2023

Implementation Status Report Based on Yokohama City Ordinance on the Promotion of the Formation of a Decarbonized Society

November 2024

Yokohama City

Table of Contents

Introduction.

1 Positioning of the report

This report is based on the "Yokohama City Action Plan for Global Warming Countermeasures* (revised in January 2023)" (hereinafter referred to as the "Yokohama City Action Plan for Global Warming Countermeasures") (hereinafter referred to as the "Yokohama City Basic Plan for the Promotion of the Formation of a Decarbonized Society"). This report summarizes the status of implementation of the Yokohama City Action Plan on Global Warming Countermeasures* (revised in January 2023) (hereinafter referred to as the "Action Plan"), which is positioned as the "Basic Plan for the Promotion of the Formation of a Decarbonized Society" based on Article 7 of the Yokohama City Ordinance on the Promotion of the Formation of a Decarbonized Society (hereinafter referred to as the "Ordinance"). This report summarizes the status of implementation of the measures in the "Yokohama City Action Plan to Cope with Global Warming* (revised in January 2023)" (hereinafter referred to as the "Action Plan").

This plan is a "local government action plan" based on Article 3 of the Law Concerning the Promotion of the Measures to Cope with Global Warming 21 , as well as a "local government action plan" based on Article 3 of the Climate Change Action Plan (CACP).

It is a statutory plan that is also positioned in the "Regional Climate Change Adaptation Plan" under Article 12 of the Dynamic Adaptation Law.

＜Yokohama City Ordinance on the Promotion of a Decarbonized Society (excerpt)

(Basic Plan)

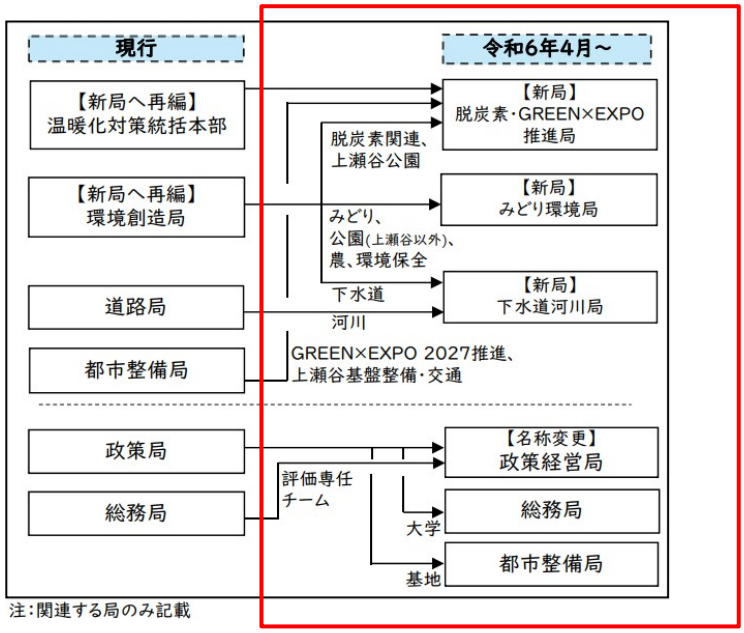
Article 7 In order to comprehensively and systematically promote measures for the promotion of the formation of a decarbonized society, the city shall formulate a basic plan for the promotion of the formation of a decarbonized society (hereinafter referred to as the "basic plan"). Article 8 The city shall formulate a basic plan for the promotion of the formation of a decarbonized society (hereinafter referred to as the "Basic Plan").

2 Structure of the Report

This report consists of three chapters: Chapter 1 provides an overview of the Yokohama Action Plan for Global Warming Countermeasures and the status of achievement of its goals; Chapter 2 describes the status of efforts to promote the formation of a decarbonized society for each of the basic policies in the Action Plan; and Chapter 3 provides a summary of the overall efforts and future measures. Chapter 3 is a summary of the overall efforts and future measures.

Reference: Changes due to the reorganization in 2024

In April 2024, the city underwent a reorganization and reorganized its bureaus. In "Basic Policy 6:City Hall's Initiatives" in this document, the initiatives of each bureau and headquarters are described by the name of the bureau and its responsibilities after the reorganization.



The stations are listed by name in the left chart.

Example.

Global Warming Prevention Headquarters
⇒Published as a promotion office for decarbonization and GREENxEXPO

Environment and Creation Bureau
⇒ Listed by project type: Decarbonization and GREENxEXPO Promotion Bureau, Green Environment Bureau, and Water Supply and River Bureau.

Chapter 1: Outline of Yokohama City Action Plan for Global Warming Countermeasures

1 Planning period

From FY2022 to FY2030

2 Greenhouse Gas Reduction Targets, etc.

The city aims to reduce greenhouse gas emissions by 50% from the fiscal 2013 level by the year 2030, and to achieve virtually zero greenhouse gas emissions by the year 2050. We aim to reduce energy consumption in the city by 34% from the fiscal 2013 level by the year 2030. In addition, we will promote local production and local consumption of renewable energy within the city, and aim to install 690,000 kW of renewable energy facilities in FY2030.

The greenhouse gas emission reduction target for City Hall as a whole is a 50% reduction from the fiscal 2013 level by 2030.

Target year (Target year)		Greenhouse Gas Emission Reduction Targets	Energy Consumption Reduction Targets - Indicators	Renewable Energy Introduction Targets
Fiscal year 2030	City area	**Compared to FY2013 50% reduction** (21.59 million t-CO_2) → 10.79 million t-CO_2)	**Compared to FY2013 34% reduction** (254 PJ[1] → 168 PJ)	**690,000 kW**
	City Hall version	**Compared to FY2013 50% reduction** (916,000 t-CO_2) → 460,000 t-CO_2)	**Indicators] Compared to FY2013 8% reduction** (10,307 TJ[2] → 9,483 TJ)	-
Year 2050		**Virtually zero greenhouse gas emissions**	—	—

[1]PJ (petajoule): J (joule) is a unit of energy, and peta represents a thousand trillion times

[2]TJ (terajoule): J (joule) is a unit of energy, and tera represents one trillion times

3 Basic Policy and Priority Initiatives

The seven targets for FY2030 are as follows, which summarize measures to be taken in a wide range of fields.
In addition to establishing the "Basic Policy," we will promote five "Priority Initiatives" as leading projects that will drive the entire project.

