facilities

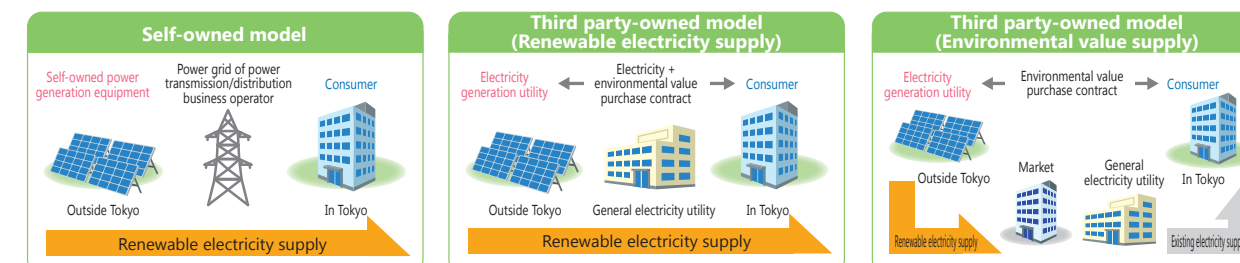
In order to expand the use of renewable energy in and outside Tokyo (within the service area of Tokyo Electric Power Company\*), TMG has been subsidizing facilities of private businesses and municipalities that will install renewable energy power generation equipment, including solar and wind power generation, heat utilization equipment, including ground source heat and solar heat, and storage batteries, with the concept of local production and consumption.

\* Other requirements will be applied.



### Procuring renewable power sources etc. outside Tokyo

Due to regional characteristics that limited land makes large-scale renewable energy installations challenging within Tokyo, TMG subsidizes businesses in Tokyo working on the use of renewable electricity and an environmental value for the installation of renewable energy power generation equipment and storage batteries outside of Tokyo.





## ▶ Expanding the Use of Air Solar

Air Solar\*, a new technology developed in Japan, is thin, light, and flexible, and can be installed on building exteriors, making it essential for the further expansion of renewable energy.

TMG will develop a roadmap for its widespread adoption, and is committed to realizing a “power-generating future city” by strategically promoting its adoption in collaboration with the national government and private sector.

\*Air Solar:

Solar cells that use a crystal structure called perovskite. The name Air Solar was selected through the Next Generation Solar Cell Naming General Election from July 4 to 31, 2025.

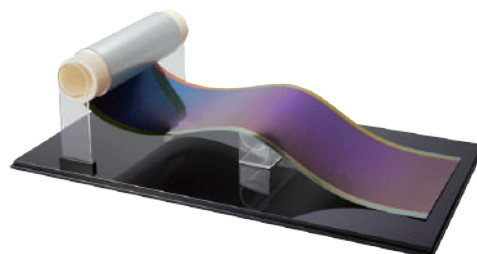


Image provided by: Sekisui Chemical Co., Ltd.

### Setting installation targets

#### Installation in Tokyo

◆ **2035 target: Approximately 1 GW**  
Including approximately 10 MW\* installed in TMG facilities

\* Including solar power generation equipment installed on exteriors other than Air Solar

◆ **2040 target: Approximately 2 GW**

Reference: The national government's

installation target is approximately 20 GW.

Approx. 10% of the national government's installation target

### Initiatives to achieve the targets

#### Verification of implementation:

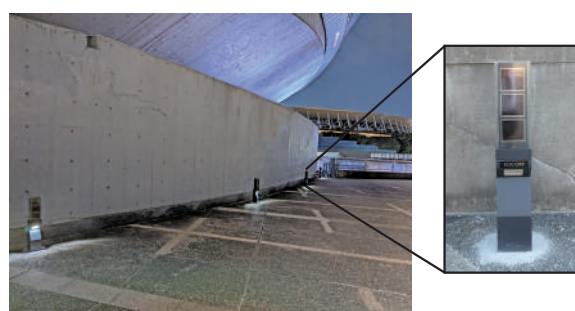
- Testing the durability and other properties of Air Solar at TMG facilities, including port facilities

#### Developer support:

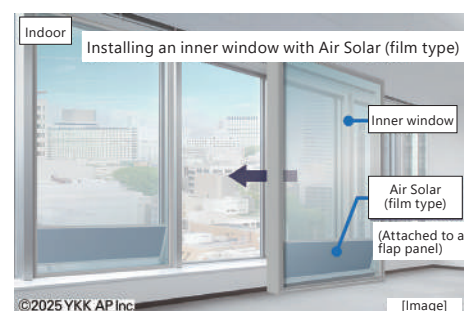
- Subsidizing the cost of demonstration projects conducted by developers in Tokyo to encourage early commercialization

#### Efforts to establish construction methods and create demand:

- Initial introduction to TMG facilities, subsidizing introduction by private businesses, and public relations activities to promote widespread adoption



Subsidies for a developer (project adopted in FY 2024)  
Garden lights with Air Solar



Subsidies for a developer (project adopted in FY 2025)  
Inner window with Air Solar

### Scan for the roadmap:



- Sets installation targets to encourage businesses to build production systems
- Summarizes the direction of efforts to achieve the targets

**Air Solar**

#### Name concept:

- Can be installed anywhere, just like air
- An acronym for Anywhere, Innovative, and Renewables

## ▶ Introducing Floating Offshore Wind Turbines

In order to realize a 2050 Zero Emission Tokyo, it is necessary to expand the introduction of offshore wind turbines which are crucial for making renewable energy the primary power source.

### Requirements for introducing turbines in the Izu Islands waters

TMG aims to introduce a gigawatt-class farm\*<sup>1</sup> of floating offshore wind turbines in the waters around the Izu Islands. In June 2025, five\*<sup>2</sup> zones of these waters were classified by the national government as preparation zones under the Renewable Energy Sea Area Utilization Act. We are committed to making the most of the potential of the waters to contribute to the realization of zero emissions on the islands.

\*<sup>1</sup> Can cover the annual power consumption of 900,000 average households

\*<sup>2</sup> Off the coasts of Oshima Town, Niijima Village, Kozushima Village, Miyake Village, and Hachijo Town

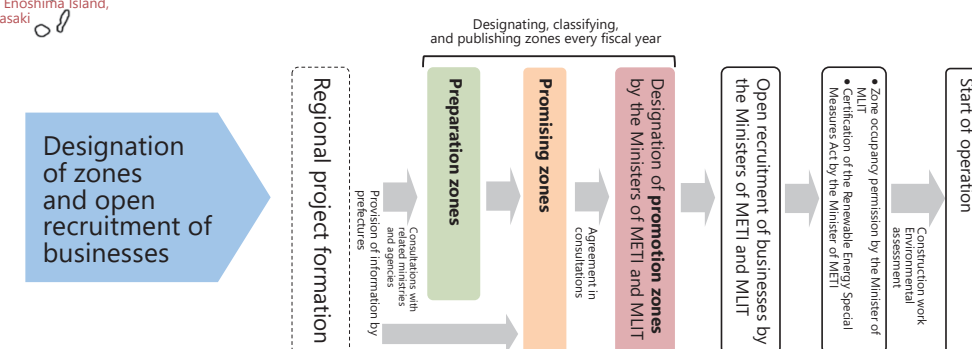
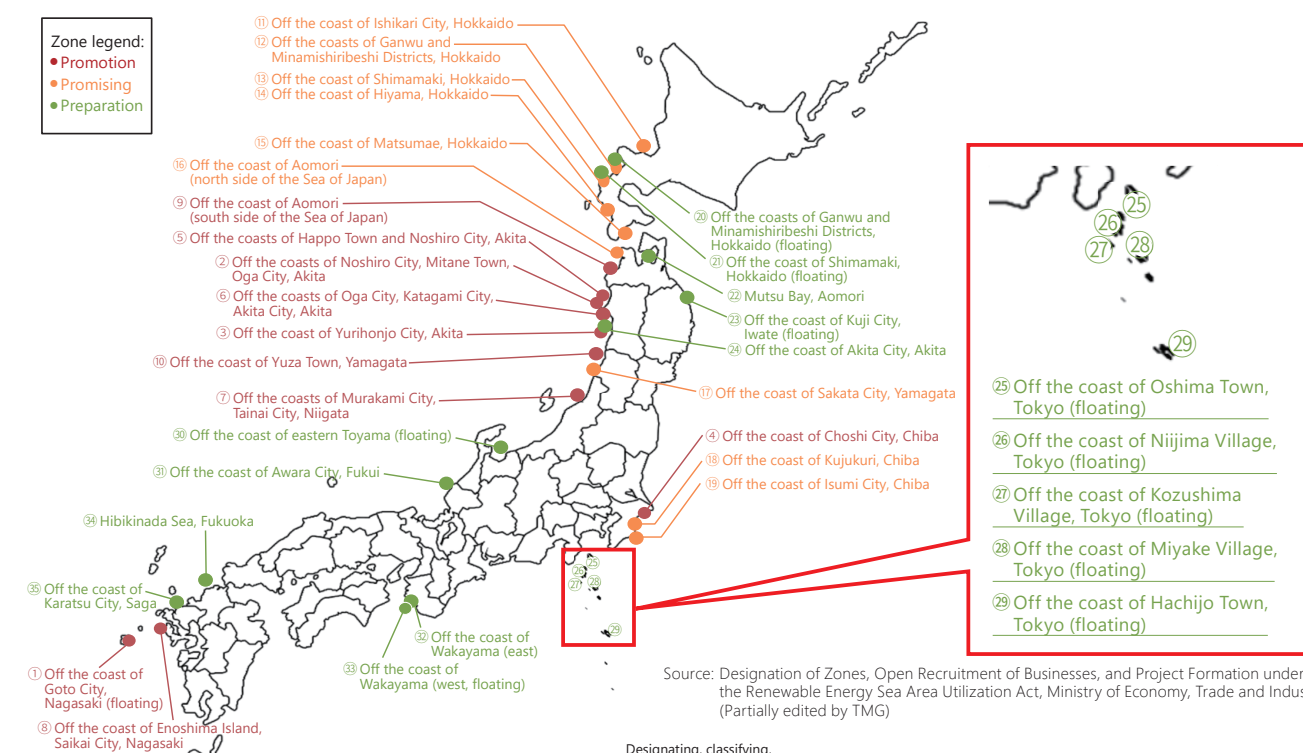


Rampion Offshore Wind Farm in UK

To introduce offshore wind turbines, it is necessary to coexist with existing users of the waters, including parties engaged in fishing, tourism, and ship navigation in addition to giving consideration to the natural environment, ecosystems, and landscape.

TMG is committed to gaining the understanding and cooperation of local residents by showing the benefits of wind power generation, such as improvements in disaster preparedness.

### Designation and classification of zones under the Renewable Energy Sea Area Utilization Act as of June 26, 2025





## ► Increasing Renewable Electricity Supply

### Efforts for electricity suppliers

To improve the environmental properties of electricity supplied to Tokyo, TMG requires general electricity utilities for Tokyo to set targets for renewable energy volume and report the results through the Environmental Energy Reporting Program.

#### Outline of the Environmental Energy Reporting Program

##### Targets

✓ General electricity utilities and power transmission and distribution business operators who supply electricity to Tokyo

##### Objectives:

##### Improvement of the quality of energy supplied to Tokyo

✓ Reduction of CO<sub>2</sub> emissions  
✓ Promotion of the introduction of renewable energy etc.

##### Environmental Energy Reporting Program: Formulation, submission, and publication every year

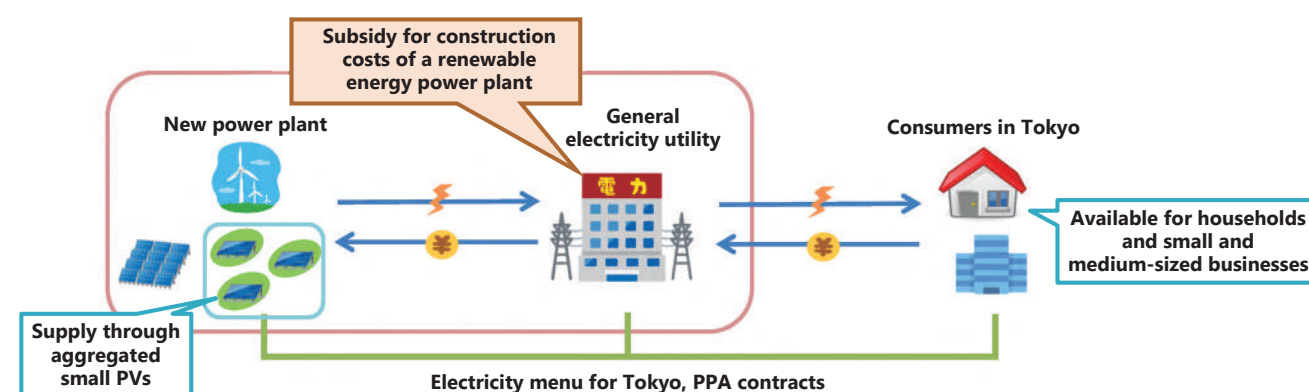
✓ Goals and reporting of CO<sub>2</sub> emission factors  
✓ Goals and achievements of the use of renewable energy etc.

##### Key points

✓ Set the FY 2030 target ratio of renewable electricity at approximately 50% and publish it  
✓ **Develop an environment with a wide variety of renewable electricity options to choose from**  
✓ **Enhance information dissemination by TMG and create an easy-to-use information database for consumers**

### Supporting general electricity utilities in developing new renewable energy equipment

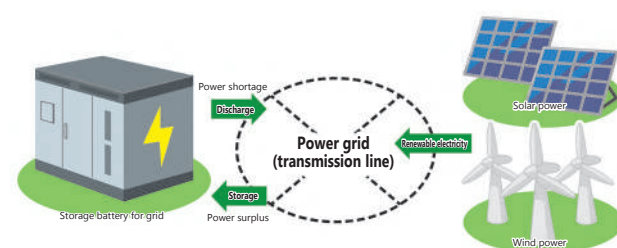
To achieve a renewable electricity ratio of approximately 50% by FY 2030, it is essential to increase the supply of renewable electricity by general electricity utilities. TMG is promoting the supply of renewable electricity to Tokyo by helping general electricity utilities develop renewable power sources that currently lack designated supply destinations.



