Overview

Bureau of Waterworks, Tokyo Metropolitan Government Environmental Five-Year Plan

2025-2029

March 2025

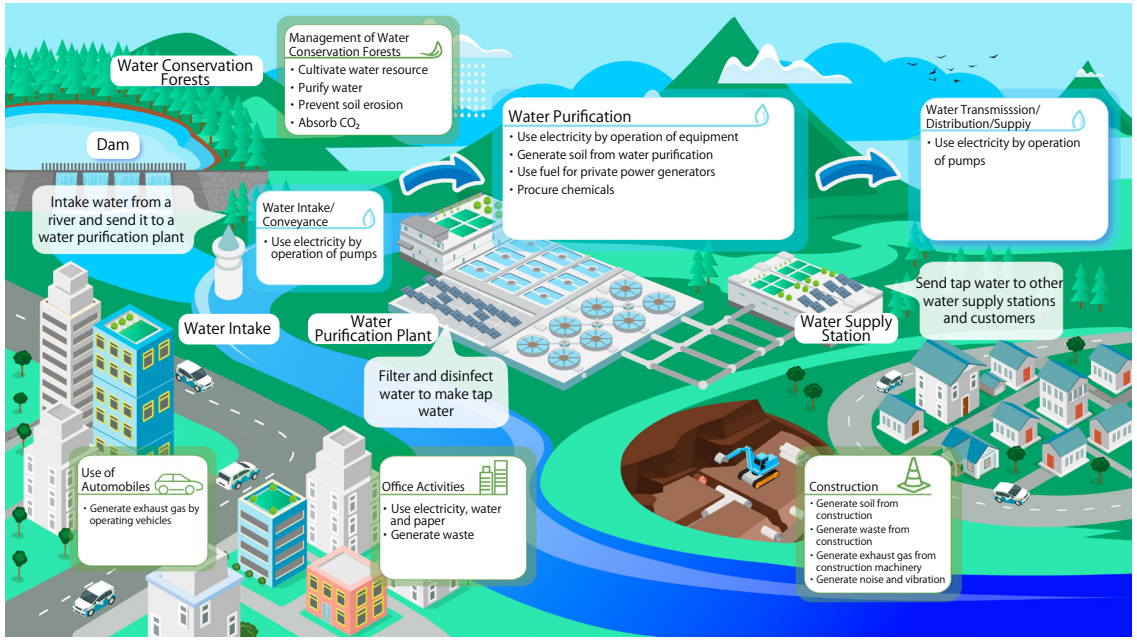
東京都水道局
Bureau of Waterworks Tokyo Metropolitan Government

Passing on a rich global environment that nurtures
Precious water to the next generation

The waterworks business produces tap water from the precious and limited water resources nurtured by the Earth, and delivers it to customers, so it has an extremely deep connection to the global environment. In 2000, the Tokyo Metropolitan Government established the Bureau of Waterworks Environmental Basic Principle. Since 2004, it has been formulating its own environmental plan and working on environmental measures.

Aimed at the goal of limiting the global temperature rise to 1.5 °C, the Japanese national and Tokyo metropolitan governments have made basic policies and are taking initiatives to achieve carbon neutrality, which requires reducing greenhouse gas emissions to zero by 2050. The Bureau of Waterworks must also achieve sustainable waterworks operations by balancing environmental conservation with good business management while aligning itself with national and metropolitan policies.

To this end, the Tokyo Metropolitan Government has made the Bureau of Waterworks, Tokyo Metropolitan Government Environmental Five-Year Plan 2025-2029, which is based on the Environmental Basic Principle and aimed at effectively and comprehensively promoting the reduction of the environmental burden associated with the Bureau’ s business. This is the seventh plan, laying out initiatives and goals for the five years from 2025 to 2029.



The Bureau of Waterworks’ burden on the environment

Environmental Basic Policy

We have established a five year basic environmental policy that covers four key areas.
We will promote measures based on our basic policies, aimed at realizing our Environmental Basic Principle.

Environmental Basic Policy 1

Reducing CO_2 emissions to realize a carbon-free society

As a business that uses a large amount of energy, we are working to minimize the impact of climate change by reducing CO_2 emissions from energy use through multifaceted energy measures in order to contribute to the realization of a decarbonized society.

Environmental Basic Policy 2

Sustainable resource use towards the realization of a sound material-cycle society

As a business that procures large quantities of goods and generates waste, in order to contribute to the formation of a sound material-cycle society, we will promote efforts to ensure sustainability, such as reducing resource consumption in our business activities, and strive continuously improve the services we provide.