Basic Policy List

Basic Policy Name	Measure Name
Basic Policy 1 Creating a virtuous cycle the environment and the economy	1 Creation of decarbonized innovation and formation of a carbon neutral port in the Yokohama waterfront area in collaboration with the government and industry [**Priority Action 1** 2 Enhance support for SMEs to transition to decarbonized management [**Priority Action 2**]. 3 Practice a decarbonized lifestyle and build a circular economy that aims for a virtuous circle between the environment and the economy and sustainable growth of corporate activities [**Priority Action 4**]. 4 Strengthening the attraction and concentration of companies related to decarbonization [**Priority Action 1**]. 5 Promote advanced and sustainable urban agriculture through smart agriculture, etc.
Basic Policy 2 Promotion of urban development integrated decarbonization	1 Promote initiatives in the "Minato Mirai 21 District" as a leading decarbonization area [**Priority Action 3**]. 2 Create a sustainable urban model at the International Horticultural Exposition and promote urban development in Kamiseya utilizing its legacy [**Priority Action 3** 3 Integrated promotion of decarbonization and urban development in the region, including creation of model districts [**Priority Action 3** 4 Promote decarbonized urban development associated with large-scale land use conversion, such as the return of U.S. military facilities [**Priority Action 3**]. 5 Improve road and rail network, promote use of public transport and low carbon 6 Promote bicycle use, including shared bicycles 7 Maintain and lower carbonize local transportation
Basic Policy 3: Thorough Promotion of Energy Conservation - Renewable Energy Diffusion and expansion of	1 Promote the spread of houses and buildings with higher energy-saving performance [**Priority Action 4** 2 Dissemination of next-generation vehicles, etc. and infrastructure development [**Priority Action 4** 3 Promote decarbonization of large emitters through planning document system, etc. 4 Promoting Energy Management and Self-Sustaining Distributed Network Construction 5 Promotion of switching to renewable electricity [**Priority Action 4**]. 6 Promote local production and local consumption of renewable energy such as solar power generation [**Priority Action 4** 7 Promotion of wide-area collaboration on renewable energy [**Priority Action 4**
Basic Policy 4 Citizen-Business behavioral change of persons (before a verb in negative form) (will not) easily	1 Dissemination and awareness-raising in collaboration with various entities [**Priority Action 4**]. 2 Creating and Developing Decarbonized Lifestyle Innovations to Accelerate Citizen Behavior Change [**Priority Initiative 4**] 3 Enhancement of environmental education for children who will lead the next generation in cooperation with educational institutions in the city [**Priority Action 4** 4 Fostering the next generation of leaders in environmental education and awareness-raising [**Priority Action 4** 5 Formation of a recycling-oriented society by enhancing measures to reduce plastic waste and food loss
Basic Policy 5 Toward decarbonization, a common global challenge	1 Promote technical cooperation and overseas infrastructure business to overseas cities 2 Hold international conferences related to decarbonization, strengthen ties with international city networks and increase presence through information dissemination 3 Strengthen collaboration and disseminate information with national and domestic zero-carbon cities, etc.
Basic Policy 6 City Hall Initiatives	1 Efforts in new construction and renovation of public buildings 2 Efforts to expand the introduction of renewable energy 3 Efforts in Public Vehicles Operation of the facility and actions taken by staff Promote adaptation measures in the agricultural and natural environment sectors Promote adaptation measures in the area of wind, flood, sediment, and other disasters Promote adaptation measures in areas such as heat stroke and infectious diseases Promote adaptation measures in the field of industrial and economic activities

Contribution of

List of Priority Initiatives

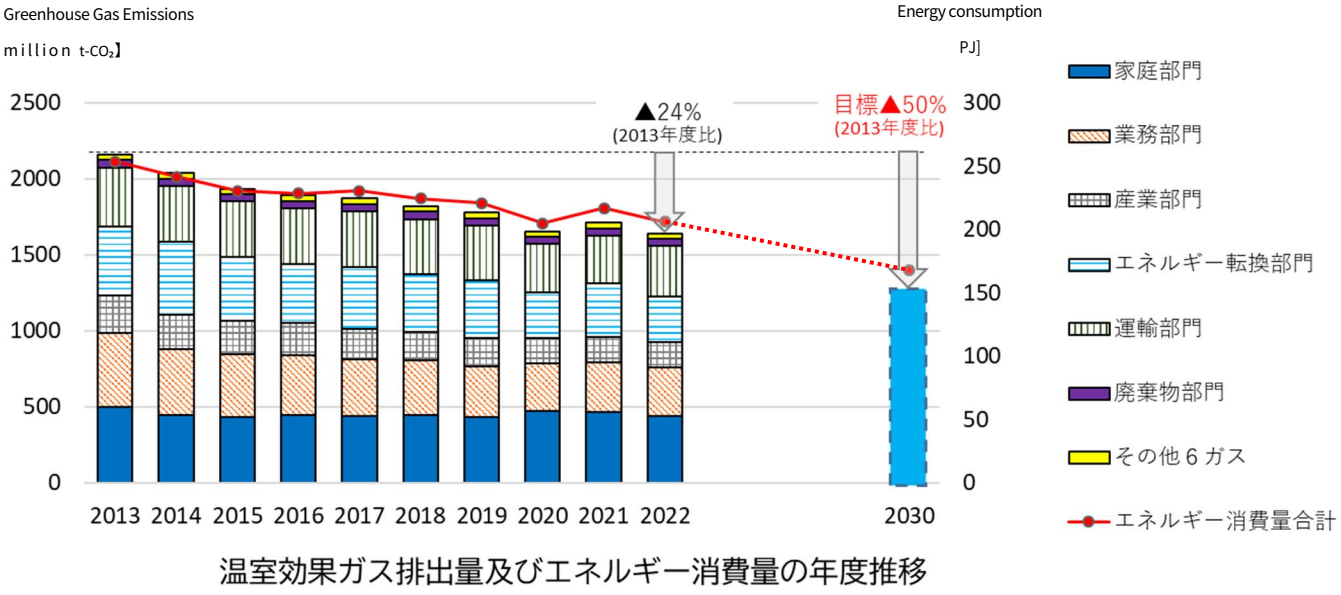
Priority Initiatives 1	**Creating decarbonized innovation in the Yokohama waterfront area**
Priority Initiatives 2	**Enhancement of decarbonization management support**
Priority Action 3	**Urban development compatible with decarbonization**
Priority Action 4	**Penetration of decarbonized lifestyles**
Priority Initiatives 5	**City Hall's initiative**

4 Target Progress

(1) City area

a. Greenhouse gas emissions and energy consumption

In fiscal 2022 (preliminary figures), greenhouse gas emissions in the Yokohama City area decreased by approximately 4.3% from the previous year and by approximately 24% from the base year (fiscal 2013), to 16.41 million tons. In addition, energy consumption in FY2022 (FY2022) was 206 PJ, down approximately 4.9% from the previous year and 19% from FY 2013.



温室効果ガス排出量及びエネルギー消費量の年度推移

Greenhouse Gas Emissions Results and Reduction

(Unit: 10,000 t-CO_2)

	Base year (2013)	2020 fiscal year (usu. April 1 to March 31)	2021 fiscal year (usu. April 1 to March 31)	FY2022 (preliminary figures)		FY2030 (target)	
		track record	track record	track record	Percentage change Change from base year	amount of discharge criterion	Percentage change Change from base year
Total emissions	2,159	1,654	1,714	1,641	(24.0%) (24.0%) (24.0%) (24.0%) (24.0%)	1,079	▲50
(Note 1) Totals and percentages of increase/decrease may differ due to fractional amounts. (Note 2) In the "Percentage Change" column, "▲" indicates a decrease and "無印" indicates an increase.							
household sector	501	472	465	440	(12.1%) (12.1%) (12.1%)	226	▲55% (-55%)
Operations Division	487	312	328	319	(34.5%) (34.5%)	164	▲66% (-)

(a) Reduction required by FY2030

Greenhouse gas emissions in the eight years to FY2030 from the actual GHG emissions in FY2022 (preliminary figures). emissions by 5.62 million tons.