### Promoting efforts to ensure stable energy supply

Renewable electricity needs stable grid power as the amount of power generated fluctuates greatly depending on the weather, time of day, etc.

For businesses that balance the supply and demand of electricity, TMG subsidizes the introduction of large storage batteries directly connected to the power grid within the service area of Tokyo Electric Power Company.

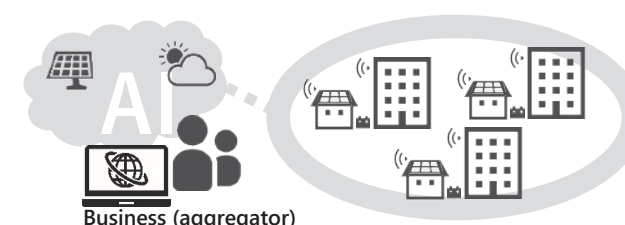


## ► Advanced Energy Management Using AI and IoT

### Stabilizing electricity demand

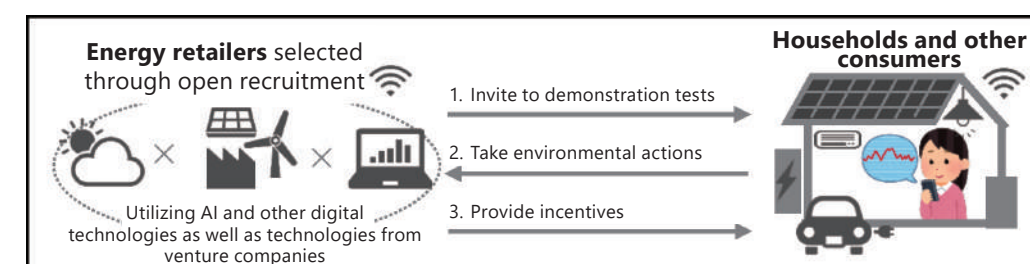
The efficient use of renewable energy requires the effective optimization of electricity demand through AI and IoT in addition to timely power saving.

TMG will promote aggregation businesses that bundle distributed energy resources, such as storage batteries owned by households and businesses, and control them according to demand.



### Creating a new business model

In order to create a new business model that promotes environmental actions or behavioral change toward decarbonization in households, TMG will support the efforts of energy retailers by for example leveraging the technologies of startups.



## Column

### You Are Environment Ambassador at Home from Today!

For the realization of a 2050 Zero Emission and 2030 Carbon Half, it is important to raise awareness among children and educate them as they will play a major role in any future society, and will encourage behavior change and raise awareness among adults as well.

Since FY 2022, TMG has been conducting the Environment Ambassador at Home project in which children act as environmental leaders, saving electricity and enjoying other benefits with their family members.

Many children learn about environmental measures and take action with their families through environmental events and content where they figure out and take environmental actions by themselves. As a summary event of the year, TMG holds the Environment Ambassador at Home Summit where children present their activities to the governor of Tokyo.



Certificate of Appointment for the Environment Ambassador at Home in spring 2025



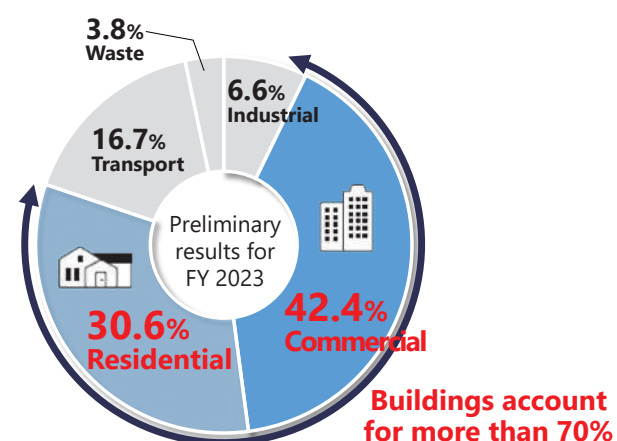
Environment Ambassador at Home Summit Spring 2025



## Expanding Zero Emission Buildings

Tokyo is home to densely built office buildings, residences, and other structures, and is characterized by the fact that a large part of the city's CO<sub>2</sub> emissions come from the commercial and residential sectors.

TMG will accelerate the realization of zero emission buildings by making energy use at buildings as efficient as possible and decarbonizing the energy used at buildings.



Sectoral breakdown of energy-related CO<sub>2</sub> emissions in Tokyo

## Strengthening Programs to Accelerate Zero Emission Buildings

TMG has developed effective programs according to building type (new or existing) and size (large or small/medium).

### Existing programs to be strengthened toward "Carbon Half"

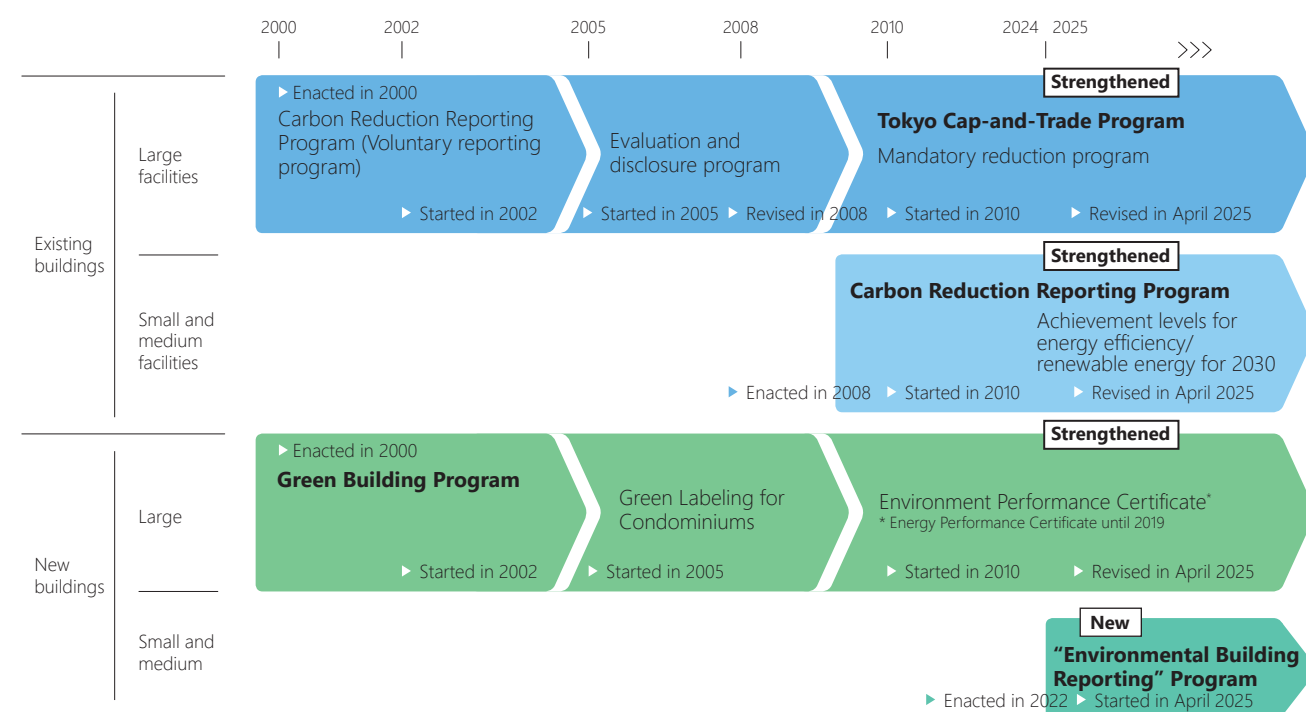
Tokyo Cap-and-Trade Program for large facilities

Carbon Reduction Reporting Program for small and medium-sized facilities

Green Building Program for New Buildings for buildings of a certain size, which are newly built, expanded, or renovated

### New program introduced in April 2025

Environmental Building Reporting Program which requires certain small and medium-sized new buildings to install renewable energy equipment, including solar power generation equipment



## The World's First Urban Cap-and-Trade Scheme for Large Facilities

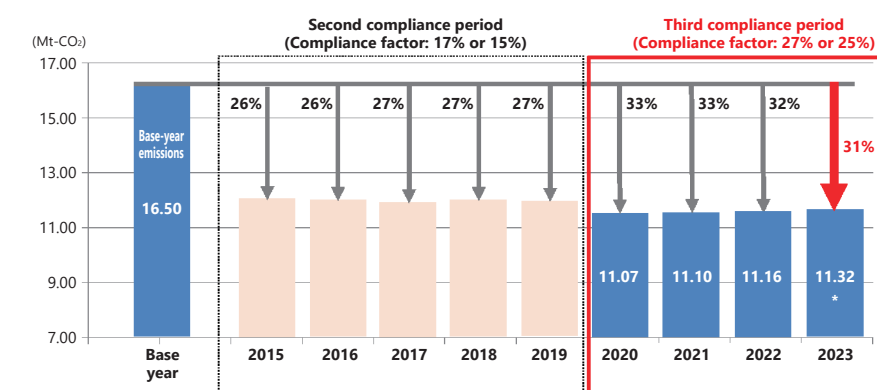
In April 2010, TMG started the Tokyo Cap-and-Trade Program targeting large facilities.

The total emissions from facilities covered by this program account for approximately 40% of the emissions from the industrial and commercial sectors in Tokyo. Covered facilities must reduce a specified amount by implementing emission reduction measures on their own or conducting emissions trading.

In the fourth compliance period from FY 2025, the compliance factors have been increased to 50% for office buildings etc. and 48% for factories etc.

TMG will further promote the expanded use of renewable energy by enhancing options to meet reduction obligations, such as introducing renewable energy from outside facilities.

Covered facilities	Approximately 1,200 facilities which annually use at least 1,500 kL of energy in terms of crude oil equivalent
Applicable gases	CO <sub>2</sub> emitted from the use of fuel etc.
Compliance periods (5 years for each)	1st compliance period: FY 2010 - 2014 2nd compliance period: FY 2015 - 2019 3rd compliance period: FY 2020 - 2024 4th compliance period: FY 2025 - 2029
Compliance factors	1st compliance period: 8% for office buildings etc. and 6% for factories etc. 2nd compliance period: 17% for office buildings etc. and 15% for factories etc. 3rd compliance period: 27% for office buildings etc. and 25% for factories etc. 4th compliance period: 50% for office buildings etc. and 48% for factories etc.
Emissions trading	Excess emission reductions and four types of offset credits can be traded
Penalties	Order for Action (reduction of 1.3 times the shortage), monetary fines (up to 500,000 yen), and/or disclosure of violations



\* Values as of February 12, 2025  
(Emission factors for electricity etc. have been fixed at 0.489 t-CO<sub>2</sub>/MWh in the second and third compliance periods)

Emission reductions during the second and third compliance periods

## Carbon Reduction Reporting Program for Small and Medium-Sized Facilities

TMG introduced the Carbon Reduction Reporting Program for Small and Medium-Sized Facilities in April 2010 to understand the amount of CO<sub>2</sub> emissions from small and medium-sized facilities and promote energy efficiency measures at these facilities. Since FY 2025, we have strengthened the program by for example introducing a mechanism for businesses to formulate targets and plans through FY 2030 based on the achievement levels for energy efficiency and renewable energy utilization set by TMG.

### Outline of the Carbon Reduction Reporting Program for Small and Medium-Sized Facilities

#### Targets

✓ Businesses that have facilities with annual energy consumption of less than 1,500 kL in terms of crude oil equivalent

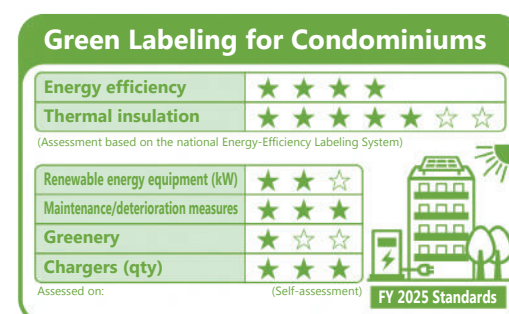
- ✓ TMG publishes achievement levels for FY 2030 and businesses report on target setting and achievement status
- ✓ Expand items to be reported and published on the use of renewable energy
- ✓ Visually depict efforts made by facilities etc. from three perspectives: energy efficiency, renewable energy use, and CO<sub>2</sub> reduction



## ▶ Green Building Program for New Buildings

Based on its ordinances, TMG has been implementing the program to require owners who build large buildings to submit a Building Environmental Plan. An outline of the plan is then made public by TMG.

Starting in FY 2025, we will encourage further improvements in the environmental performance of new buildings by strengthening energy efficiency performance standards and mandating the installation of renewable energy equipment.