Environmental Basic Policy 3

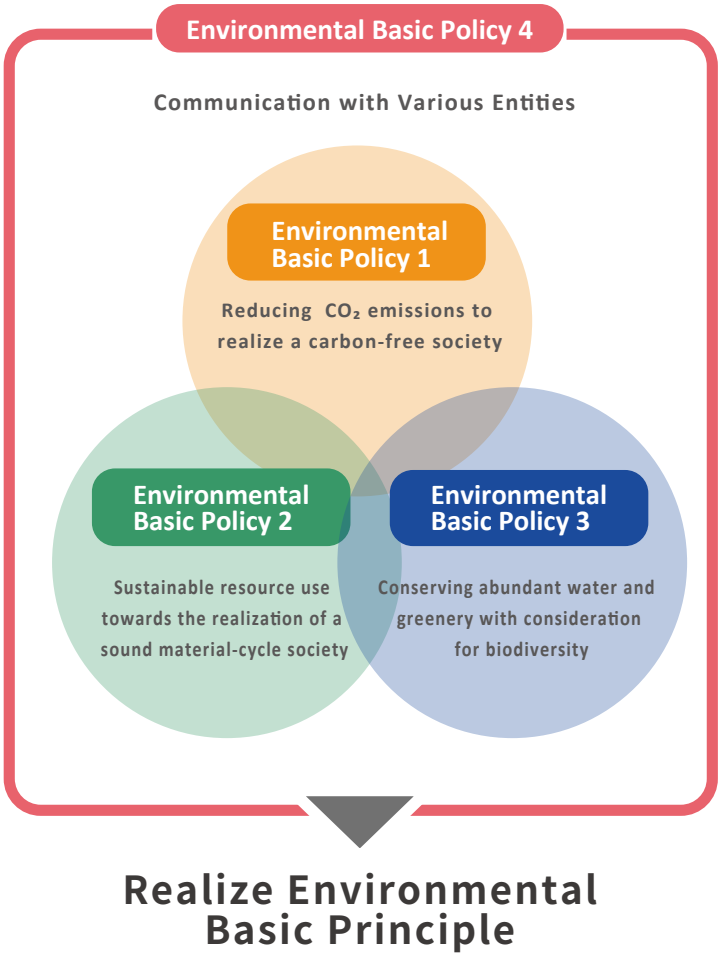
Conserving abundant water and greenery with consideration for biodiversity

As a business that uses the natural resource water, we will work to preserve abundant water and greenery for the future, while taking into consideration biodiversity, which brings us various benefits such as reducing disasters caused by climate change and preserving water quality.

Environmental Basic Policy 4

Environmental Communication with Various Entities

The Bureau will further enhance the effectiveness of its environmental measures by actively promoting environmental communication with its customers and various other entities



Promote of Energy Saving

Reduce energy consumption in business activities by introducing energy-saving equipment and water transmission and distribution that takes energy efficiency into consideration

Representative initiatives

Installation of energy-saving pump equipment

Pump equipment installed at water purification plants, water supply stations, and the like consumes a large amount of electricity.
So, when installing or upgrading pump equipment, we will select equipment with the most energy efficiency and install more than 30 energy-saving pump equipment units over the next five years*.

*Devices used to control the pump speed have been replaced from liquid resistors to inverter devices (including new installations). Inverter devices have less energy loss at low speeds compared to liquid resistors.

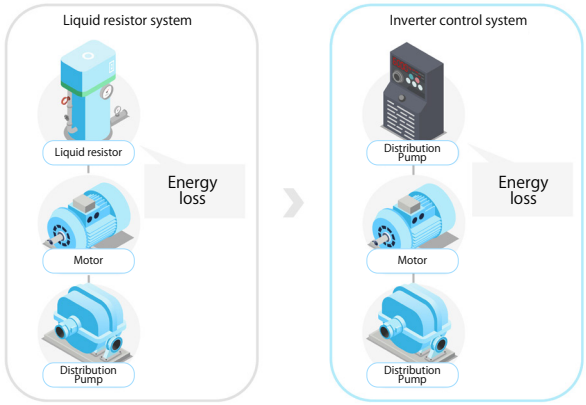


Image of liquid resistor method and inverter control method

Expanding the use of renewable energy

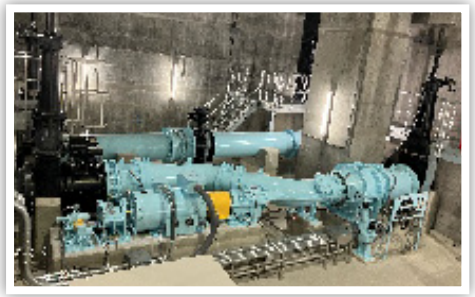
Promoting decarbonization of electricity by utilizing renewable energy