Reduction required by FY2030

(Unit: 10,000 t-CO_2)

	Measure Name	Reduction in FY2022 (Year on year) (%)	By FY2030 Required Reduction	
			8 years	1 year conversion
household sector		▲24	▲214	▲27
energy conservation	Energy conservation in new housing/existing housing (LED lighting, energy-efficient appliances, high-efficiency water heaters, etc.) Energy-saving behavior (energy management, lifestyle change) (e.g., by conversion, etc.)	▲15	▲80	▲10
Re-energy, etc.	Installation of solar power generation equipment Switching to 100% renewable electricity, improvement of electricity emission coefficient	(0.4) (0.4) (0.4) (0.4) ▲8.7	▲9.5 ▲124	▲1.2 ▲16
business department		▲9.4	▲155	▲19
energy conservation	Energy conservation in buildings (thermal insulation, LED lighting, etc.) Introduction of high-efficiency equipment and facilities Implementation of energy management, etc.	▲7.0	▲80	▲10
Re-energy, etc.	Installation of solar power generation equipment Switching to 100% renewable electricity, improvement of electricity emission coefficient	▲0.1 ▲2.4	▲1.2 ▲74	(0.2) (0.2) (0.2) (0.2) ▲9.3
Industrial Sector		4.6	▲54	▲6.7
energy conservation	Conversion to LED lighting in factories, etc. Introduction of high-efficiency equipment and facilities Implementation of energy management, etc.	5.3	▲18	▲2.2
Re-energy, etc.	Installation of solar power generation equipment Improvement of electricity emission factor	▲0.1 (0.6) (0.6) (0.6) (0.6)	▲1.4 ▲34	(0.2) (0.2) (0.2) (0.2) ▲4.3
		(0.6)		
Energy Conversion Sector		▲62	▲44	▲5.5
energy conservation	Implementation of energy conservation measures	▲62	▲40	▲5.0
Re-energy, etc.	Improvement of electricity emission factor	▲0.1	▲4.0	▲0.5
Transportation		21	▲70	▲8.8
energy conservation	Next Generation Vehicles, etc. Promote use of public transportation, bicycles, etc. Energy conservation measures in railroads and ships Energy-saving behavior such as eco-driving, etc.	▲4.1 25	▲38 ▲16	▲4.7 ▲2.0
Re-energy, etc.	Switching to 100% renewable electricity, improvement of electricity emission coefficient	0.2	▲16	▲2.0
Waste Division	Reduction of incineration of plastics and other waste	(0.6) (0.6)	▲14	▲1.7

▲: Indicates the amount of reduction (minus).

c. Amount of renewable energy equipment installed

The amount of renewable energy installed in the city in FY2022 was approximately 320,000 kW , an increase of approximately 10,000 kW from the previous year. In addition, 22.1 MW of photovoltaic power generation facilities were installed in FY2022, an increase of 12,000 kW from the previous fiscal year.

Renewable Energy Facilities Installation Status, Targets and Guideline

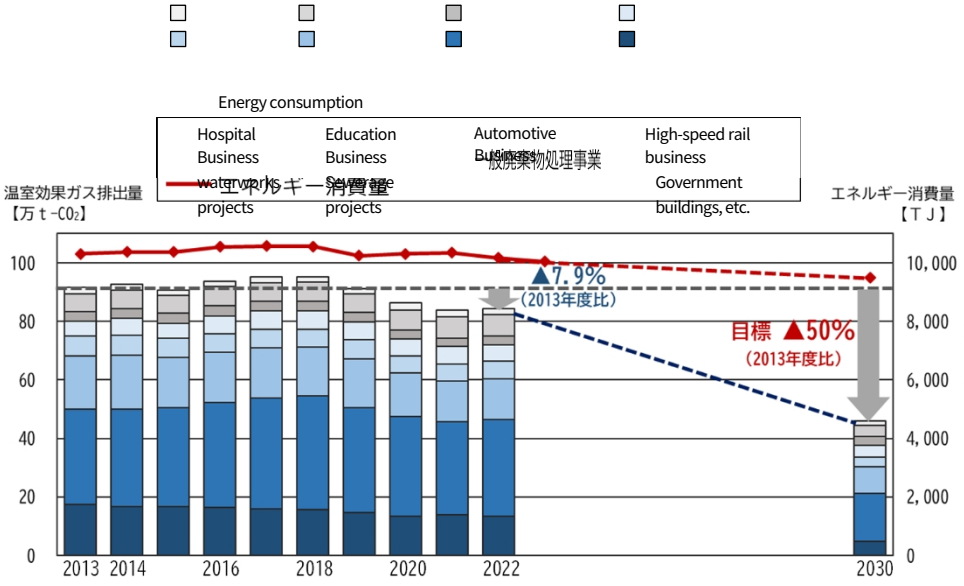
	Installed amount (kW)			FY2030 Target - Approximate (kW)
	Fiscal Year 2013 (Reference)	FY2021 (Reference)	Fiscal year 2022	
solar power (generation)	88,000	209,000	221,000	570,000
wind power generation	0.4 million	0.2 million	0.2 million	0.2 million
small-scale hydraulic power generation	0.1 million	0.1 million	0.1 million	0.1 million
Biomass power generation Sludge digestion gas power generation)	94,000	96,000	98,000	110,000
total amount	190,000	310,000	320,000	890,000

(2) st

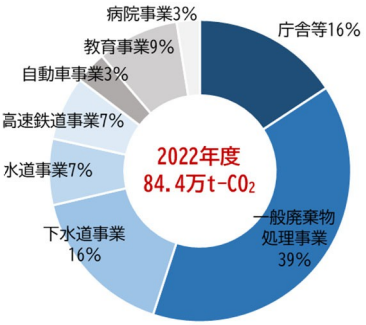
a. Gree **nergy consumption of City Hall**

Gree y Hall in FY2022 (FY2022) will be 7.9% lower than the base year (FY2013).

Energy consumption in FY2023 was 10,079 TJ, down 2.2% from the base year (FY 2013). Energy consumption in FY2023 (FY2023) was 10,079 TJ, down 2.2% from the base year (FY 2013).



Annual greenhouse gas emissions and energy consumption



Greenhouse Gas Emissions by Project

Greenhouse Gas Emissions Results and Reduction

(Unit: 10,000 t-CO_2)

		Base year (2013)	2020 fiscal year (usu. April 1 to March 31) track record	2021 fiscal year (usu. April 1 to March 31) track record	Fiscal year 2022 track record	Fiscal year 2022 Percentage change Change from base year	FY2030 (target) Target amount of discharge	FY2030 (target) Percentage change Change from base year
Total emissions		91.6	86.3	83.8	84.4 (7.9%)	▲ 7.9%	46.0	▲50
Government buildings, etc.		17.3	13.5	13.9	13.3 (22.8%)	(22.8%) (22.8%)	4.9	Net income per share
Main Businesses	General waste disposal business	32.8	34.0	31.9	33.2 (1.1%)	1.1%	16.4 (50%)	▲50%
	Sewerage projects	18.1	14.9	13.7	13.8 (23.7%) (23.7%)	(23.7%) (23.7%)	9.0 (50%)	▲50%
	waterworks projects	6.8	5.8	5.9	6.0	(12.4%) (12.4%) (12.4%)	3.2	Net income (loss)
	High-speed rail business	5.0	5.7	6.0	5.8	14.7% (%) (14.8%)	4.0 (20)% (20)	▲20%
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5%
	Education Business	6.1	7.0	7.4	7.4	20.7% (20.7%)	3.8	▲37% (-37%)
	Hospital Business	2.1	2.4	2.2	2.1	0.6% (0.6%)	1.5	▲31% (-)

(Note 1) Totals and percentages of increase/decrease may differ due to fractional amounts. (Note 2) In the "Percentage Change" column, "▲" indicates a decrease and "無印" indicates an increase.

(a) Percentage of LED and other high-efficiency lighting

Our goal is to achieve 100% LED and other high-efficiency lighting in public facilities by FY2030.

The ratio of LED and other high-efficiency lighting in FY2023 was approximately 47%.