Green Labeling for Condominiums

### Outline of the Green Building Program for New Buildings

#### Targets

- ✓ Building owners who construct buildings, including new constructions, renovations, or extensions, with a total floor area of at least 2,000 m<sup>2</sup>

#### Thermal insulation and energy efficiency performance standards

- ✓ Strengthen standards for houses and other buildings to mandate thermal insulation and energy efficiency performance that exceeds the national standards

#### Renewable energy installation standards (solar power generation equipment)

- ✓ **Require the installation of renewable energy equipment**, such as solar power generation equipment
  - **Installation standard capacity (kW) = Total floor area of building (m<sup>2</sup>) x Installation standard rate 5% x 0.15 (kW/m<sup>2</sup>)**
  - **Determine lower and upper limits** for the renewable energy installation standards
- ✓ **Require on-site installation in principle**, but **allow off-site installation or the procurement of renewable electricity under certain conditions**

#### ZEV charging equipment standards

- ✓ **Require new buildings** with a certain minimum number of parking spaces **to install chargers, piping, etc.**

#### Others

- ✓ Strengthen and expand criteria, which include new perspectives, such as adaptation measures and the procurement of low-carbon materials, to evaluate the efforts of building owners who take on high-level challenges
- ✓ For houses: Mandate the inclusion of **Green Labeling for Condominiums** to indicate environmental performance in advertisements for the sale etc. of condominiums
- ✓ For other buildings: Mandate the issue of an **Environment Performance Certificate** for rental properties etc. over a certain size to indicate their environmental performance

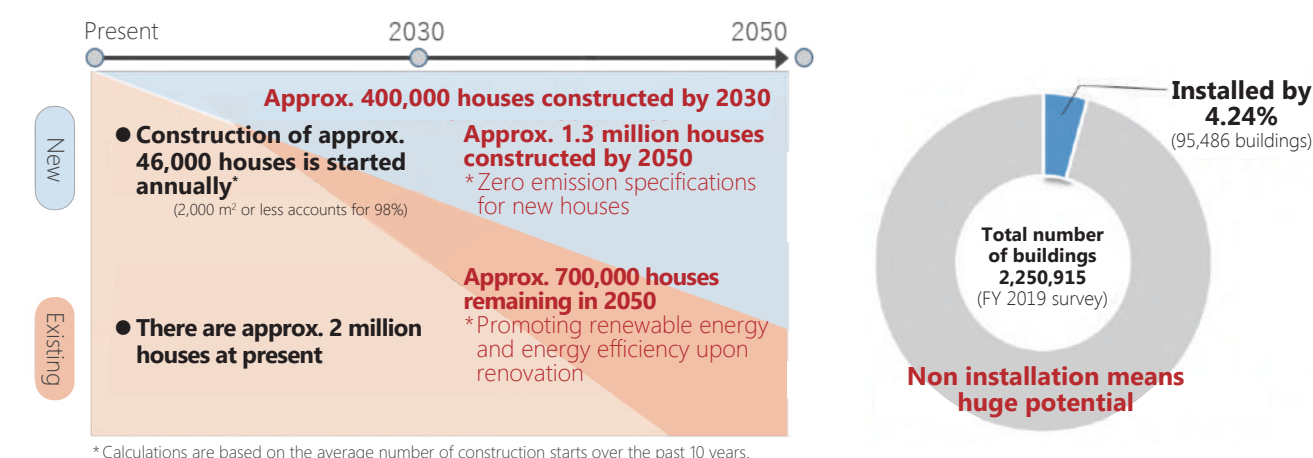
## ▶ Environmental Building Reporting Program

### The status of houses in Tokyo and the background of the establishment of the program

Roughly 70% of all CO<sub>2</sub> emissions in Tokyo are caused by the use of energy at buildings.

It is extremely important to take measures for new buildings as they will shape the Tokyo of 2050. It is expected that about half of all existing buildings (70% of which are houses) will be replaced by new buildings by that year.

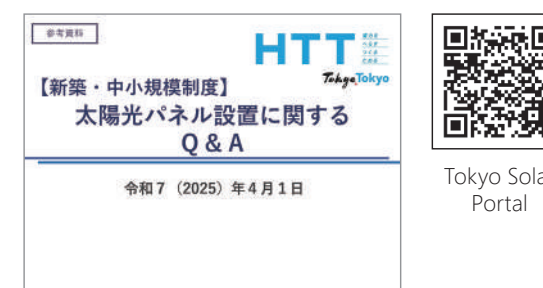
TMG will make the most of the huge potential of the metropolis of Tokyo's rooftops as the installation of solar power generation equipment on residential roofs in the city has been limited until now.



### Outline of the Environmental Building Reporting Program

The program will mandate or encourage major house builders and other businesses to ensure thermal insulation and energy efficiency performance and install solar power generation equipment at small and medium-sized new buildings, including houses.

Through this program, businesses will develop products and services that will fully bring out the benefits of solar power generation, and houses providing high environmental performance with solar power generation equipment will be standardized, increasing options available to Tokyo residents.



### Key points of the newly established program

#### Who is required to install solar panels?

- ✓ **The program will cover house builders and other businesses that supply a total floor area of 20,000 m<sup>2</sup> or more annually in Tokyo\*.**
- ✓ **The program coverage includes new buildings**, not existing ones.
- ✓ In this program, **suppliers responsible for installation will work together with owners of custom-built houses and purchasers of built-for-sale houses** to improve the environmental performance of buildings.

\* Businesses that have made application and been approved by the governor will also be able to participate in the program.

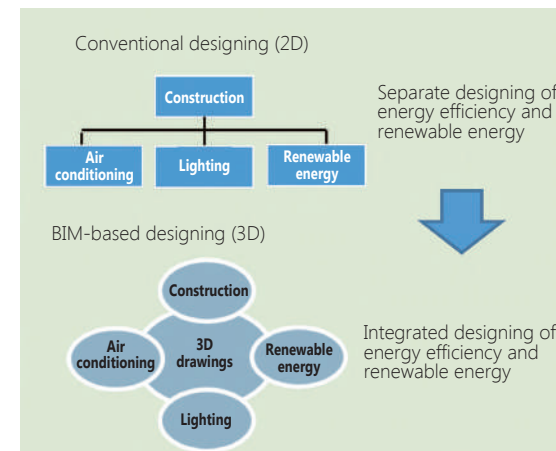




## ▶ Expanding Support and Incentives for Energy Efficient Design in New Construction and Renovations

To enhance the energy efficiency performance of newly constructed buildings, TMG organizes seminars and other events to promote energy efficient design methods that incorporate 3D design models (BIM).

From an integrated design perspective, TMG is also conducting research and exploring demonstration projects for renovation technologies in existing facilities. This includes thermal insulation, equipment optimization, and the introduction of energy efficiency measures and renewable energy through cutting-edge technology.



## ▶ Making New Houses Zero Emission

### Supporting the supply and development of houses compliant with the new program

Since April 2025, all newly constructed houses and buildings in Japan have been required to meet energy efficiency standards. TMG is committed to promoting the standardization of constructing zero emission houses by creating a virtuous cycle of supplying houses with high environmental performance and stimulating demand for them with a focus on the new program.

- ✓ Increase the number of businesses constructing houses with high environmental performance and installing solar power generation systems by supporting technical advancements of local contractors and product development by small and medium-sized house builders not currently subject to regulatory requirements
- ✓ Recognize ambitious businesses that promote the spread of buildings with high environmental performance
- ✓ Promote the understanding of the environmental performance of houses through public relations tailored to specific targets, such as people considering purchasing homes or relocation



Tokyo Eco Builders Award 2025

### Promotion of Tokyo Zero Emission Houses

To ensure the expansion of houses with high environmental performance which take into account the regional characteristics of Tokyo, TMG subsidizes newly built Tokyo Zero Emission Houses that meet its standards according to their performance levels. We work to further promote the widespread adoption of houses with high environmental performance by raising the standards for thermal insulation and energy efficiency performance and requiring the installation of solar power generation equipment and other renewable energy equipment in principle starting in October 2024.

	Average heat transmission coefficient of shell in W/m <sup>2</sup> ·K	Reduction rate from energy efficiency standards excluding renewable energy	
		Detached houses	Apartment buildings etc.
Level A	0.35 or less	45% or more	40% or more
Level B	0.46 or less	40% or more	35% or more
Level C	0.60 or less	30% or more	30% or more

+ Installation of renewable energy equipment (solar power generation equipment etc.) in principle

Thermal insulation and energy efficiency of Tokyo Zero Emission House at three levels

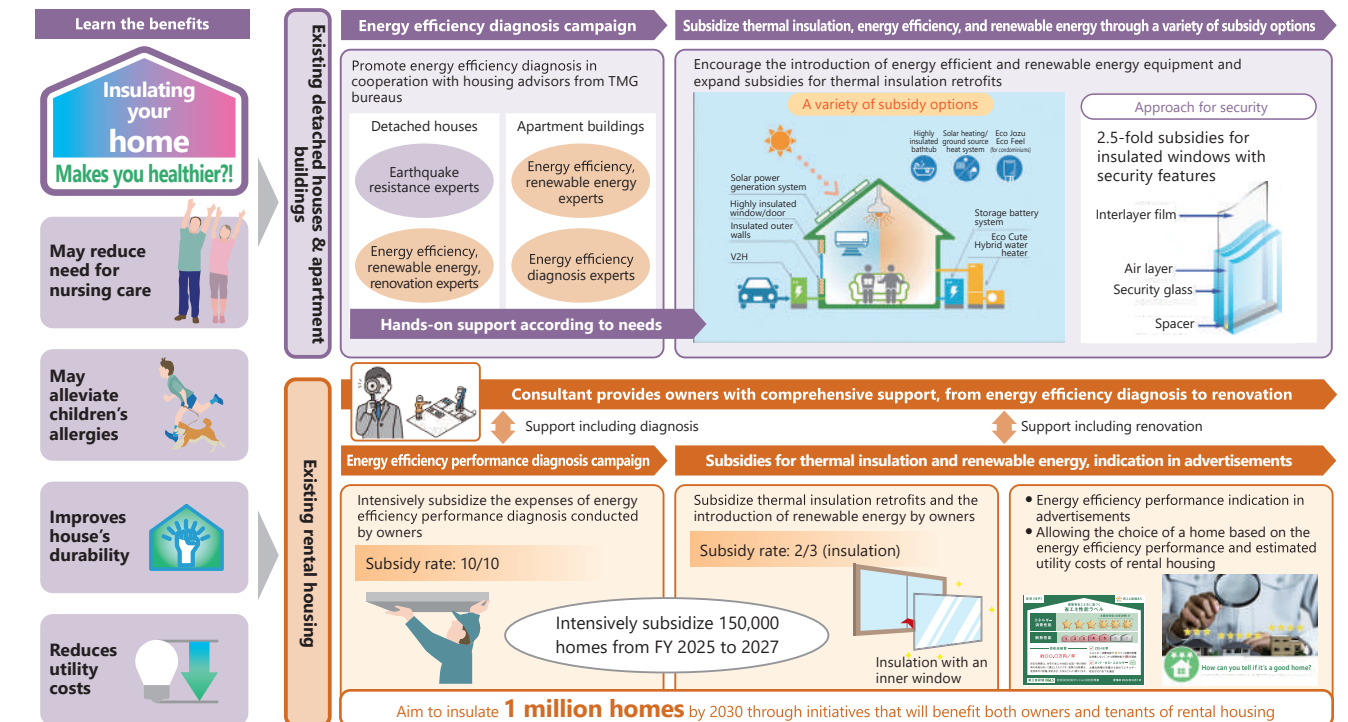


Average heat transmission coefficient of shell: An index of thermal insulation performance. The smaller the number, the better the insulation performance.  
Reduction rate from energy efficiency standards: An index of the energy efficiency performance of equipment. The higher the number, the better the energy efficiency.

## ▶ Promoting Energy Efficiency and Renewable Energy at Existing Housing

While developing energy efficiency diagnosis and renovation campaigns in collaboration with housing advisors from its bureaus, TMG provides support for improvements in thermal insulation and the introduction of energy efficient and renewable energy equipment through a variety of subsidy options.

We are promoting thermal insulation retrofits and the introduction of renewable energy in rental housing through energy efficiency performance diagnosis, hands-on support through concierge services, and performance indication in housing advertisements.



## ▶ Accelerating Momentum and Behavioral Change

### HTT (Herasu (Save), Tsukuru (Generate), and Tameru (Store) Electricity) Initiatives

Using HTT (Herasu (save), Tsukuru (generate), and Tameru (store) electricity) as a central concept, TMG is promoting efforts to realize a decarbonized society. We are also supporting the Ministry of the Environment's "deco katsu" initiative, which encourages both decarbonization and eco-friendly lifestyles.

To accelerate behavioral change for energy use among Tokyo residents, TMG is working with companies and other organizations to run advertisements in events and media, provide information through SNS, and develop campaigns for promoting energy efficiency and encouraging the widespread adoption of solar power generation equipment.



HTT goods

### Promoting zero emission action at home through zero emission points

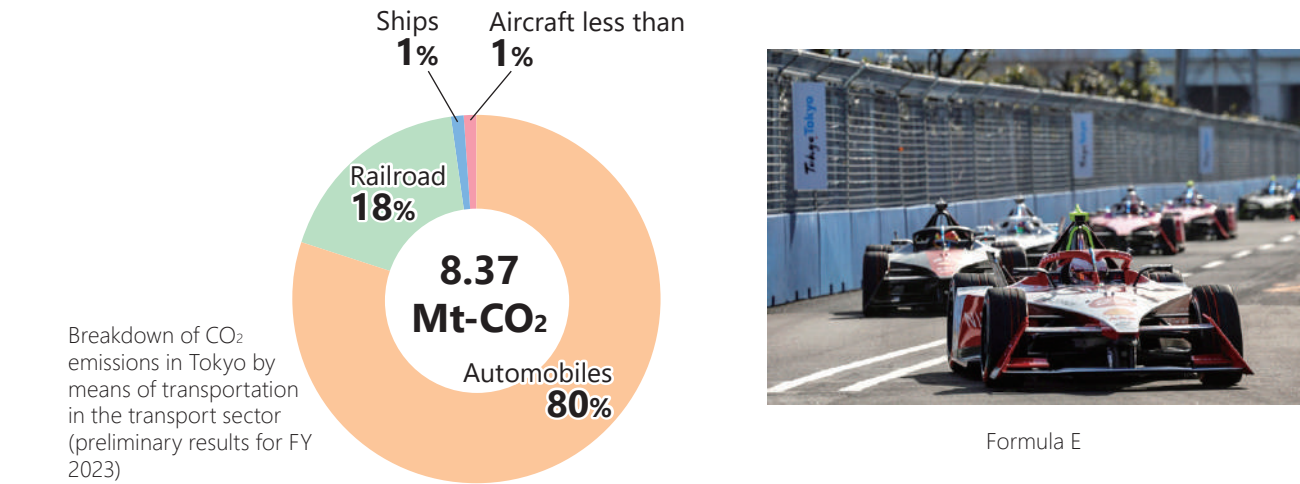
Through the Tokyo Zero Emission Point program, TMG provides subsidies for replacing home appliances, such as air conditioners, refrigerators, water heaters, and LED lighting fixtures, with high energy efficiency models.





# Promoting Zero Emission Mobility

TMG aims to eliminate the sale of new gasoline passenger cars by 2030 and new gasoline motorcycles by 2035 in Tokyo, accelerating the introduction of zero emission vehicles (ZEVs) and the development of infrastructure. We also cooperate on events to raise awareness of ZEVs.