Representative initiatives

Installation of solar and small hydroelectric power generation facilities

We will make the most of the Bureau of Waterworks' facilities, such as the space above filtration resrvoirs and distribution reservsoirs, and the excess pressure at the inlet to distribution reservoirs, and install solar power generation equipment with a total capacity of more than 10,000 kW and small-scale hydroelectric power generation equipment with a total capacity of more than 2,700 kW.

Solar Panel Facilities
(Higashi-Murayama Purification Plant)



Small Hydropower Facilities
(Kamikitazawa Water Supply Station)

Fuel conversion and electrification

Promote decarbonization of thermal energy sources such as city gas and automobile fuels through the use of hydrogen and storage batteries

Representative initiatives

Environmentally friendly emergency response (electrification using storage batteries)

At water purification plants that require little electricity, we prepare for emergencies by installing storage batteries and emergency power generation equipment instead of regular power generation equipment. By promoting electrification of fuel, we will ensure a stable water supply with a system that places less of a burden on the environment.

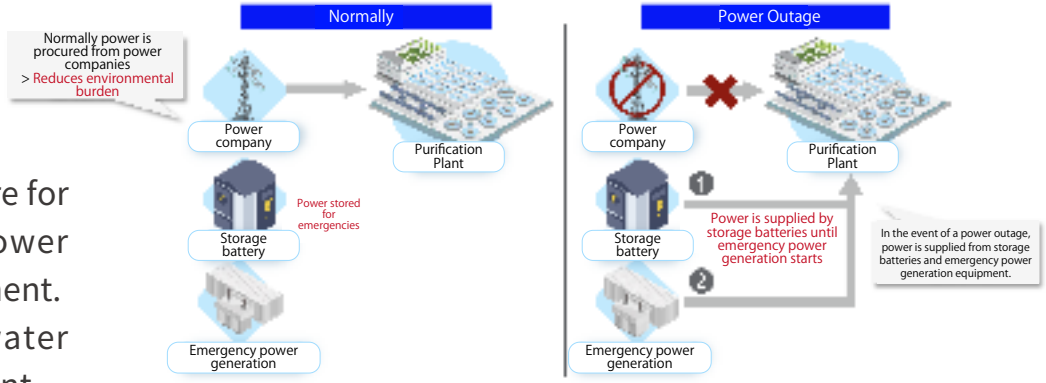


Image of storage batteries and emergency power generation equipment

[Related Goal] Carbon half

As a business that places a burden on the environment, we have a responsibility to promote energy conservation and decarbonize our energy sources to achieve carbon half by 2030.

◆ Bureau of Waterworks Goal for 2030

Greenhouse Gas Emissions (compared to 2000)	50% reduction

◆ Means to achieve this

Amount of energy used (compared to 2000)	10% reduction
Proportion of electricity generated from renewable energy sources	60% or more

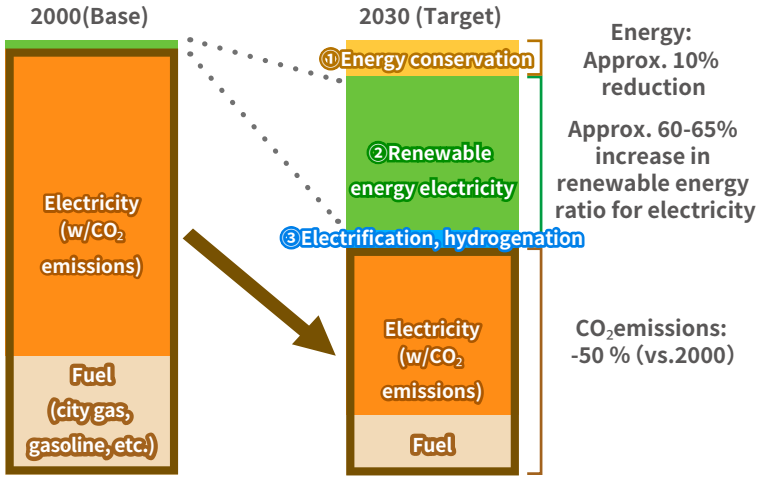


Image of carbon half realization

Waste Reduction

Reduce waste generated from business activities and promote effective use of soil generated at water purification plants and as a by-product of construction

Representative initiatives

Effective use of soil generated at water purification plants

In the process of producing tap water from river water, sediment in the river is coagulated and precipitated, and then concentrated and dehydrated. This soil (generated at water purification plants) is recycled as gardening soil, ground material, etc.
We will increase the recycling rate of soil generated at water purification plants to around 70%.