Status of introduction of LED and other high-efficiency lighting

		Number of all lights (FY2023)	Percentage of LED and other high-efficiency lighting FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Entire City Hall		1,452,582	34%	38%.	41%.	47%.
Government buildings, etc.		805,600	52%	56%.	59%.	66%.
Main Businesses	General waste disposal business	29,043	11% (%)	17%.	25%.	26% (%)
	Sewerage projects	14,231	14% (%)	34%.	48%.	51%.
	waterworks projects	16,336	19%.	23% (%)	22%.	29%.
	High-speed rail business	33,951	29%.	30%.	42%.	44%.
	Automotive Business	5,726	46%.	49%.	49%.	49%.
	Education Business	511,119	9%.	11% (%)	13%.	17%.
	Hospital Business	36,576	49%.	51%.	54%.	55%.

c. Percentage of photovoltaic power generation equipment installed

Our goal is to install photovoltaic power generation equipment in approximately 50% of all available public facilities by FY2030, and as of the end of FY2023, 369 facilities had been equipped with photovoltaic power generation equipment, representing approximately 45% of the total.

Renewable Energy Installations (End of FY2023)

Energy Type	Number of facilities	Installed capacity (kW)	Main Facilities
solar power (generation)	369	10,430	Elementary, middle, and high schools (275); city halls and ward offices (13); and water treatment plants (2), Water reclamation centers (3), subways (4), etc.
wind power generation	1	1,980	Hamawing
small-scale hydraulic power generation	6	728	Kohoku Water Distribution Pond, Kawai Water Filtration Plant, Aoyama Water Source Office, Mine Water Distribution Pond, Onda Water Distribution Pond, Imai Water Distribution Pond
Biomass	Sludge digestion gas power generation	2	8,100	Northern and Southern Sludge Recycling Center
	Waste combustion power	4	79,000	Tsurumi, Asahi, Kanazawa, Tsuzuki Plant

d. Percentage of Next-Generation Vehicles, etc. Introduced in General Public Vehicles

Our goal is to have 100% of next-generation vehicles in general public vehicles by FY2030, and as of the end of FY2023, 552 next-generation vehicles were in use, accounting for about 39%.

Status of Introduction of Next-Generation Vehicles, etc. in General Public Vehicles

	2013 fiscal year (usu. April 1 to March 31)	2020 fiscal year (usu. April 1 to March 31)	2021 fiscal year (usu. April 1 to March 31)	2022 fiscal year (usu. April 1 to March 31)	2023 fiscal year (usu. April 1 to March 31)
Number of general public vehicles	1,552	1,402	1,443	1,420	1,403
Next-generation automobiles, etc.	81	389	428	492	552
Electric Vehicles (EV)	37	73	80	86	91
Plug-in hybrid vehicles (PHV)	2	13	14	17	21
Fuel Cell Vehicles (FCV)	0	19	22	23	23
Hybrid Vehicles (HV)	42	284	312	366	417
Percentage of next-generation vehicles, etc.	5.2% (5.2%)	28%.	30%.	35%.	39%.

Chapter 2 Status of Implementation of Measures to Promote the Formation of a Carbon Free Society

1 Basic Policy 1 Creating a Virtuous Circle between the Environment and the Economy

The era of considering global warming countermeasures as a constraint or cost to economic growth is over. The concept of GX (Green Transformation) is important.

In order to link global warming countermeasures to the cyclical and sustainable development of the city's economy, we will promote the creation of a virtuous cycle between the environment and the economy, driven by decarbonization, while leveraging Yokohama's potential.

Indicators

(data) item	standard value	actual results	target value
CO_2 Emissions in Waterfront Area	7,423,000 t-CO_2 (FY 2019)	6,394,000 t-CO_2 (FY2022)	4.8 million t-CO_2 (FY2030)
Businesses that have implemented decarbonization initiatives Percentage of	23% (%) (FY2021)	51.1% (%) (FY2023)	40%. (FY2030)
Emissions per business floor area	90 kg-CO_2/㎡/year (FY 2019)	84 kg-CO_2/㎡/year (FY2022)	44 kg-CO_2/㎡/year (FY2030)
Building a Circular Economy	long vowel mark (usually only used in katakana)	implementation (FY2022)	implementation

Achievements and future initiatives

1 Creation of decarbonized innovation in the Yokohama waterfront area in collaboration with the government and industry
- Formation of a carbon neutral port

- We launched the "Minato Mirai Hydrogen Project" to investigate and study the use of hydrogen in the Minato Mirai 21 district, which has one of the largest district heating and cooling systems in Japan, together with energy companies and local businesses that are heat consumers. We also created a road map for the future use of hydrogen. In addition, we have established the Yokohama Decarbonization Innovation Council, which aims to form a hub for the supply and demand of hydrogen and other next-generation energies through industry, academia, and government, and to create innovation by deepening collaboration for the research and development of advanced technologies that contribute to decarbonization, and are promoting discussions on the shift to next-generation energies. We will continue to discuss the shift to fossil energy in the city area.
  In order to systematically move away from this structure, we will work with companies located in the area to create a plan for conversion to next-generation energy and establish a system to connect the supply and demand parties.

- With the startup growth support base "YOXO BOX" at its core, we provided growth support for 5 startups aiming to solve issues in the decarbonization field by brushing up their business models with experts, matching them for fundraising, and supporting demonstration experiments for social implementation. We will continue to support the creation of startups.
  We will work to support the emergence and growth of the industry and promote the creation of innovations that will contribute to decarbonization.

- The program to subsidize research and development costs for small and medium-sized enterprises (SMEs) has been awarded to five projects for the development of new technologies and new products for decarbonization.

We supported the project. We will continue to encourage SMEs to develop new technologies and products for decarbonization.

- In the Suehirocho district, various demonstrations and technological developments that contribute to decarbonization are being conducted, such as methanation using carbon dioxide from waste incineration facilities and power generation using food waste. We are working with companies and other entities located in the area to study the possibility of attracting new investment toward decarbonization by leveraging these features, creating a network to encourage further innovation, and promoting the branding of the area.

- In order to form a carbon neutral port (CNP), we have held meetings such as the Yokohama Port Decarbonization Promotion Council for Waterfront Businesses, which consists of the government, businesses, and academics, to explain the latest initiatives and exchange opinions from the city and various business operators. In addition, as part of our efforts to decarbonize our wharves, we have introduced electricity derived from renewable energy sources and implemented an incentive system for environmentally friendly vessels.

- We have signed a memorandum of understanding with Maersk AS and Mitsubishi Gas Chemical Company, Inc. for the utilization of emissions visualization services from ships and the realization of green methanol bunkering. In the future, we will promote efforts to decarbonize public facilities at the Port of Yokohama, promote the spread of next-generation marine fuels necessary for the formation of CNP in collaboration with companies, and study the future concept of the electric power network and the establishment of new green power supply bases.

- In collaboration with a private company, we conducted a demonstration test to establish a technology to separate and recover $CO_{(2)}$ contained in the exhaust gas waste incineration plants and utilize CO_2 as a resource through methanation* and other methods. We also confirmed the production of e-methane at the methanation demonstration facility, investigated new applications for $CO_{(2)}$, and verified the effect of CO_2 reduction. We will continue to verify the $CO_{(2)}$ reduction effect and solicit proposals for the effective utilization of CO_2 contained in the exhaust gas from waste incineration plants.

  CO_2 utilization by methanation 3.5t-CO_2 (FY2023 result, estimate)

  *This technology produces methane, the main component of city gas, through the reaction of carbon dioxide and hydrogen. Methane (synthetic methane) produced by the capture of hydrogen derived from renewable energy and carbon dioxide emitted from combustion can be used in existing infrastructure and facilities as carbon neutral city gas.