## ► Broader Use of ZEVs

TMG subsidizes the purchase of ZEVs to promote their broader use. In addition to the sales of ZEV passenger cars, since FY 2025 subsidy decisions have taken into account automobile manufacturers' green transformation efforts and the number of their vehicle models.

**EV**

Purchase of an eligible EV will get you

**Up to 1 million yen**

Subsidy breakdown	
Manufacturer-specific subsidy	Up to 600,000 yen
Installing a charger/discharger (V2B/V2H)* or public charger will add	Up to 100,000 yen
Concluding a 100% renewable electricity plan will add	150,000 yen
Or	
Installing a solar power generation system will add	300,000 yen

**PHEV**

Purchase of an eligible PHEV will get you

**Up to 850,000 yen**

Subsidy breakdown	
Manufacturer-specific subsidy	Up to 600,000 yen
Installing a charger/discharger (V2B/V2H)* or public charger will add	Up to 100,000 yen
Concluding a 100% renewable electricity plan or installing a solar power generation system will add	150,000 yen

**FCV**

Purchase of an eligible FCV will get you

**Up to 2.25 million yen**

Subsidy breakdown	
Manufacturer-specific subsidy	Up to 1.9 million yen
Installing a charger/discharger (V2B/V2H)* will add	100,000 yen
Concluding a 100% renewable electricity plan or installing a solar power generation system will add	250,000 yen

**EV motorcycles**

Purchase of an eligible vehicle will get you

**Up to 480,000 yen**

**EV motorcycle charger etc.**

Purchase of a dedicated charger or the conclusion of a battery sharing service contract will get you

**Up to 50,000 yen**

\* V2B and V2H are abbreviations for Vehicle to Building and Vehicle to Home. These pieces of equipment can supply electricity from storage batteries in ZEVs to buildings or homes, and are also available in emergencies.

## Efficient use of automobiles

Under the Tokyo Vehicle Emission Reduction Program, TMG has mandated that businesses using 30 or more automobiles must submit a plan and results report on reduction targets for exhaust gases and efforts for the rationalized use of automobiles.

Under the Freight Transportation Evaluation System, TMG evaluates truck transportation businesses that promote eco-driving and other initiatives based on actual fuel efficiency to encourage their efforts to reduce CO<sub>2</sub> emissions.

## ► Development of Infrastructure to Support the Expansion of ZEVs

### Improving the availability of EV chargers

In order to eliminate users' anxiety about insufficient charging opportunities, TMG is promoting the installation of EV chargers as social infrastructure.

We have revised the Tokyo Metropolitan Environmental Security Ordinance to require new buildings with a certain minimum number of parking spaces to install chargers and other equipment from April 2025 onwards.

We are subsidizing installation costs at commercial facilities and other private facilities, and promoting installation in areas with parking meters.

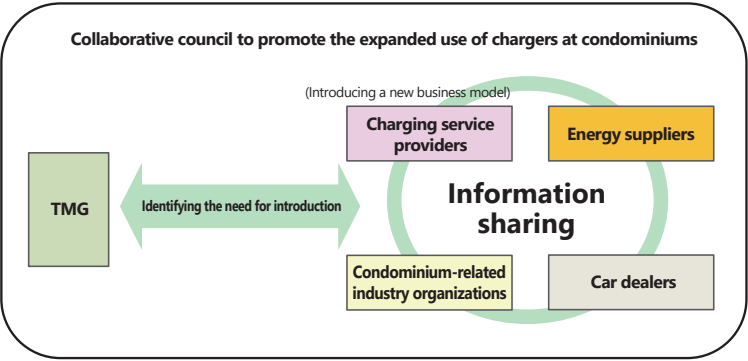


A charger installed along a public road in an area with parking meters

### Promoting installation at apartment buildings

While allowing charging at home is important for the full-scale spread of ZEVs, installing chargers at apartment buildings is not as straightforward as it is at detached houses because a consensus needs to be formed among residents.

In addition to subsidizing the cost of installing chargers at condominiums, TMG is identifying the need for the introduction by sharing case examples, know-how, and challenges in collaboration with related organizations and businesses.



Wall-mounted outlet type, Stand type

## ► Promoting the Use of Bicycles

Since bicycles are a familiar and environmentally friendly means of transportation, we need to improve the safety, comfort, and convenience for bicycle users in conjunction with promoting the use of bicycles. Bicycle sharing is an effective mechanism for promoting the use of bicycles, and is now being developed in various parts of Tokyo. TMG supports the securing of sites for cycle ports and the initial investment made by municipalities, and collaborates with them to ensure the broader use of cycle ports.

### Cycle port installation in Tokyo by bicycle-sharing service providers as of May 2025



A cycle port shared by multiple businesses

\* Setagaya and Edogawa Wards also implement their own bicycle sharing.  
\* Docomo Bike Share bicycles in Akiruno City cannot be returned to ports in other municipalities.  
\* On the islands, there is a Docomo Bike Share port in Hachijo Town.



# Expanding the Use of Hydrogen Energy

Hydrogen emits only water when used, helping reduce environmental load as well as contributing to a diversified energy mix. In particular, it is essential to promote the social implementation of Green Hydrogen, which produces no CO<sub>2</sub> emissions even during its production.

As hydrogen energy is expected to be used across a wide range of sectors, including transportation, power generation, and heat utilization, TMG is actively working to expand its adoption and establish a stable supply system by providing support through institutional, financial, and other strategic measures.

## ► Building the Foundation for the Use of Green Hydrogen

TMG holds the Tokyo Green Hydrogen Roundtable to discuss related issues with companies making advanced efforts. We will increase cases of utilizing Green Hydrogen in Tokyo, including the establishment of a certification system for Green Hydrogen leadership businesses, the installation of its production facilities in TMG-owned land, and collaboration with other local governments.

### Promoting the installation of hydrogen stations

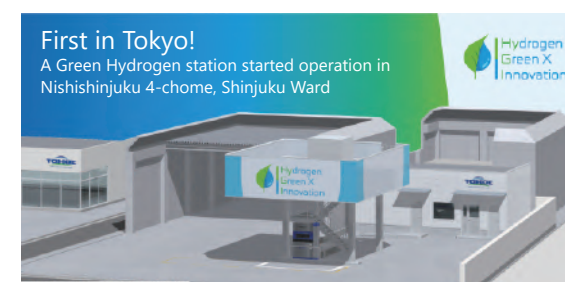
The key to making full use of hydrogen is to install hydrogen stations as these are a familiar energy supply infrastructure.

TMG subsidizes businesses that install and operate hydrogen stations and is committed to installing the first Green Hydrogen station in Tokyo.



Source: Iwatani Cosmo hydrogen station LLC

Japan's first hydrogen station in a bus terminal in Koto Ward



Source: Tomoe Shokai Co., Ltd.

Green Hydrogen station (image)

## ► Creating a Supply Chain through Strengthened International Collaboration

To further accelerate the implementation of hydrogen energy, TMG is working to launch a hydrogen exchange in collaboration with the H2Global Foundation, known as one of the world's leading hydrogen promotion organizations.

We will work to create an international supply chain of Green Hydrogen by strengthening collaboration with overseas jurisdictions through agreements and other initiatives.



Ceremony for signing a collaboration agreement with the H2Global Foundation

## ► Deployment for Various Forms of Mobility

The use of hydrogen for commercial and industrial vehicles, which travel a long distance and require a lot of energy to power, is crucial for the decarbonization of the transport sector and expansion of hydrogen use.

In 2017, fuel cell buses were introduced into Tokyo metropolitan bus lines, becoming the first commercially available municipal fuel cell buses operated as route buses in Japan. As of the end of FY 2024, a total of 135 fuel cell buses have been introduced, including those operated by private businesses.

In April 2023, small fuel cell trucks were introduced in Tokyo. TMG added fuel cell taxis to the subsidy list in 2025 and provides support for these buses, taxis, and trucks, including large vehicles.

For other commercial vehicles, such as fuel cell garbage trucks and ground support equipment powered by fuel cells, support measures will be taken according to the needs of vehicle types and their development status to promote their introduction.



Large fuel cell truck



Fuel cell bus



Fuel cell taxi (image)



Fuel cell aircraft towing vehicle

### Column

#### Promotion of efforts in ports and the coastal area

Based on a public-private partnership, TMG has formulated the Port of Tokyo Carbon-Neutral Port (CNP) Building Plan to work on the decarbonization of the port by helping use hydrogen for cargo handling and other equipment.

We have also formulated the Tokyo Waterfront City Carbon Neutral Strategy to promote the use of hydrogen in collaboration with private businesses. As part of this effort, hydrogen-mixed combustion boilers are being introduced for district heating.



Source: Website of Mitsui E&S Co., Ltd.

Electric/FC-driven cargo handling equipment



Hydrogen-mixed combustion boiler  
(Image provided by Hirakawa Corporation)

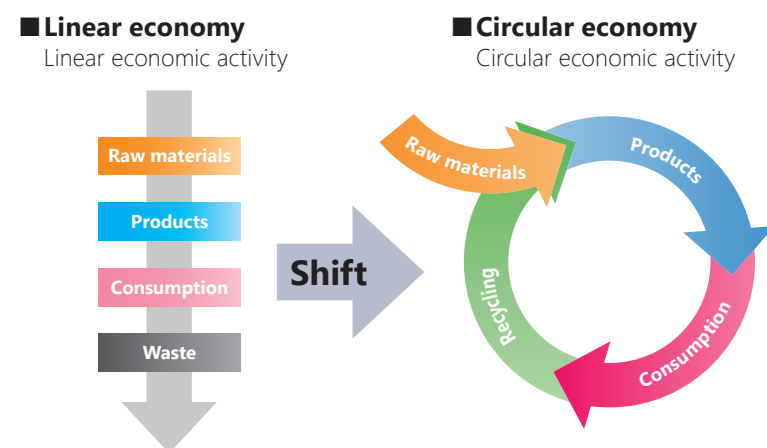


# Promoting the Sustainable Use of Resources

## Shift to a Circular Economy

A linear economy of mass production, consumption, and disposal imposes a heavy environment load, as evidenced by climate change associated with increasing waste and CO<sub>2</sub> emissions, and entails a risk of resource depletion in the future. An estimate indicates that if all human beings live like people in Tokyo, they will need 3.1 Earths.

For Tokyo, which relies on other regions for resource supply and waste disposal, it is important to shift to a circular economy that reuses resources and reduces new inputs.



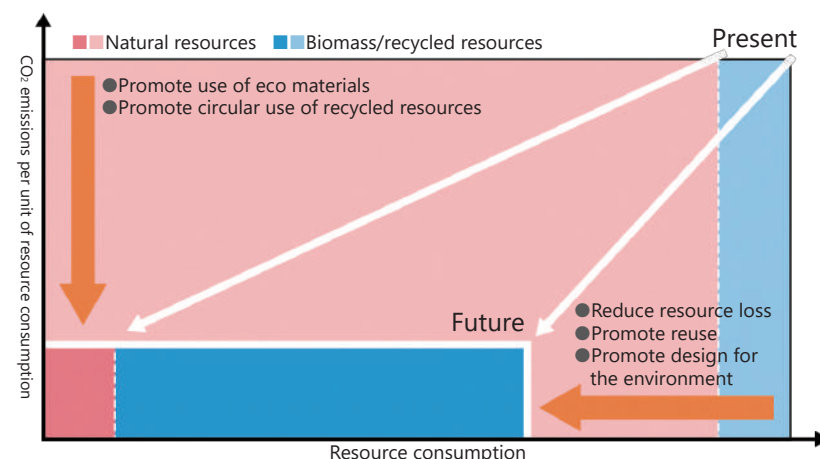
## Promoting efforts in collaboration with the Tokyo Circular Economy Promotion Center (T-CEC)

In collaboration with the Tokyo Circular Economy Promotion Center established in the Tokyo Environmental Public Service Corporation, TMG contributes to the realization of a circular economy by disseminating information on the sustainable use of resources and supporting specific efforts.



## Promoting advanced waste treatment and recycling

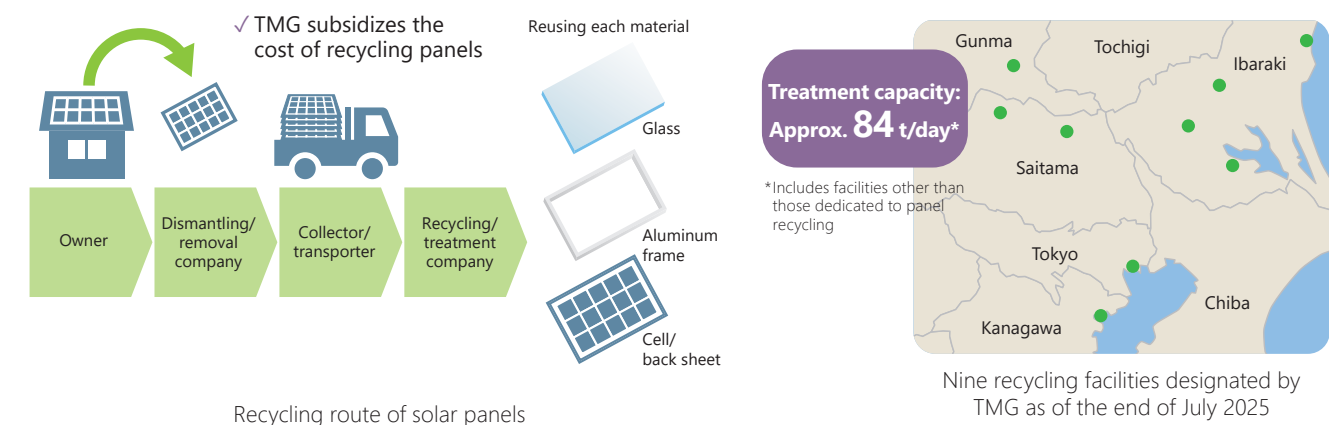
In order to promote decarbonization and ensure both the quality and quantity of recycled resources, TMG is providing subsidies for the introduction of advanced processing equipment such as metal and plastic crushing and sorting equipment as well as the creation of new businesses utilizing cutting-edge technology.