Sludge generated from water purification plants

Gardening soil

Reduced chemical usage

Investigating new technologies to reduce chemical usage

Representative initiatives

Use of high basicity PAC*

In the process of producing tap water from river water, the turbid parts dispersed in the water are coagulated and precipitated using a chemical called PAC (polyaluminum chloride). PAC works over a narrow pH range, so pH adjustment is done using acidic and alkaline agents.
By using high-basicity PAC, which works over a wide pH range, we will work to reduce the amount of chemicals used for pH adjustment.

* High-basicity PAC is PAC with a basicity of about 70% (usually 50%).

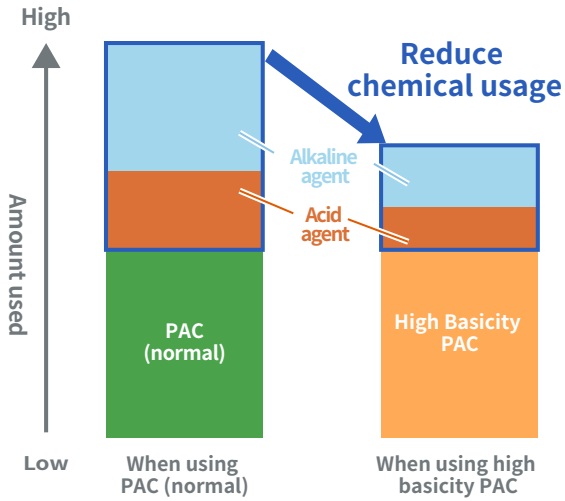


Image of reduction in chemical usage by using high basicity PAC

Conservation and improvement of water source forests with consideration for biodiversity

Do appropriate management of water source forests while also taking into consideration biodiversity, and improve their functionality.

Representative initiatives

Conservation of water source forests

To maintain and improve the various functions of forests, we do conservation work such as thinning and pruning on 600 hectares per year of water source forests.
We also purchase privately owned forests and develop them in order to regenerate them into healthy forests.
The conservation and improvement of the functions of water source forests through these initiatives also helps to protect biodiversity.

Before wor(purchased forest)

After work

Life that inhabits water source forests

Initiatives for waterworks facilities, etc.

Promoting greening on the rooftops of bureau facilities and appropriately managing comfortable water and greenery spaces in urban areas*

Representative initiatives

Creation and conservation of water and greenery in water facilities, etc.

Along with the construction and renovation of Bureau of Waterworks facilities, rooftops and the tops of distribution reservoirs will be greened to mitigate the heat island effect.
The Tamagawa Aqueduct will be properly managed as a valuable civil engineering facility and relics and as a comfortable space of water and greenery.

*In this plan, urban areas refer to the Tokyo area excluding water source forests.

Rooftop greenery
at Saiwaicho
Water Purification Plant

Cherry blossoms
on the upstream of
Tamagawa Aqueduct (Hamura City)

Collaborate with customers

Collaborate with customers by providing easily understood information, hosting events, and participating in local activities

Representative initiatives

Dispatch Tokyo Waterworks Caravan

To give customers a deeper understanding of water supply and raise their environmental awareness, we will communicate information about initiatives that are made before tap water reaches the tap, the safety of tap water, the role of water source forests, and water conservation, using easily understood and friendly methods such as videos and experiments.
We will hold a waterworks caravan for elementary school students at 1,200 schools per year.

At an elementary school

Home Waterworks Caravan

Cooperate with various entities including corporations

Promote collaboration with diverse parties, including universities, companies, and people from overseas, and raise environmental awareness among policy partnership organizations and government staff

Representative initiatives

Tokyo Waterworks – Corporation Forests- (Naming Rights)

Tokyo Waterworks - Corporate Forest (naming rights) will accommodate 150 corporate activities per year, in which naming rights will be granted for part of the water source forest, and companies and the Waterworks Bureau will work together to make the forest.