2 Enhance support for SMEs to transition to decarbonized management

- Under Yokohama SDGs Certification System "Y-SDGs", which is implemented in collaboration with the Yokohama SDGs Design Center, 173 certifications (718 in total) were granted in FY2023, and exchange events for certified businesses were held. In addition, we prepared "Decarbonization Guidelines for SMEs in the City (Practical version)" and used it to support decarbonization management by holding seminars in collaboration with the Yokohama Chamber of Commerce and Industry, etc. We will continue to support Y-SDGs certified businesses.
  We will implement promotions for behavioral changes related to decarbonization among small and medium-sized enterprises, etc. in the city through expansion, strengthening support for SDGs and decarbonization efforts by certified businesses in collaboration with financial institutions, etc., and through collaboration with businesses and organizations, etc. Furthermore, in order to support the transition to decarbonized management by businesses in the city, we will promote the creation of a mechanism to meet the needs of each stage, such as support for visualization of CO_2 emissions.

- To promote the decarbonization of small and medium-sized enterprises (SMEs), dispatch experts such as engineers and energy managers to provide energy conservation advice and subsidize capital investment in air conditioning equipment, LED lighting, freezing and refrigeration equipment, and other equipment that contributes to CO_2 reductions.

In FY2024, the city will establish a "carbon neutral equipment investment subsidy" and expand the program by adding the installation of solar panels to the list, thereby promoting the decarbonization of SMEs from the perspectives of both energy conservation and energy creation. In the same year, we will also establish a "Decarbonization Declaration System" to encourage SMEs to change their behavior by having them declare their commitment to decarbonization on the city's website in order to raise their awareness of the need for decarbonization. CO_2 reduction 342.5t-CO_2(estimate)

- Through the "SDGs Yokohama Fund", a loan program for SMEs, we supported the financing of SMEs that are making efforts to achieve the SDGs (38 cases in 2024). We will also encourage SMEs to change their behavior toward decarbonization from a financing perspective by creating a new financing menu including "decarbonization discount.

- We supported the replacement of 293 streetlights and arcade/archway lights in the shopping arcade with energy-saving lamps. We will continue to support efforts to decarbonize the shopping arcade.

3 Practicing a decarbonized lifestyle and creating a virtuous circle between the environment and the economy - Building a circular economy for sustainable growth of business activities

- Workshops aimed at generating business ideas to realize decarbonized lifestyles for companies, organizations, and citizens were held four times a year in collaboration with the public and private sectors. In addition, in order to verify attractive decarbonized ways of living and working, we conducted a demonstration experiment using shared bicycles in collaboration with baybike (203 participants (individuals and companies)). In the future, we aim to build on the knowledge and relationships gained through these initiatives to create initiatives for implementing decarbonized lifestyles and initiatives that combine the perspectives of the circular economy.

  CO_2 reduction approx. 0.013t-CO_2 (estimated value)

4 Attracting companies related to decarbonization - strengthening the concentration of such companies

- In FY2024, the subsidy amount will be increased for the use of renewable energy-derived electricity in the Minato Mirai 21 district. Furthermore, in order to attract investment and companies that contribute to GX, we revised the "Ordinance on Promotion of Location of Businesses" to strengthen support for research institutes in the field of decarbonization.

5 Promote advanced and sustainable urban agriculture through smart agriculture, etc.

- We supported the installation of environmental measurement equipment and fine mist cooling systems to reduce the production costs of agricultural and livestock products, including energy. We also supported efforts to reduce the burden on the environment by analyzing the concentration of fertilizers in soil and other materials. We will continue to promote labor-saving efforts and sustainable urban agriculture that leads to efficient energy use.

- In an environmentally controlled model house equipped with state-of-the-art smart agriculture equipment, we conducted demonstration experiments and PR for cultivation methods using remote management. In addition, since the model house utilizes sewage resources, the possibility of coexistence between the urban environment and agriculture was explored from the perspective of using unused heat energy, etc. The model house will continue to be used as a

We will promote PR by conducting demonstration experiments and accepting inspection tours within the city, and study the possibility of coexistence between the urban environment and agriculture.

2 Basic Policy 2: Promote urban development integrated with decarbonization

In urban and suburban areas, various stakeholders will build and share a vision for the future based on natural and social characteristics of the region, solve regional issues through the introduction of renewable energy, and promote urban development in tandem with decarbonization. We will also promote efforts to create a new sustainable urban model on the occasion of the International Horticultural Exposition.

In addition, citizens, businesses, and the city will work together to promote the use of public transportation, such as railroads and buses, the use of bicycles, and mobility management initiatives, with the aim of shifting to a lifestyle that is not overly dependent on the personal car.

Indicators

(data) item	standard value	actual results	target value
associated with electricity consumption in decarbonization-first regions. CO_2 Emissions	—	117,000 t-CO_2 (FY2023)	effective zero (FY2030)
Actual decarbonization model projects in suburban areas charity	—	4 projects implemented (FY2023)	development (FY2030)
Sustainable Cities at the International Horticultural Exposition Model Creation	—	implementation	Model Creation (Year 2027)
Extension of bicycle traffic space	86 km (cumulative total) (FY2021)	95 km (accumulated) (FY2023)	103 km (cumulative total) (FY2025)

Achievements and future initiatives

1 Promote initiatives in the "Minato Mirai 21 District" as a leading decarbonization area

- In the "Minato Mirai 21 District", participating facilities installed solar panels (3 projects), adopted demand response (1 project), and converted to LED (9 projects), utilizing government subsidies. In addition, in order to promote the initiatives of the leading decarbonization region to citizens and businesses in and outside the district, we conducted public awareness campaigns such as introducing the initiatives of the leading region at events in the district and displaying promotional flags on the moving sidewalks in the Minato Mirai 21 district. We will continue to accelerate efforts toward decarbonization through public-private partnerships, while actively utilizing government grants.

- In the 60th and 61st blocks of the Minato Mirai 21 district, the first public sale of city-owned land in the Minato Mirai 21 district, a development condition was set that "all or part of the building shall be ZEB Oriented or higher" as a matter of environmental consideration. In February 2024, the project proponent has been decided and plans to acquire ZEB Oriented certification for a portion of the building.

2 Creation of a sustainable urban model at the International Horticultural Exposition and promotion of urban development in Kamiseya utilizing its legacy

- The City of Yokohama has conducted public relations, PR, and momentum-building activities for GREENxEXPO 2027, which aims to be an international expo where people can experience the "KANKYO" (harmony) of coexisting with the environment and creating together with citizens. We will actively implement PR and momentum-building activities with the aim of presenting optimal solutions to global issues such as climate change with the "power of nature" and the "power of green", and to think about environmentally friendly future lifestyles, and to communicate them from Yokohama to the world. We will actively implement publicity, PR, and momentum-building activities. We will also promote the exposition to the public and to

We will work with people, companies, organizations, and educational institutions to learn about GREENxEXPO 2027, empathize with the event, and build momentum for participation.

- In the urban development of the Kamiseya area, we began full-scale construction of the infrastructure for the land readjustment project. In addition, for the "Sightseeing and Lively District," we have publicly solicited project proposals based on the "Design Note for the Basic Plan for Land Use of the Former Kamiseya Communication Facilities," which incorporates green infrastructure and decarbonization initiatives, and have selected a project proponent. From now on, we will steadily proceed with the construction of the infrastructure, and at the same time, we will promote specific studies for urban development in all districts including the "Tourism and Nigiwai District" to realize decarbonization initiatives while inheriting the legacy of GREEN×EXPO 2027.

- In the project to develop the former Kamiseya Telecommunication Facility Park (tentative name), which will also serve as the foundation for the GREEN×EXPO 2027 venue, we have studied ways to secure the amount of greenery by transplanting existing trees and other maintenance work, and to establish a water circulation system by combining bare ditches, storage crushed stone roadbeds, water retention and water permeable pavement, etc. We will continue to develop park facilities based on the active introduction of green infrastructure.