## Promoting the advanced circular use of solar panels

To establish an efficient recycling system for residential solar panels, TMG provides subsidies to cover part of the recycling costs that exceed those of landfill disposal, as well as the costs of installing storage/transshipment facilities needed for efficient transportation to recycling sites.

We are also actively engaging in public outreach to inform Tokyo residents and businesses about solar panel recycling, while promoting advanced circular use of solar panels in collaboration with companies involved in all stages, from removal to final processing.



## Promoting SAF made from waste cooking oil and other waste materials

SAF\* is a sustainable aviation fuel produced from waste cooking oil, wood chips, sugarcane, and various other raw materials. It allows greenhouse gas emissions to be significantly reduced compared to conventional fuels.

TMG is committed to promoting the production of SAF through joint projects with companies in Tokyo that collect waste cooking oil for SAF manufacturing. We also support municipalities engaged in oil collection and collaborate with companies developing technologies to produce SAF from waste materials.

We will subsidize businesses that use air cargo transportation with SAF for the additional costs caused by its use.

\* Sustainable Aviation Fuel



Event to celebrate the start of the supply of domestic SAF to Tokyo International Airport (Haneda Airport)

## Safe recycling of small rechargeable batteries

Small rechargeable batteries are used in familiar rechargeable devices, but they have become a social problem as they can cause fires during disposal or processing.

TMG is working with municipalities and industry organizations to raise awareness of the need for separate disposal, and is also conducting joint research with Waseda University to develop a safe and secure processing flow for small lithium-ion batteries.

We also aim to implement a broad-based model project in which batteries collected by municipalities will be bundled and sold as resources to recycling businesses.



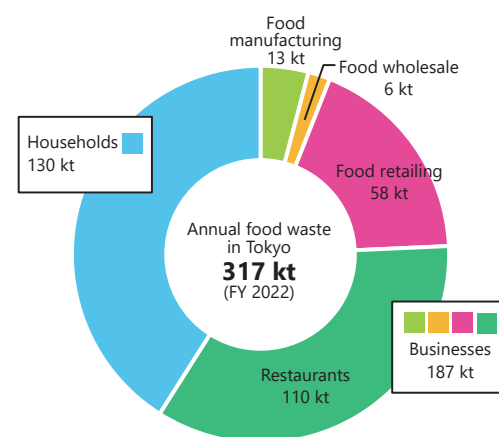
Poster with a common design for local governments and businesses



## ► Measures for Food Waste

Food waste in Japan is approximately 4.72 million tonnes (2022), which roughly corresponds to the amount of food aid provided by the United Nations in 2022, approximately 4.8 million tonnes.

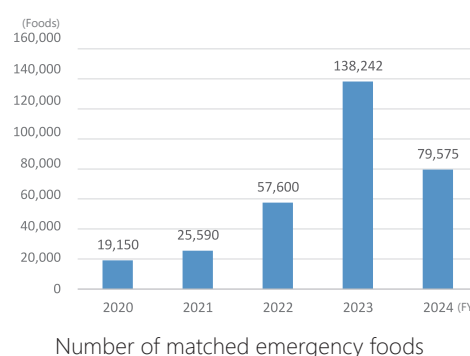
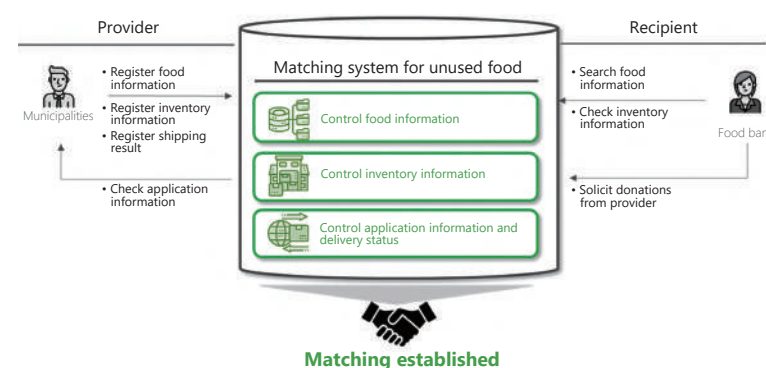
The quantity of edible but wasted food in Tokyo is approximately 320,000 tonnes per year (2022), and approximately 60% of that comes from hotels, restaurants, and other businesses. TMG will strengthen its initiatives by raising the target of halving food waste from FY 2000 levels by 2030, which was set out in the Tokyo Food Loss and Waste Reduction Plan formulated in March 2021, to a 60% reduction, and setting a new target of a 65% reduction by 2035.



\* The total may not match the sum of the details due to rounding.

### Establishing and expanding efforts for the effective use of unused food

TMG uses a matching system for unused food to donate emergency food stockpiled at municipalities and TMG to food banks and other organizations. While using the system more extensively, we will establish and expand a distribution model for mutual help by for example sharing information with municipalities and promoting the effective use of emergency food.



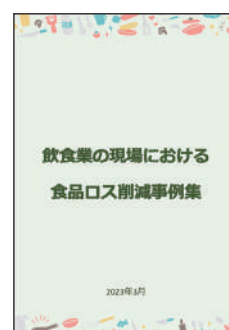
### Encouraging food waste reduction at small and medium-sized food retailers in Tokyo

For small and medium-sized food retailers in Tokyo, TMG will work with stakeholders to subsidize the costs of introducing measures for food waste for each value chain and widely disseminate information on the efforts of companies and the reduction of food waste.



### Promoting food waste reduction in the restaurant industry

In order to strengthen food waste reduction measures in the restaurant industry, TMG will create comprehensive materials on measures for reducing waste in the industry, hold seminars in collaboration with industry groups and local governments for further waste reduction, and run a campaign at restaurants in Tokyo to encourage customers to finish their meals.

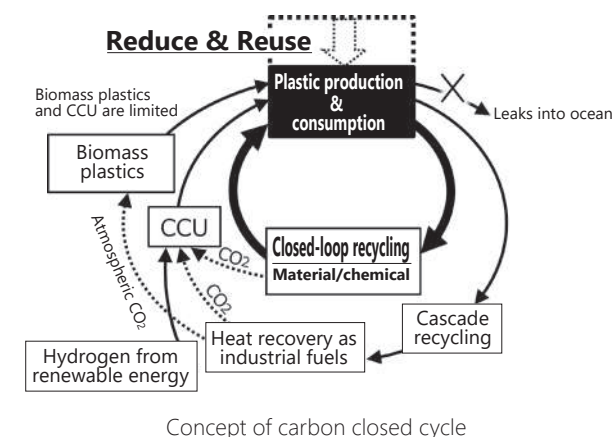


## ► Measures for Plastics

### New ways of using plastics

While plastics have excellent properties, they affect climate change and biodiversity loss throughout all stages from production to disposal.

TMG will realize a "carbon closed cycle," which represents the sustainable use of plastics with net zero CO<sub>2</sub> emissions, by mainstreaming 2R businesses, including selling by weight, sharing, and reusable containers, and implementing closed-loop recycling.



### Expanding innovation in collaboration with businesses

TMG is supporting and working with private companies committed to expanding game-changing reuse business models and closed-loop recycling technologies.



Examples of initiatives

Sharing services for reusable drink containers: Re&Go

The services have been gradually implemented in society, mainly at restaurants and commercial complexes, in order to reduce disposable containers and allow reusable containers to be easily used on the street.

### Projects to support recycling of plastic containers and packaging

To help recycle plastic containers and packaging and plastic products from households, TMG provides financial support for efforts by municipalities to promote the separate collection of plastics.

## Column SAF x World Athletics Championships Tokyo 25 - Household Oil Collection Campaign

In collaboration with the foundation for the World Athletics Championships Tokyo 25 and municipalities, TMG has launched a campaign to collect used cooking oil from households and other sources, which can be used to produce sustainable aviation fuel (SAF). We are encouraging the cooperation of Tokyo residents by establishing approximately 80 collection points across Tokyo's municipalities, including at TMG Buildings, and promoting collection through awareness raising tools such as the Edo-Tokyo funnel.

**Used cooking oil** from households and restaurants is **expected to be a valuable raw material for SAF.**

The collected oil will be refined into SAF at Japan's first large SAF manufacturing plant and then transported to domestic airports, including Haneda Airport, **for use as aircraft fuel.**

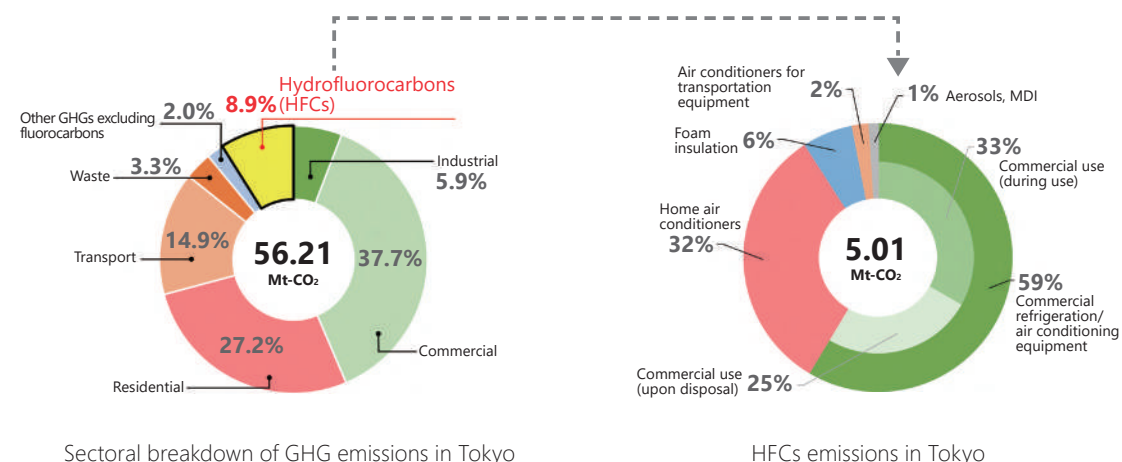




## Efforts toward Zero Hydrofluorocarbon Emissions

The amount of hydrofluorocarbons (HFCs) emissions in Tokyo in FY 2023 was 5.01 million-tonne CO<sub>2</sub>, accounting for approximately 10% of its greenhouse gas emissions. Fluorocarbons have an extremely strong greenhouse effect and cannot be recovered once released into the air.

Therefore, TMG will curb the use of new fluorocarbons and eliminate leakage from equipment containing fluorocarbons. To achieve zero fluorocarbon emissions, TMG will promote emission reduction measures throughout the life cycle of equipment, from manufacture, use, through to disposal, in cooperation with the national government and businesses.

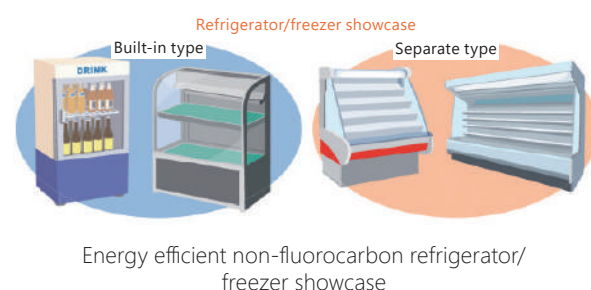


Sectoral breakdown of GHG emissions in Tokyo

HFCs emissions in Tokyo

### Promoting the Spread of Non-Fluorocarbon Equipment

To reduce fluorocarbon emissions, it is also important to promote the use of equipment that does not use fluorocarbons as refrigerants. TMG subsidizes large companies, small and medium-sized businesses, and other organizations that introduce energy efficient non-fluorocarbon equipment.



### Measures for Leakage during Use and Recovery upon Disposal

#### Utilizing advanced technology to reduce fluorocarbon emissions

Reducing leakage during use requires the active utilization of advanced technology, such as the early detection of leakage through constant monitoring using AI and IoT.

TMG provides subsidies to businesses that introduce remote monitoring technologies based on AI and IoT.

#### On-site guidance by fluorocarbon inspectors

TMG is promoting on-site guidance by fluorocarbon inspectors, among other initiatives. To further reduce fluorocarbon leakage, we are exploring the use of AI- and IOT-based technologies for more effective on-site guidance, while also working to raise awareness of the Fluorocarbon Emissions Control Act.



## Promoting Climate Change Adaptation Measures

The Tokyo Climate Change Adaptation Plan was revised in March 2024 in light of the announcement of the TOKYO Resilience Project Upgrade I in December 2023, which consists of measures for floods and storms, including the further promotion of river maintenance, such as revetment and regulating reservoirs as well as the enactment of the revised Climate Change Adaptation Act in April 2023 with the aim of strengthening heat stroke prevention actions.



### Heat Stroke Prevention

TMG has strengthened heat stroke prevention actions, encouraging actions to protect lives from heatstroke, supporting municipalities in preparing cooling shelters and raising awareness of them, and implementing comprehensive measures and projects for industry groups such as those for essential workers.



Tokyo Heat Acclimatization Seminar (Heat Countermeasures Starter Course)

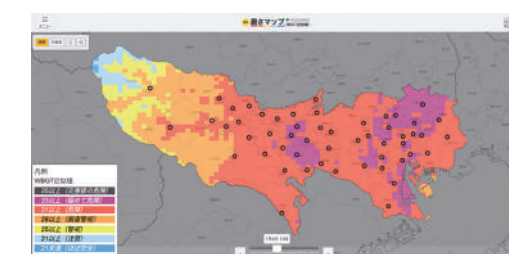


All-Out Heat Stroke Prevention! Parasol Campaign

### TOKYO Zero Heat Stroke Action Project and TOKYO Heat Map



Tokyo Heat Stroke Prevention Portal Site to disseminate information



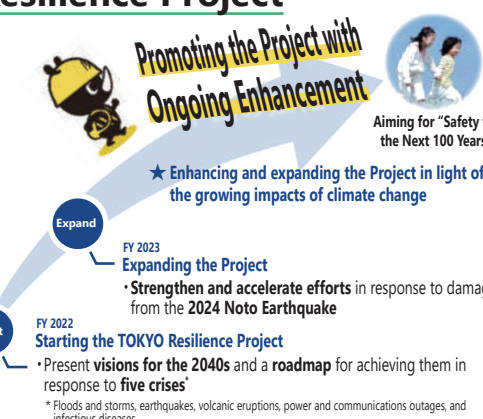
Providing detailed heat information through the Tokyo Heat Map



### Column Promoting the TOKYO Resilience Project

Under the Tokyo 2050 Strategy, TMG is promoting the TOKYO Resilience Project to strengthen urban resilience, taking into account changes in the surrounding environment, such as worsening climate change.