Forest conservation activities

We will contribute to realizing the SDGs by promoting the 45 initiatives set out in our environmental plan.

Initiatives of the 5 Year Environmental Plan(45)				SDGs 3	4	6	7	9	11	12	13	14	15	17
Reducing CO_2 emissions to realize a carbon-free society	1 Promote of Energy Saving	1－1	Install energy-saving pumps				○	○	○		○			
		1－2	Improving energy efficiency through direct water distribution pump equipment				○	○	○		○			
		1－3	Upgrade to highly efficient quipment				○	○	○		○			
		1－4	Installation of smart meters				○	○	○		○			
		1－5	Improving energy efficiency through the construction of waterworksequipment				○	○	○		○			
		1－6	Promote efficient water supply management				○		○		○			
		1－7	Reduce power use in office activities				○		○		○			
		1－8	Reducing the environmental burden of regular power generation facilities				○	○	○		○			
	2 Expand Introduction of Renewable Energy	2－1	Install solar panels				○	○	○		○			
		2－2	Install small hydropower				○	○	○		○			
		2－3	Procurement of electricity from renewable energy sources				○	○	○		○			
	3 Fuel conversion and electrification	3－1	Use of hydrogen				○	○	○		○			
		3－2	Introduce Zero Emission Vehicles (ZEVs)	○			○	○	○		○			
		3－3	Environmentally friendly emergency response	○			○	○	○		○			
	4 Carbon offset	4	Initiative to generate J-Credits in water source forests			○			○		○		○	
	5 Promoting decarbonization outside the Bureau of Waterworks	5	Promote water service system without receiving tank	○			○		○		○			
Sustainable resource use towards the realization of a sound material-cycle society	6 Reduce waste	6－1	Effectively use sludge generated from water purification plants						○	○	○			
		6－2	Effectively use granular activated carbon						○	○	○			
		6－3	Effectively use construction by-products						○	○	○			
		6－4	Effectively use regeneration-cut trees and thinned-wood from water conservation forests						○	○	○			
		6－5	Reduce waste in office activities						○	○	○			
		6－6	Proper disposal of solar panels				○		○	○	○			
		6－7	Extending the lifespan of water facilities			○		○	○	○	○			

Correspondence between the Environmental Five-Year Plan and the SDGs

	Initiatives of the 5 Year Environmental Plan(45)			SDGs 3	4	6	7	9	11	12	13	14	15	17
Sustainable resource use towards the realization of a sound material-cycle society	7 Promoting paperless operations	7－1	Reduce paper consumed in office activities						○	○	○			
		7－2	Promote paperless billing, meter reading slips, etc						○	○	○			
	8 Promoting the elimination of plastic	8	Reduce plastic usage						○	○	○	○		
	9 Effective use of water source forests	9－1	Promote water leakage prevention measures			○			○	○	○			
		9－2	Reduce water use in office activities			○			○	○	○			
		9－3	Call for saving water			○			○	○	○			
	10 Reduced chemical usage	10－1	Introduction of high-basicity PAC			○		○		○	○			
		10－2	Consideration of more effective water purification methods			○		○		○	○			
Conserving abundant water and greenery with consideration for biodiversity	11 Conservation and improvement of water source forests with consideration for biodiversity	11－1	Preserve water conservation forests			○			○		○		○	
		11－2	Conserve water source areas collaborating with volunteers		○	○			○		○		○	○
		11－3	Initiatives that consider the conservation of biodiversity			○					○		○	
	12 Initiatives for waterworks facilities, etc.	12	Create and conserve water and greenery in waterworks facilities, etc			○			○		○		○	
Environmental Communication with Various Entities	13 Collaborate with customers	13－1	Dispatch Tokyo Waterworks Caravan		○					○	○			○
		13－2	Promote environmentally friendly behavior with TokyowaterDrinking Station						○	○	○	○		○
		13－3	Distribute environmental initiative information and gather customer feedback							○	○			
		13－4	Collaborate with local governments and residents			○			○	○	○	○		○
	14 Cooperate with various entities including corporations	14－1	Tokyo Waterworks –Corporation Forests- (Naming Rights)		○	○			○	○	○		○	○
		14－2	Surveys and research in cooperation with d universities and corporations				○	○	○	○	○		○	○
		14－3	International Cooperation and Information Dissemination abroad			○					○			○
		14－4	Collaborate with private companies	○					○	○	○			○
		14－5	Collaborate with policy partners		○				○	○	○			○
		14－6	Raise environmental awareness among staff		○					○	○			