3 Integrated promotion of decarbonization and urban development in the region, including creation of model districts

- In the Minato Mirai 21 district, we conducted the "Eco Mobility Challenge," a demonstration experiment to study the introduction of new eco-mobility such as fuel cell kitchen cars and transportation services that promote decarbonization, in collaboration with businesses. In addition, we have launched two proposed model projects for decarbonization in Yokohama, including the installation of solar power generation equipment, storage batteries, and EV chargers in local commercial facilities, and the use of the electricity generated to provide transportation within the community using EVs. In addition to these projects, we will develop the "Decarbonized Town Development District Project" to promote efforts to change the behavior of citizens.

- Excite Yokohama 22 is committed to reducing CO_2 emissions, saving energy in buildings, introducing energy-saving equipment, and utilizing renewable energy in private sector development based on the "Urban Development Guidelines. In fiscal 2023, THE YOKOHAMA FRONT and CeeU Yokohama were completed, and cogeneration systems, BEMS, and solar power generation systems were introduced to contribute to decarbonization.

- In the area around Kannai Station, we promoted walkable urban development by developing a pedestrian deck connecting the former City Hall District and Yokohama Park, and by studying a pedestrian deck connecting Yokohama Stadium and Chinatown. In addition, private companies conducted a green slow-mobility driving experiment to introduce environmentally friendly mobility services that travel around the Red Brick Warehouse, Yamashita Park, and Chinatown, and the office portion of the project to utilize the former City Hall area was certified as "ZEB Oriented". We will continue to work on the development of pedestrian facilities that will contribute to decarbonization. We will continue to promote initiatives to improve pedestrian circulation and guide development, which will contribute to decarbonization.

- Taking advantage of the opportunity of large-scale land use conversion, we promoted initiatives that lead to behavioral change, such as inducing houses and buildings with high energy-saving performance in two districts, Aoba-ku, Utsukushigaoka and Midori-ku, Tokaichiba-cho; studying the introduction of electric vehicles (EV) and renewable energy facilities in existing residential areas; and raising public awareness through decarbonization events. We will continue to promote initiatives aimed at creating liveliness in existing residential areas while taking the environment into consideration, and initiatives that lead to behavior change in the residential sector.

We will promote initiatives and awareness of decarbonization at local events.

4 Promote decarbonized urban development associated with large-scale land use conversion, including the return of U.S. military facilities

- ＜The city of Yokohama has conducted public relations, PR, and momentum-building activities for GREENxEXPO 2027, which aims to be an international expo that aims to coexist in harmony with the environment and to be created together with citizens, with a sense of "KANKYO" (harmony with the environment). We will actively implement PR and momentum-building activities with the aim of presenting optimal solutions to global issues such as climate change with the "power of nature" and the "power of green", and to think about environmentally friendly future lifestyles, and to communicate from Yokohama to the world. We will actively implement publicity, PR, and momentum-building activities. We will also work with citizens, people from Japan and abroad, companies, organizations, and educational institutions to learn about and share the GREENxEXPO 2027, and to build momentum for participation in the event.

- <Report> In the urban development of the Kamiseya area, we began full-scale construction of the infrastructure for the land readjustment project. In addition, for the "Sightseeing and Lively District," we have publicly solicited project proposals based on the "Former Kamiseya Telecommunications Facility Land Use Basic Plan Design Note," which incorporates green infrastructure and decarbonization initiatives, and have selected a project proponent. From now on, we will steadily proceed with the infrastructure construction work, and at all the districts including the "Sightseeing and Nigiwai District", we will proceed with concrete studies for urban development that will realize decarbonization initiatives while inheriting the legacy of GREEN x EXPO 2027.

- ＜In the project to develop the former Kamiseya Telecommunication Facility Park (tentative name), which will also serve as the foundation for the GREEN x EXPO 2027 venue, we have studied ways to secure the amount of greenery by transplanting existing trees and other maintenance work, and to establish a water circulation system by combining bare ditches, a storage crushed stone roadbed, water retaining and water permeable pavement, and other measures. We will continue to develop park facilities based on the active introduction of green infrastructure.

5 Improve road-rail network, promote use of public transportation - low carbon

- To reduce carbon dioxide emissions from automobiles by smoothing traffic flow, we promoted the construction of the Kawasaki Machida Line and the Kamoi Kami-Iida Line. In addition, the improvement of the Fudozaka intersection on National Route 1, including the completion of a pedestrian bridge and the widening of the roadway, led to the reduction of traffic congestion. We will continue to promote the improvement of the road network.

- The opening of the Sotetsu Shin-Yokohama Line and the Tokyu Shin-Yokohama Line in March 2023 as part of the development of the railroad network has promoted a shift from automobiles and other vehicles to railroads, thereby reducing CO_2 emissions. We will continue to promote the use of the line as well as related construction work. (Project completion scheduled for FY2024) CO_2 reduction: approx. 1,500t-CO_2/year (estimated value), NOx reduction: approx. 14t-NOx/year (estimated value)

- We promoted decarbonization efforts by curbing excessive use of private cars and promoting the use of public transportation, such as by holding on-site lectures for elementary schools in the city (actual results: 18 schools in total) and updating the bus map by distinction, which is created in cooperation with bus operators.

6 Promote bicycle use, including shared bicycles

- Collaboration with the private sector to contribute to the revitalization and decarbonization of the city center by improving circulation and other activities

The "Yokohama City Center Community Cycle Project" was implemented (138 cycle ports, 120,100 times/month (as of the end of FY2023)). We will continue to increase the number of users and increase the number of times they use the service by arranging cycle ports in accordance with their needs and promoting the project.

- With the aim of complementing the functions of public transportation and creating a decarbonized society, the "Yokohama City Wide-area Shared Cycle Business Social Experiment" was conducted in the city area excluding the city center in collaboration with private operators (number of cycle ports: 392 ,
  The number of times used 52,500 times/month (as of the end of FY2023 (FY2023)). We will continue to increase the number of users and increase the number of times they use the service by arranging cycle ports in accordance with their needs and promoting the project.

- We have developed bicycle access spaces on network routes such as the Yamashita-Honmoku Isogo Line. We will continue to promote the development of bicycle paths on network routes such as trunk roads that connect regions and in priority areas where bicycle use is high.

7 Maintain local transportation - low carbon

- To improve the operational efficiency of bus routes, we developed the driving environment necessary for the introduction of articulated buses. In addition, to introduce new transportation services suited to regional characteristics, we conducted a demonstration experiment of carpooling using cabs (Asahi Ward) and a demonstration experiment of coordination between transportation services and daily life services (Aoba Ward), and studied a new system to enhance sustainability. Through these efforts, we will maintain and enhance local transportation systems to create a town where people can travel smoothly without relying on their own cars, thereby reducing CO_2 emissions.

3 Basic Policy 3: Promote thorough energy conservation - Spread and expand renewable energy

In order to reduce energy consumption, we will promote the improvement of home insulation performance, the introduction of high-efficiency equipment and energy-efficient home appliances, the spread and expansion of next-generation vehicles, and the installation of infrastructure facilities such as EV chargers and hydrogen stations, with a view to making compliance with the ZEH standard mandatory for new homes by 2030. In addition, we will promote local production and local consumption of renewable energy in accordance with the characteristics of major cities, switch to 100% renewable electricity, and promote wide-area cooperation with regions with abundant renewable energy potential in order to promote and expand the use of renewable energy.