「100年先も安心」を目指して  
**TOKYO 強靱化 PROJECT**





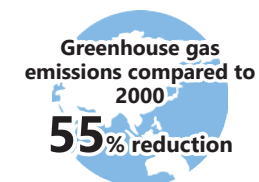
# Bold Acceleration of TMG's Initiatives for Its Own Sustainability

As a major consumer of energy and resources, TMG—guided by the slogan “Let’s Start from Here”—is committed to reducing greenhouse gas emissions from its own operations under the Zero Emission TMG Action Plan.

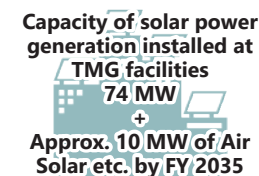
In March 2025, the plan was revised to set targets for FY 2030 across five key areas, including improving energy efficiency and expanding the use of renewable energy, positioning TMG to lead decarbonization efforts throughout Tokyo.



## Main FY 2030 targets



TMG is committed to switching all electricity used at its facilities, including Governor’s bureaus and departments, to renewable electricity by for example implementing the TMG Power Plan that utilizes 100% renewable electricity generated by solar power equipment at Tokyo public housing and other facilities.



To make maximum use of the potential of public facilities, TMG is working to install solar power generation equipment at all of its applicable facilities. We aim to introduce additional Air Solar and other equipment.



TMG works to ensure the replacement of its vehicles with ZEVs at the time of renewal in principle and enhance charging infrastructure by installing public chargers at its facilities.



Air Solar installed on the pillars at a port facility



TMG-owned ZEV with solar panels

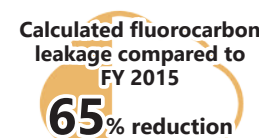


As bottle-to-bottle recycling and the material recycling of plastic waste are conducted at its buildings, TMG aims to implement bottle-to-bottle recycling at all facilities in principle and establish material recycling routes by FY 2030.

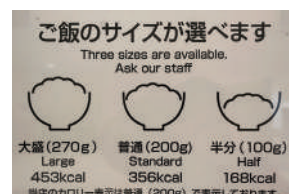
We are also promoting the use of reusable cups in a push manner to introduce more of them at events hosted by TMG.



TMG is strengthening efforts to curb food waste generated from dining halls and shops within its facilities, as well as at events. In addition, we aim to recycle all food loss and waste from the TMG Buildings.



We will promote the switch to non-fluorocarbon and low-GWP equipment and proper equipment control at TMG facilities and steadily reduce fluorocarbon emissions from the TMG Buildings.



Encouraging portion size selection at an officials’ dining hall to help prevent leftovers



# Accelerating Environmentally Friendly Behavior in Cooperation with All Actors

## ▶ Developing and Supporting Next-Generation of Leaders

To cultivate the talent needed to support a decarbonized society, TMG provides environmental education programs and learning opportunities that encourage behavioral change. We also foster and support industry professionals who will take the lead in advancing green jobs.

### Environmental education workshop for elementary school teachers



Holding workshops where participants can learn practical environmental learning programs in line with school subject

### Project to support improvements in design and construction techniques



Providing support for efforts that help improve the design and construction techniques for houses with high environmental performance

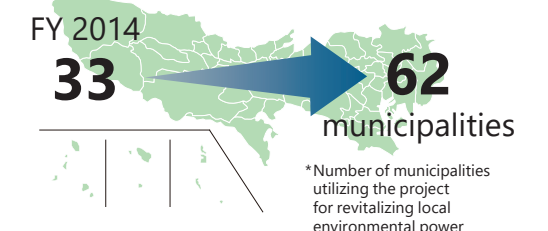
## ▶ Collaboration with Municipalities

TMG takes the lead in decarbonization throughout Tokyo by providing support tailored to the actual situation of local governments, such as financial support for municipalities working on local decarbonization.

From FY 2025, TMG will subsidize broad-based decarbonization by municipalities and encourage their efforts and consensus among them in order to create zero emission districts specific to Tokyo.

### Number of municipalities utilizing subsidy projects

Expanded to all municipalities in the decade



## ▶ International Contribution and Exchange

As one of the world’s leading metropolitan cities, TMG participates in international intercity network activities and international conferences organized by C40\*1 and ICLEI\*2 to strengthen its global presence.

By hosting international events such as TIME TO ACT and HENCA Tokyo, and leveraging its connections with jurisdictions worldwide, TMG shares information about its pioneering initiatives and reinforces its role as a global leader.

\*1 C40 Cities Climate Leadership Group

\*2 Local Governments for Sustainability

### COP29



ICLEI Japan x IGES Seminar



Winning CDP’s “Cities A List” award (highest rating) for the fourth consecutive year from 2021 to 2024, which evaluates climate change initiatives and information disclosure

### TIME TO ACT 2024



Strategically developing the Tokyo-based climate action movement, TIME TO ACT

### HENCA Tokyo 2024



Promoting the early social implementation of hydrogen energy

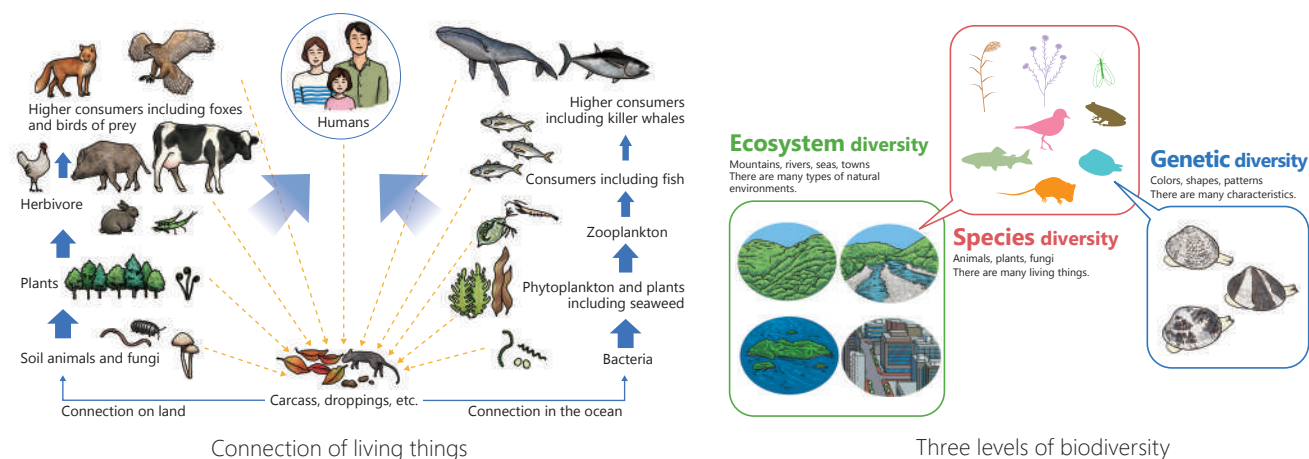




# Realization of an Environmentally Symbiotic, Prosperous Society that Continues to Benefit from Biodiversity

## ► What is Biodiversity?

The term “biodiversity” refers to a situation where a variety of creatures with unique characteristics are able to coexist in harmony directly and indirectly, taking advantage of each other’s characteristics in a variety of different environments. Biodiversity is said to cover three levels of diversity: Many types of living things, a variety of environments, and different genes even within the same type of a living thing.



### Benefits of biodiversity (ecosystem services)

Biodiversity is something irreplaceable created over long periods through a variety of lifeforms, including human beings. Benefits of biodiversity, called ecosystem services, are essential to our lives. In order to make the sustainable use of the benefits of biodiversity, we need to promote the conservation and restoration of biodiversity.



Four ecosystem services

## ► Tokyo Local Biodiversity Strategy

TMG revised and published the Tokyo Local Biodiversity Strategy in April 2023.

In the Tokyo Local Biodiversity Strategy, we have set achieving nature positivity as one of the 2030 Targets, which means putting biodiversity on track to restoration by helping all entities that aim for an environmentally symbiotic, prosperous society work together to promote the conservation and sustainable use of biodiversity. It presents basic strategies and action plans for various entities to proceed with their efforts in order to achieve this goal.



### Three basic strategies in the Tokyo Local Biodiversity Strategy

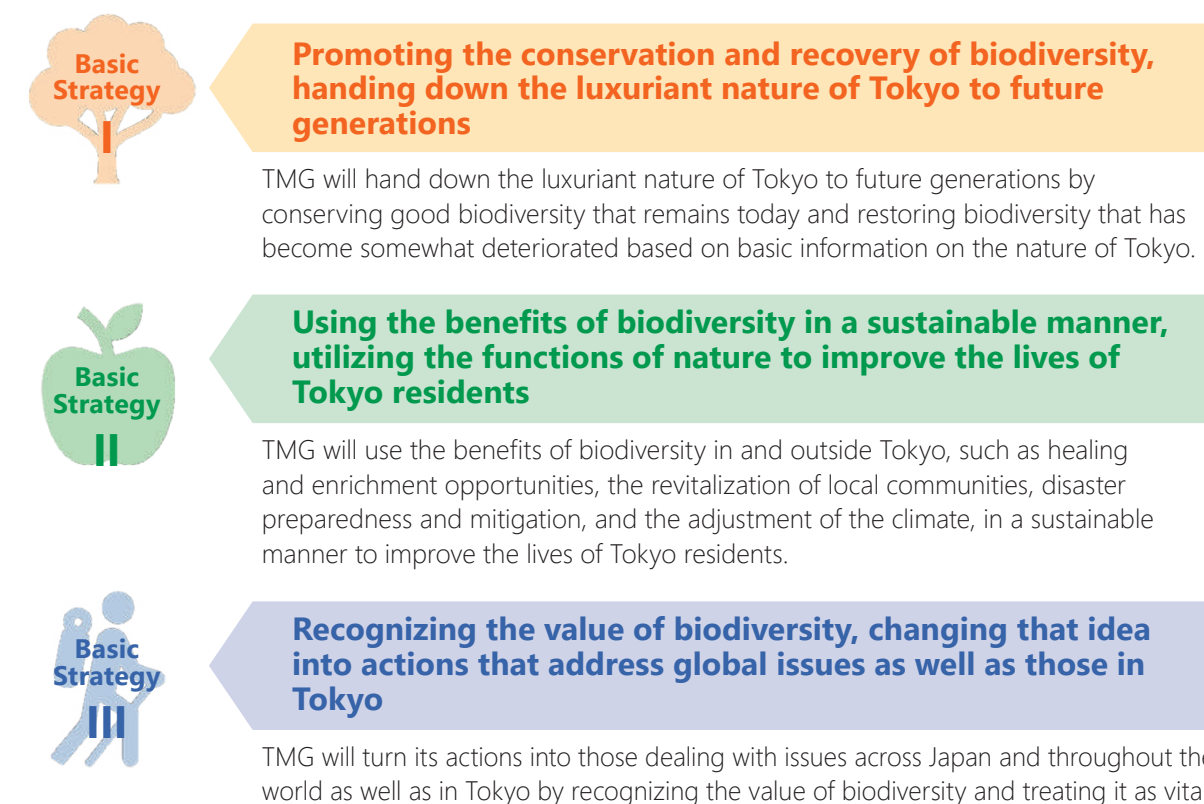
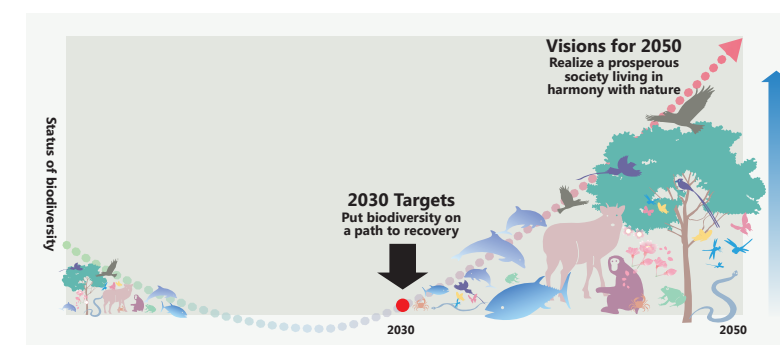
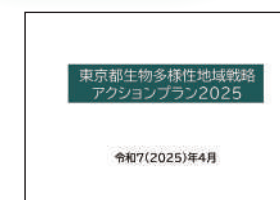


Image of achieving nature positivity



Nature positivity means halting and reversing biodiversity loss to halt nature loss and put it on the path to recovery by 2030, measured from a baseline of 2020.

TMG will formulate the Tokyo Local Biodiversity Strategic Action Plan every fiscal year to summarize its biodiversity initiatives and to strengthen and promote efforts toward achieving nature positivity, incorporating new measures as needed.



Tokyo Local Biodiversity Strategic Action Plan 2025



# Promoting the conservation and recovery of biodiversity, handing down the luxuriant nature of Tokyo to future generations

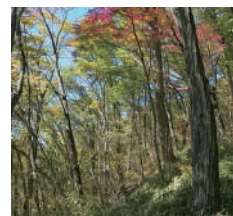
## ► Preserving Areas with Rich Natural Environments

### Conservation Area System

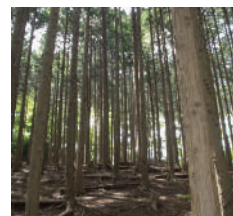
To conserve the valuable natural environments in Tokyo, including satoyama (open light-filled woodland near populated areas) in hilly terrains, we promote the designation of conservation areas for their preservation and restoration.

There are 51 conservation areas of approximately 761 hectares in Tokyo. TMG aims to expand the area of designated and publicly-owned conservation areas to approximately 1,000 hectares by 2050. As achieving this goal requires the understanding of landowners, local governments, and local residents, we will depict the benefits of green spaces through drones, AI, and other technologies to accelerate the designation and public ownership of new conservation areas.

Types of conservation areas:



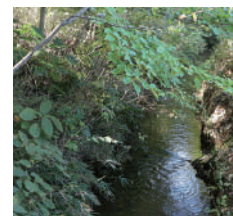
Natural environment conservation area



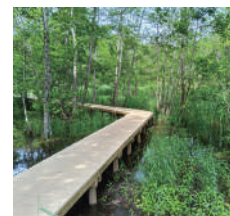
Forest environment conservation area



Satoyama conservation area



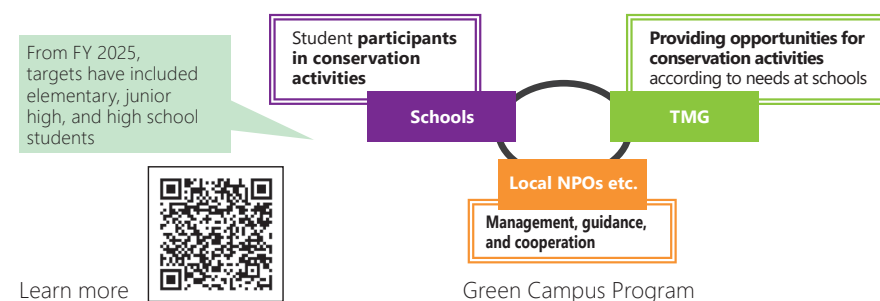
Historical environment conservation area



Green space conservation area

### Conserving precious nature together with Tokyo residents

In conservation areas, local volunteer groups play a central role in green space conservation activities, such as cutting undergrowth and thinning trees. To foster leaders in preservation activities in conservation areas, TMG has set a goal of increasing the number of participants in hands-on nature activities to 58,000 in total by FY 2030. In order to promote preservation in conservation areas in collaboration with various entities, we are implementing initiatives such as experience-based programs in which even beginners can easily participate, the Tokyo Green Campus Program for students, and the Tokyo Greenship Action for companies.



Learn more



Rice planting in a satoyama conservation area

### Promoting efforts in collaboration with the Tokyo Metropolitan Center for Biodiversity

In FY 2024, the Tokyo Metropolitan Center for Biodiversity was established as a hub for collaboration and information dissemination among various entities involved in conservation activities in Tokyo.

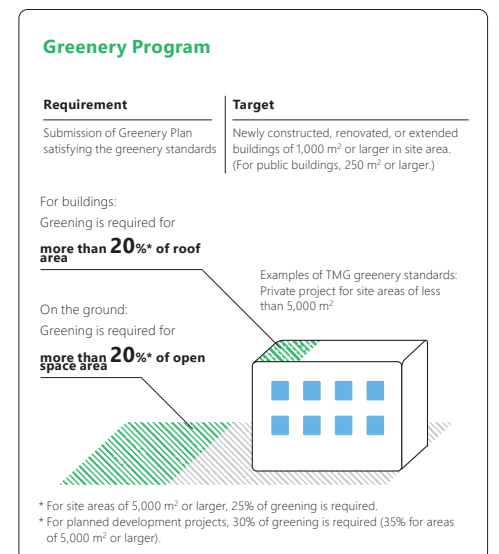
TMG is committed to strengthening its efforts to disseminate information to Tokyo residents and maintain and improve the quality of conservation areas by creating a comprehensive biodiversity portal site that centralizes the dissemination of information on the natural environment and provides partnerships with local organizations, NPOs, Tokyo residents, and companies.



## ► Conservation and Creation of Greenery in Urban Districts

The percentage of green and blue spaces (water areas) for 2023 announced by TMG is 52.1% for the entire mainland, showing a downward trend. In accordance with the Greenery Program, TMG has been creating greenery in parallel with urban development.

TMG has a registration system for green spaces that feature a significant proportion of native species. These registered green spaces are awarded special logos and are prominently highlighted on the TMG website.



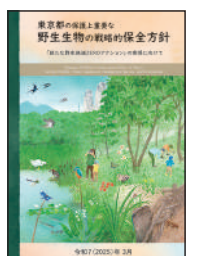
## ► Conservation of Rare Wild Fauna and Flora, and Measures for Alien Species

In Tokyo, as many as 1,846 species on the mainland and 1,244 species on the islands have been selected in the Wildlife Species in Serious Need of Conservation in Tokyo (Tokyo Red List), of which 209 species on the mainland and 51 species on the islands have already become extinct.

Based on the Strategic Conservation Policy for Wildlife Species in Serious Need of Conservation formulated in March 2025 to prevent the further extinction of rare creatures in Tokyo, TMG will encourage conservation that focuses on the species and ecosystems of wildlife in serious need of conservation and support the promotion of measures for alien species.



Red Data Book Mainland - Digest version

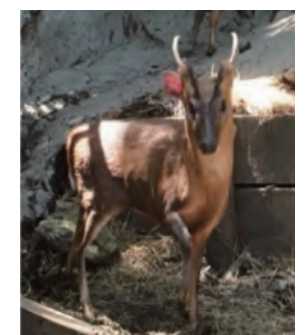


Strategic Conservation Policy Digest version

### Promoting active pest control of alien species

In recent years, various alien species brought in from home and abroad have significantly impacted native species. TMG is working to mitigate the damage caused by these alien species, such as raccoons, American crayfish, and red-eared slider turtles, which pose a substantial threat to Tokyo's ecosystem.

As a measure against Reeves' muntjacs on Izu Oshima Island, TMG will implement capture operations and promote efforts to eradicate them under a pest control plan.



Reeves' muntjac on Oshima Island



Raccoon  
Source: Ministry of the Environment



American crayfish  
Source: Ministry of the Environment



Red-eared slider turtle  
Source: Ministry of the Environment



## Measures against Asiatic black bears

In Tokyo, the Asiatic black bear is classified as a near-threatened species and is under protection. However, it is crucial to prevent their encroachment into human settlements to ensure they do not pose a threat to human safety. TMG strives to minimize the capture and killing of Asiatic black bears by closely monitoring their habitats and establishing buffer zones. To help ensure the safety of Tokyo residents, we also publish the TOKYO Kumap, which provides information on bear sightings within the city.



TOKYO Kumap



Asiatic black bear photographed by a sensor camera

## Collection, Storage, Analysis, and Dissemination of Natural Environment Information

### Collecting information on living things with Tokyo residents

Since comprehensive information is essential for building a foundation to conserve and restore biodiversity in Tokyo, the power of citizen science plays a crucial role. To that end, TMG has developed AI-based apps for wildlife surveys, enabling Tokyo residents to easily participate in collecting and accumulating data on local species.



Participatory app for collecting information on living things (Biome)

### Creation of the TOKYO Digital Wildlife Inventory

The TOKYO Digital Wildlife Inventory is a web-based system supervised by experts that integrates citizen science data with information from specimens and literature. It allows anyone to easily search, via a dedicated website, for what species lived where and when in Tokyo.

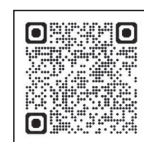
A dragonfly inventory was published in 2024, followed by spider and cicada inventories in May 2025. Information will be added and updated whenever necessary.



### Natural Environment Digital Museum

TMG is exploring the opening of a Natural Environment Digital Museum. This initiative aims to aggregate comprehensive biodiversity information from across Tokyo and use digital technology to highlight the city's natural beauty.

In addition, we have already published digital content, such as "Tokyo Nature Scope" and "Tama River 360° Tour," to help residents learn about Tokyo's living things and nature and encourage actions to preserve them.



[Tentative name] Master Plan for Tokyo Natural Environment Digital Museum (as of April 2025)



"Digital View of Living Things in Tokyo" Touring Exhibition (from April to May 2025) at ECORU Togoshi



## Using the benefits of biodiversity in a sustainable manner, utilizing the functions of nature to improve the lives of Tokyo residents

### Promotion of Tokyo-NbS Action

The idea of using the functions of nature in a sustainable manner to solve various social issues is called "Nature-based Solutions" or NbS.

To use the benefits of biodiversity in a sustainable manner and utilize the functions of nature to improve the quality of life of Tokyo residents, TMG is recruiting Tokyo-NbS Action Members who will be involved in a variety of activities leading to NbS in Tokyo.

In FY 2024, TMG established the Tokyo-NbS Action Awards to recognize businesses and other organizations that are pioneering NbS initiatives, and held an awards ceremony and networking event, promoting the widespread adoption of NbS.



First Tokyo-NbS Action Awards Ceremony

### Ogasawara Islands Registered as World Heritage Site in June 2011

Consisting of over 30 islands, the Ogasawara Islands are located in the North West Pacific 1,000 km south of Tokyo, where dolphins and whales inhabit a beautiful blue ocean.

Geological features on the island show the evolutionary process of oceanic island arcs.

These islands have never been part of any continent, and so the living creatures able to reach the islands over the sea could survive only by adapting to the environment. The Ogasawara Islands were evaluated as an area with a precious ecosystem and registered as a natural World Heritage site in June 2011 as they reveal the evolution of and connection between living things not seen in any other areas.

To protect the value of the World Heritage site, we are removing influential alien species while conserving decreasing endemic species. We are also developing ecotourism to help protect and properly use valuable natural resources and are striving to prevent the entry of new alien species.



Minamijima and Chichijima Islands, Ogasawara Islands



Humpback whale



Bonin Islands honeyeater (vulnerable species)



Chloris sinica kittltzi (endangered class IA on the islands)



View of ecotourism on Minamijima Island



Preventing alien species from entering the islands through shoes



## ► Natural Parks

### Meiji no Mori Takao Quasi-National Park

It only takes approximately 50 minutes to get from the center of Tokyo to Meiji no Mori Takao Quasi-National Park. Awarded three stars in the Michelin Green Guide, Mt. Takao is the property of the Head Temple Takao-san Yakuo-in that has historical and cultural features as well as magnificent landscapes. It also offers an ecosystem of abundant nature despite its proximity to central Tokyo, well deserving its world famous reputation.

TMG strives to ensure the safe and secure use of the natural park by for example using 360-degree camera images to show information on the seven mountain trails (routes) from the foot of Mt. Takao to the summit.



### Natural parks with various features

Tokyo is home to three national parks, one quasi-national park, and six Tokyo Metropolitan natural parks. TMG deploys Tokyo Rangers to promote the protection and appropriate use and management of nature in the natural parks.

In addition, TMG has set up visitor centers that exhibit information on nature around natural parks and provide guidance on how to use them, Tomin-no-Mori facilities for recreational activities to become familiar with nature, and scenic seaside and mountain villages with accommodation facilities.



Fuji-Hakone Izu National Park characterized by different landscapes on each island (Kanbiki Observatory on Shikinejima Island)



Maintenance of a mountain trail by Tokyo Rangers

## Recognizing the value of biodiversity, changing that idea into actions that address global issues as well as those in Tokyo

### ► Promotion of Understanding of Biodiversity

A survey in FY 2024 showed that the percentage of Tokyo residents recognizing biodiversity is 73.7% and that of Tokyo residents taking actions that consider or contribute to biodiversity is 93.7%.

To conserve and restore biodiversity and use its benefits in a sustainable manner, Tokyo residents and other actors have to correctly recognize the mechanism, value, and status quo of biodiversity in Tokyo, and deepen their understanding and interest in it.

TMG is working to raise more awareness of biodiversity to enable each and every Tokyo resident to recognize the value of biodiversity and treat it as vital.

### Promoting nature experience activities

TMG is actively raising awareness of places and events in Tokyo where people can enjoy observing living things and experiencing nature. Using facilities where people can learn about various natural land and biodiversity in Tokyo, TMG is encouraging natural environment education and nature experience activities.



Observing living things at Takao Forest Nature School



Participatory program on Kozushima Island to learn about Tokyo's diverse nature

### Column Promoting "Tokyo Green Biz"

To preserve and pass on greenery for future generations in collaboration with Tokyo residents, businesses, and other stakeholders, TMG is promoting Tokyo Green Biz, a long-term greening project with a 100-year vision.

As part of the project, we are promoting various initiatives, including the conservation of agricultural lands and

homestead woodlands, the publication of the Tokyo Green Biz Map which shows Tokyo's green spots, and the introduction of green infrastructure.

Our goal is to transform Tokyo into a sustainable city that coexists with nature. We will achieve this through initiatives to "protect," "nurture," and "utilize" Tokyo's greenery.



Tokyo Green Biz Map

Tokyo Green Biz version 3





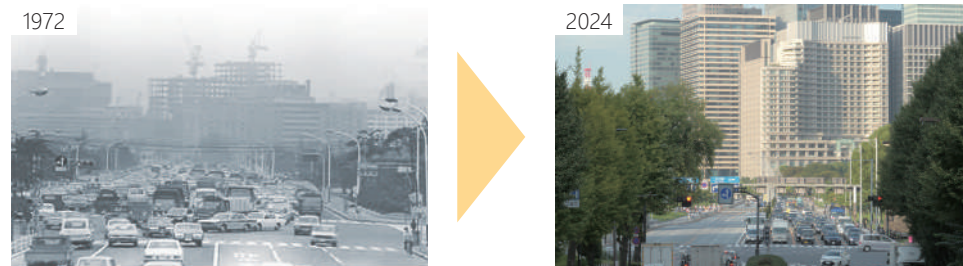
# Realization of a Better Urban Environment

## Further Improving Air Quality Etc.

A period of high economic growth in Tokyo after World War II saw rapid industrialization and a surge in automobile ownership, causing severe environmental issues and threatening the health and welfare of its residents.

TMG has implemented a range of pioneering environmental measures and remains committed to addressing environmental challenges. We will not only work to preserve the improved living conditions achieved to date, but also advance new initiatives to create a higher quality environment, one in which all Tokyo residents can enjoy an enhanced quality of life with peace of mind.