Indicators

(data) item	standard value	actual results	target value
Number of energy-efficient new housing units*.	62,212 units (FY2021)	91,178 units (Cumulative total through FY2023)	198,000 units (Cumulative total through FY2030)
Percentage of next-generation vehicles (EVs, PHVs, FCVs) and hybrid vehicles in use	18% (FY2020)	24% (FY2023)	55% (FY2030)
Number of people (households - establishments) who switched to renewable energy due to initiatives implemented by the city	828 cases (Cumulative total through FY2021)	905 cases (Cumulative total through FY2023)	10,000 cases (Cumulative total through FY2030)

* From FY2025 onward, all new houses will be required to comply with energy-saving standards, and all new houses will have high energy-saving performance.

Achievements and future initiatives

1 Promote more energy-efficient homes-buildings

- The number of participants in the "Yokohama Consortium for Promoting Healthy and Energy-Efficient Housing," which consists of companies and organizations in various fields such as design, construction, building materials, equipment, real estate, and finance, has increased from 18 at the time of its establishment (March 2023) to 33 . The number of participants has been increasing, and information has been disseminated by taking advantage of their respective strengths. The number of participating companies increased from 18 at the time of its establishment (March 2023) to 33 , and information was disseminated by taking advantage of their respective strengths. In July 2023, the "Yokohama Healthy and Energy-Saving Housing Business Registration and Publication System" was established to improve the technical capabilities of designers and builders, with 107 companies registered at . In the future, we will further collaborate with consortium members and conduct effective and multifaceted information dissemination through seminars, site tours, etc., in order to foster public awareness and behavioral change.

  Housing with the highest level of insulation performance (insulation performance grade 6 and 7) and airtightness

- We have solicited public opinions to revise the ordinance to establish a system that requires architects to explain to building owners the effects of installing renewable energy facilities and the improvement of energy efficiency and conservation performance. In preparation for the start of the system in April 2025, we will hold seminars for architects, prepare leaflets and other materials to raise awareness of the system, and formulate permit criteria for relaxing form regulations (height, building-to-land ratio, floor-area ratio) to promote the installation of renewable energy facilities.

- Based on the model implemented in FY2023, the number of subsidies for the replacement of homes with solar power generation equipment and energy-efficient houses with the highest level of thermal insulation performance for the generation raising children increased to 198 cases.

The subsidy amount is being increased for the installation of storage batteries, etc., and the number of subsidies is being expanded. CO_2 reduction 275t-CO_2(estimate)

- As a unique initiative of the city, the city provides city planning tax reduction measures for new houses with high energy-saving performance, such as certified low-carbon houses, and for houses that have been renovated to prevent heat loss, etc.

2 Diffusion of next-generation vehicles, etc. and infrastructure development

- In addition to subsidies for the purchase of fuel cell vehicles (FCV) (14 cases), subsidies were provided for the installation of charging facilities for electric vehicles (EV), etc. for apartment complexes (4 cases) and for the installation of V2H charge/discharge facilities* for residences and businesses (79 cases). In addition to continuing to support the introduction of EVs and FCVs, we will continue to provide subsidies for the installation of quick chargers, etc. for convenience stores to improve convenience.

*Facilities that not only charge EVs and PHVs, but also extract electricity for use in the home.

- Based on the "Cooperative Agreement for the Promotion of EV Penetration in Yokohama City" with a private operator, a new public roadside charger for EVs was installed at the Shinko Chuo Plaza in Naka-ku as a location where EV trucks can also use the charger. All of the three demonstration experiments in the city have shown a high level of usage. We will continue to recruit business operators and accelerate our efforts to expand the installation of EV chargers.

3 Promote decarbonization of large emitters through planning document system, etc.

- By operating a system that requires businesses in the city that emit greenhouse gases above a certain size to prepare a global warming action plan and report on the status of implementation (Global Warming Action Plan System), we have evaluated the content of the businesses' efforts and published the results (Number of received plans: 49, reports: 301). We will review the global warming action plan system, etc., and conduct on-site inspections, guidance, and advice for eligible businesses in order to further promote global warming countermeasures by businesses.

4 Energy Management - Promoting the Construction of Self-Sustaining and Distributed Networks

- In addition to working with members of the Yokohama Smart Business Association (YSBA), a public-private partnership organization that aims to realize the decarbonization of the city area, we promoted PPA projects for public facilities, demand response, and installation of EV chargers on public roads under the YSCP (Yokohama Smart City Project) Master Plan. The project also promoted PPA projects for public facilities, demand response, and installation of EV chargers on public roads.

5 Promotion of switching to renewable electricity

- Zero-CO_2 emission electricity generated by our incineration plant was utilized in public facilities such as city hall and ward office buildings, and in the Green Line. In addition, in cooperation with a retail electricity provider, we implemented the "Hamakko Denryoku" program to supply electricity to businesses in the city, and 100% of the city's electricity with zero CO_2 emissions generated by waste incineration was utilized.
  We will continue to promote local production and local consumption of "environmentally friendly energy," including the launch of the second phase of "Hamakko Denryoku" in FY2024.

CO_2 reduction 61,400t-CO_2(FY2023 results, estimated)

- We conducted a campaign for businesses to switch over to renewable energy in cooperation with Kanagawa Prefecture, and seven businesses switched over. We will continue to promote this campaign to encourage more business sites to switch to renewable energy.

6 Promote local production and local consumption of renewable energy such as solar power generation

- In FY2023, as a project covered by the Ministry of the Environment's grant for promoting regional decarbonization and renewable energy, we installed solar power generation equipment at elementary and junior high schools in the city and the Midori Ward General Office Building using the PPA method, as well as installed solar power generation equipment in commercial facilities, installed high-efficiency lighting (LED), and constructed detached ZEH houses. In FY2024, we will continue to install solar power generation equipment in public and private facilities, etc. CO_2 reduction: approx. 1,400t-CO_2 (estimated value)

- We have installed a solar power generation system at the Minato Mirai 21 Clean Center, and will start supplying electricity from the solar power generation system in fiscal 2024, which is expected to supply about 20% of the electricity used (planned) and reduce greenhouse gas emissions by about 22t-$CO_{(2)}$.

7 Promotion of wide-area collaboration on renewable energy

- In order to supply renewable energy from outside the city, we have been discussing and coordinating with 16 municipalities and electric utilities in Tohoku and other regions with abundant renewable energy resources to develop a scheme for supplying and selling renewable energy, and 42 offices have switched to renewable energy. We will continue to promote the establishment of renewable energy supply and sales schemes and expand the number of customers in the city. In addition, we plan to study methods of collaboration between Yokohama City and the areas where power plants are located in order to procure a large amount of renewable energy electricity.

4 Basic Policy 4: Promoting Behavioral Change among Citizens and Businesses

In order to achieve a 50% reduction in greenhouse gas emissions in FY2030, it is essential for citizens and businesses to take action against global warming as their own personal matter. Therefore, in order to spread the importance of decarbonization and foster awareness, and to achieve a decarbonized society in 2050 through the concerted efforts of the city, citizens, and businesses, we will collaborate with diverse actors to promote awareness at every opportunity, conduct environmental education for diverse generations, and encourage a shift to a decarbonized lifestyle.

In addition, based on the Yokohama City Basic Plan for General Waste Disposal, we will promote reduction measures at all stages of collection, transportation, and disposal, such as thorough separation of waste, promotion of reduce, food loss measures, and plastic measures.

Indicators

(data) item	standard value	actual results	target value
Percentage of citizens taking action to decarbonize	57.5% (%) (FY2021)	63.3% (in %) (FY2023)	71%. (FY2030)
Incineration of plastics at incineration plants	101,000 t (FY2020)	103,000 t (FY2022)	61,000 t (FY2030)

Achievements and future initiatives

1 Dissemination and awareness-raising in collaboration with various entities

- In collaboration with YES Collaborative Partners, lectures on global warming countermeasures were held at universities and public facilities for everyone to participate (602 lectures were held, with 26,092 participants). In the future, the YES Collaborative Partners and the Yokohama Council on Climate Change will further promote collaboration to decarbonize the region.