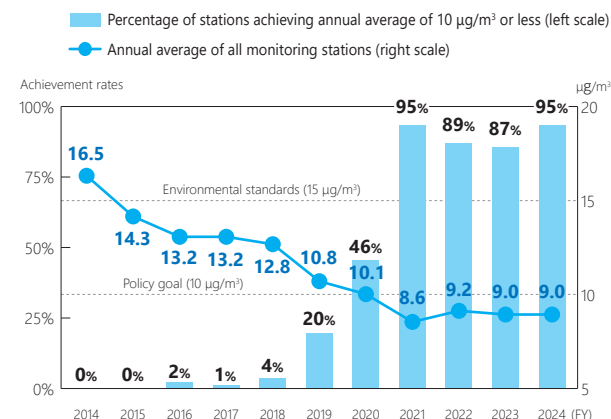
### ■ Iwaidabashi Intersection, Chiyoda Ward



## Recent Efforts

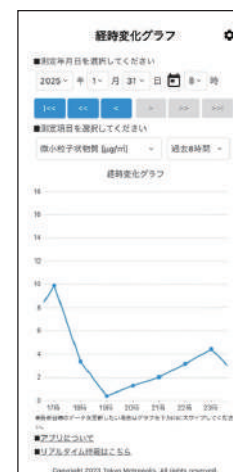
As the concentration of PM2.5 and photochemical oxidants has to be lowered, TMG is working on measures to reduce emissions of the causative agents, including volatile organic compounds (VOCs) and nitrogen oxide (NOx).

For PM2.5, TMG will build on the existing measures for further improvements, aiming to reduce the annual average of all monitoring stations to 10  $\mu\text{g}/\text{m}^3$  or less by FY 2026 and ensure that the value is consistently maintained in and after FY 2030.



### Smartphone app "Tokyo Air Quality Information"

To make it easier for everyone to understand information about air quality, which changes depending on time and location, TMG has distributed a smartphone app called "Tokyo Air Quality Information," which allows users to see at a glance the air concentration of fine particulate matter (PM2.5) in their locations.

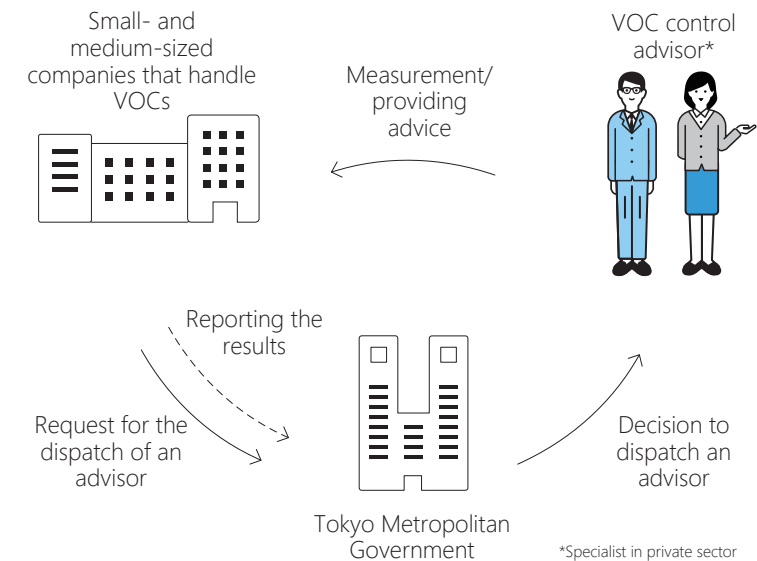


Graph of changes in PM2.5 concentration over time shown on the app

## Efforts for Comfortable Air Quality

### VOC Control Advisor Dispatching Program

Advisors are dispatched to factories that use VOCs.



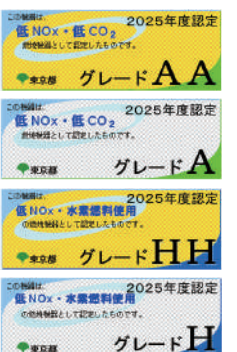
### Guide for Reducing VOC Emissions

Guidebooks are distributed to VOC-emitting businesses for emissions control.



### Certification labels for small combustion devices with good environmental performance

A label of a specific grade is attached to a certified device.



## Air Environment Improvement Promotion Project to Realize a Clear Sky

By recruiting businesses that work on NOx or VOC emission reduction measures as Clear Sky Supporters and making their efforts public, TMG encourages emissions reductions through voluntary efforts. We also raise awareness of the situation and provide information to Tokyo residents by holding participatory events via SNS.



## Measures for Asbestos

There are still many buildings containing asbestos in Tokyo, and the number of buildings demolished is expected to remain at a high level until around 2050. Therefore, TMG will enhance measures taken at the stage of demolition in normal times as well as strengthening other measures to prevent dispersion from collapsed buildings in the event of a disaster.

To ensure that legal requirements and best practices for asbestos control are firmly understood and applied, we provide dismantlers with relevant information, on-site guidance, and technical support.

We also provide VR-based training to municipal officials to further improve their technical knowledge and leadership skills.



On-site guidance on asbestos



## Reducing Risks Caused by Chemical Substances Etc.

### ► Measures for Chemical Substances

To prevent health hazards caused by chemical substances, TMG ensures that businesses handling chemical substances properly control them through the PRTR program and the chemical substance control program as well as by creating a chemical substance database. In addition, we prevent leakage and outflows of chemical substances caused by flooding at the time of large earthquakes or typhoons to curb the spread of environmental pollution.

TMG monitors substances with a risk of adverse health effects, publishes the resulting data in a timely manner, and organizes the data into a database so that Tokyo residents and businesses can avoid such risks.

Regarding organic fluorine compounds like PFOS, we have proactively examined their concentrations in groundwater throughout Tokyo ahead of the national government. Additionally, we have continued monitoring at locations with concentrations exceeding guideline values and prohibited the consumption of groundwater from such locations.



View of air monitoring

### ► Measures for Soil Pollution

TMG will establish measures for soil pollution that consider the 3Rs of soil, and provide support for businesses and raise their awareness so that they can voluntarily compare and consider these measures to choose a rational option.

Through the open data methodology, we will ensure smooth land use, control land with non-conforming soil, identify the actual state of naturally contaminated soil, and keep traceability in place.

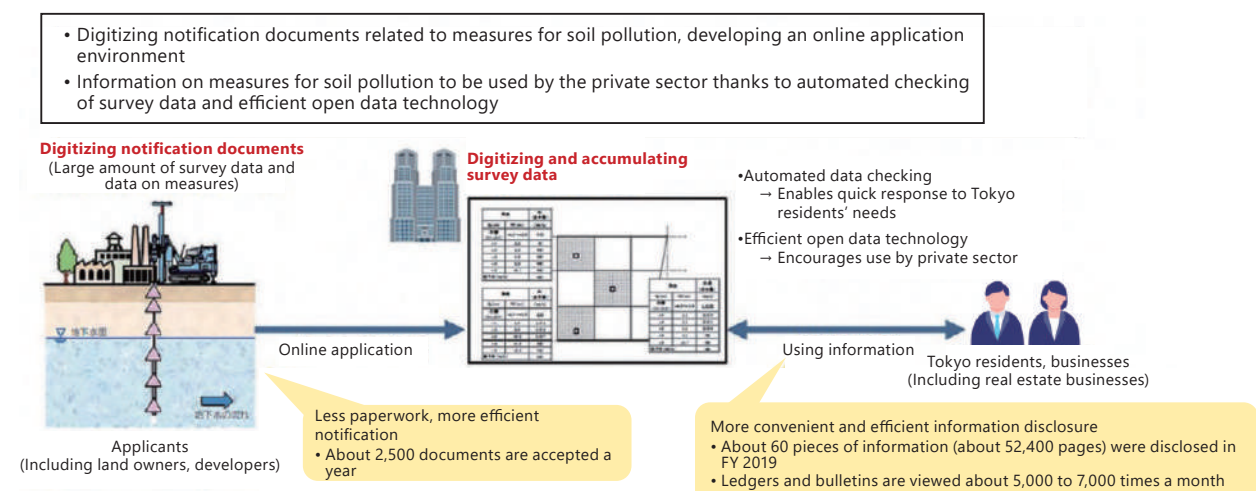
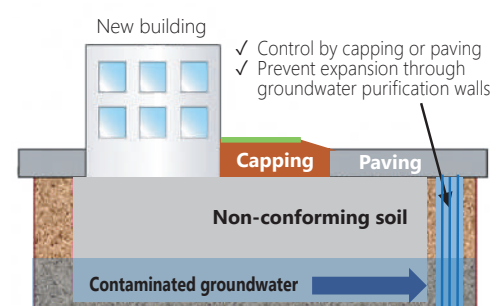


Image of open data

### Supporting sustainable soil pollution countermeasures at former factory sites

To encourage the adoption of new business practices and development of countermeasure technologies, TMG subsidizes entities that start new ventures at places like former factory sites of small and medium-sized businesses. The subsidies cover costs for:

- ✓ Capping or paving over contaminated soil
- ✓ Measures to prevent the spread of contaminated groundwater

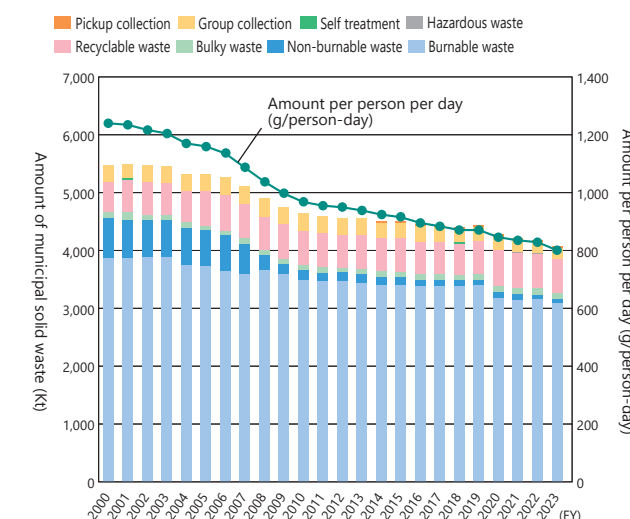


## Further Promoting the Proper Treatment of Waste

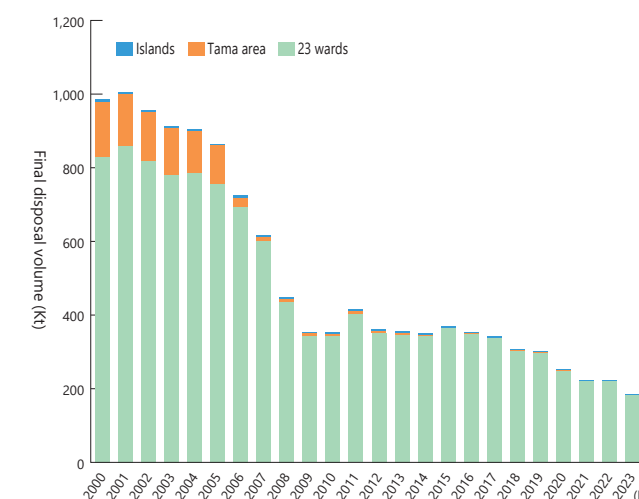
### ► Status Quo of Waste Treatment in Tokyo

The amount of municipal solid waste generated in Tokyo per year decreased from approximately 5.50 million tonnes in the early 2000s to approximately 4.08 million tonnes in FY 2023. Partly due to progress in 3R initiatives, the amount of waste per day per Tokyo resident decreased by approximately 30% from FY 2000. The final disposal volume of municipal solid waste in Tokyo steadily decreased until FY 2009 due to improvements in the recycling rate and other reasons, but then remained flat, and has been trending downward again in recent years.

The amount of industrial waste generated in Tokyo has hovered around 26 million tonnes in recent years.



Changes in the amount of municipal solid waste in Tokyo



Changes in municipal solid waste final disposal volume in Tokyo

### ► Strengthening the Waste Treatment System

#### Wide-area cooperation to prevent improper disposal of industrial waste

In 2000, at the request of TMG, a program called "Industrial Waste Scrum" was established in 21 local governments to eradicate illegal dumping. As of FY 2025, the organization consists of 37 local governments: Tokyo, 11 prefectures, and 25 ordinance-designated cities and core cities in the Kanto-Koshinetsu region, Fukushima, and Shizuoka prefectures.



Left: Roadside survey of industrial waste collection and transportation vehicles  
Right: On-site survey at the source of waste

### ► Strengthening Measures for Disaster Waste

TMG revised the TMG Disaster Waste Management Plan in September 2023 in light of changes in the damage estimates for the Tokyo Inland Earthquake and an increase in floods and storms in recent years.



#### Aid for the disposal of disaster waste from the Noto Earthquake

In order to assist local governments affected by the 2024 Noto Earthquake, TMG dispatched officials to provide technical support for the disposal of disaster waste. We are committed to preparing transport containers to accelerate the disposal of disaster waste, and ensuring wide-area transportation means in preparation for the anticipated Tokyo Inland Earthquake.





# Main Environmental Initiatives of the Tokyo Metropolitan Government

In addition to the initiatives described above, TMG is developing a variety of environmental initiatives to realize a green and resilient global city Tokyo opening up a future.

For more information, visit the websites of the Bureau of Environment.

## Main Plans, PR Booklets, and Other Materials

### Tokyo Environmental Master Plan



### Tokyo Environment White Paper



### Zero Emission Tokyo Strategy Beyond Carbon Half



### Tokyo 2050 Strategy



\* TMG's comprehensive plan that shows environmental initiatives in Policy Target 20 "Zero Emissions" and other sections

### Eco Support 2025



Easy-to-understand introduction to TMG's environmental subsidy programs and other initiatives



### Collaboration with Municipalities on Environmental Initiatives Introduction to the Collaboration and Support Menus 2025 Edition



**Comprehensive dissemination of the latest information on environmental learning in Tokyo!**

- ▶ TOKYO-ecosteps provides the latest information on environmental learning events in Tokyo. Applications for membership are being accepted.



**Recruiting Participants in Team Mottainai!**

- ▶ Reduce food waste and single-use plastics, work on energy efficiency, and develop an environmentally friendly lifestyle.