- As part of the promotion of efforts related to perovskite solar cells, a new technology originating in Yokohama, the "Perovskite Solar Cell Forum" was held. We will continue to support the practical application of perovskite solar cells and next-generation solar cells integrated with building materials by developing demonstration and implementation projects in the city area, hold workshops for the development of new applications that take advantage of the characteristics of perovskite solar cells, and conduct other activities to promote and raise citizens' awareness toward a decarbonized society.

- In March 2024, we held "Earth Hour 2024 in Yokohama," the world's largest-scale environmental action, to send a message of global warming prevention and biodiversity conservation by turning off lights at 110 facilities in the city, mainly in the Minato Mirai 21 district, and with citizens and businesses. The event was held in the Minato Mirai 21 district.

- Elementary school students engage in familiar environmental activities in the "Children's 'Eco-Katsu. Operation Eco Life! (participation: 20,366 people from 219 schools), environmental education through posters in collaboration with sports teams, a campaign to encourage the selection and purchase of environmentally friendly products (ethical consumption), and human resource development and exchange meetings to promote local production and local consumption of agricultural and livestock products produced in the city. We will continue to promote initiatives that lead to decarbonization and other environmentally conscious actions.

- Applications for subsidies to cover the cost of installing highly energy-efficient equipment (LED lighting fixtures, air conditioners, insulated windows, etc.) in community halls, which are the hub of community activities, are now being accepted (application period: March 2024 to end of October 2024).

- In the district,
  - The exhibition used "perovskite solar cells," lectures on global warming were held for elementary school students, and events on the theme of "marine environmental protection" were held in cooperation with companies in the city and Okinawa Prefecture.
  - Carbon offsets were implemented at events such as power supply from FCVs, ward festivals, and games held in cooperation with sports teams. Amount of CO_2 reduction: approx. 30t-CO_2 (estimated value)
  - Used and expired cooking oil is collected and recycled into alternative fuels, etc., thereby reducing carbon dioxide emissions and waste.
  - Support was provided for public interest activities conducted by neighborhood associations and citizens' groups to contribute to global warming countermeasures and solve local issues.
  - In relation to decarbonization and local production and consumption of city agricultural and livestock products, we publicized and exhibited booths at events, held eco-classes in collaboration with companies in the ward, and publicized our efforts through PR Yokohama, SNS, community FM, etc.

2 Creation-Development of decarbonized lifestyle innovations that accelerate citizens' behavior change

- ＜Workshops aimed at generating business ideas to realize decarbonized lifestyles for companies, organizations, and citizens were held four times a year in collaboration with the public and private sectors. In addition, in order to verify attractive decarbonized lifestyles and work styles, we conducted a demonstration experiment using shared bicycles in collaboration with baybike (203 participants (individuals and companies)). In the future, we aim to build on the knowledge and relationships gained through these initiatives to create initiatives aimed at implementing decarbonized lifestyles and initiatives that incorporate the perspective of the circular economy. CO_2 reduction: approx. 0.013t-CO_2 (estimate)

- A qualitative survey on attitudes toward decarbonization was conducted using a service provided by a cooperative company that enables visualization of electricity consumption and other data. The results of the survey will be utilized to promote behavioral change initiatives.

- The city has implemented its own Eco-Hamas (Yokohama City Eco-Home Appliance Support Campaign) to promote the purchase of energy-saving home appliances (air conditioners, refrigerators, LED lighting fixtures), which will help citizens change their behavior toward a decarbonized lifestyle. We will continue to strengthen our efforts to change behavior by launching another campaign in 2024. Number of products applied for: approx. 62,000 units; CO_2 reduction: approx. 4,000 t-CO_2 (estimate)

3 Enhance environmental education for children, who will lead the next generation, in cooperation with educational institutions in the city

- Lectures were given to first-year students of Totsuka Municipal High School and first-year students of Maioka Prefectural High School to deepen their understanding of the SDGs and environmental education during their inquiry-based learning time. We will continue to promote awareness of the SDGs and decarbonization to high schools in Totsuka Ward.

- Exchange meetings (including online) for students at 27 schools that promote the development of leaders in achieving the SDGs (ESD)
  Through the sharing of initiatives and exchange of opinions, we raised awareness of environmental, social, and economic issues and encouraged behavioral changes. In addition, by supporting schools to promote "ESD" and "career education" in an integrated manner, all elementary and junior high schools are involved in ESD, and the percentage of elementary and junior high schools that are engaged in ESD as a whole increased by approximately 10 percentage points from FY2022 to FY2022. The percentage of elementary and junior high schools with school-wide ESD initiatives increased by approximately 10 percentage points compared to FY2022. We will continue to promote these initiatives to raise awareness of the SDGs, including decarbonization.

- The digital content "YOKOHAMA ECO BINGO" was delivered to children to enable them to learn and act, and to enjoy learning and practicing knowledge and actions that contribute to environmental consideration, including decarbonization, together with their parents and guardians at home. (Implementation period: December 18, 2023 - March 14, 2024, 249 participants).

4 Fostering the next generation of environmental education and awareness

- To foster environmental awareness among elementary school students in the city, who will be the leaders of the next generation, we held the "SDGs Future City - Environmental Picture Diary Exhibition" in the City Hall Atrium in cooperation with the Yokohama Recycle & Resources Cooperative Association. In addition to our city and partner cities, entries from our sister cities, San Diego, U.S.A. and Ulaanbaatar, Mongolia, were displayed, and a booth was also set up at the exhibition. We will continue to promote collaborative efforts and create synergy with the city's policies.

5 Formation of a recycling-oriented society by enhancing measures to reduce plastic waste and food loss

- In the wards, we conducted educational activities on waste reduction, sorting, recycling, and food loss reduction, provided consultation on waste sorting, and organized tours of waste incineration plants and final disposal sites for ward assembly members and others. In addition, we have set up model districts to raise awareness of the reduction of plastic waste. In addition, a food drive (an activity in which households bring in unused food that cannot be used at home and collect them to donate to food bank groups, local welfare facilities and organizations), which leads to food support and reduction of food loss, was held, and a total of 36,000 food items were collected in 18 wards. We will continue to promote this activity.

- We have decided to start the "expansion of sorting and recycling of plastic waste" from households in 9 wards(*) in October 2024, and to implement it in the entire city from April 2025. In preparation for the implementation, we conducted a fact-finding survey in some areas to understand the trends of plastic products discharged and foreign objects mixed in, and made preparations for publicity and awareness-raising.

  *Naka, Konan, Asahi, Isogo, Kanazawa, Totsuka, Sakae, Izumi and Seya wards

- To reduce plastic waste, we conducted a plastic waste reduction campaign in cooperation with retailers and promoted the use of My Bottle. To reduce food waste, we held events in cooperation with international organizations and businesses, and conducted educational activities such as posters in cooperation with sports teams.
  We will continue to promote efforts to reduce plastic waste and food loss through public awareness and information dissemination in cooperation with various entities.

- In response to a proposal from a business to use locker-type vending machines for food loss reduction, "Food Loss Reduction SDGs Lockers" were installed in January 2024 at the Kannai Municipal Subway Station, allowing customers to purchase bread and other food items that would otherwise go to waste despite their expiration date at a discount. In the future, this initiative will be expanded to the entire city to promote the spread and promotion of the SDGs, CO_2 emission reduction, and food loss reduction.

5 Basic Policy 5: Contribute to decarbonization, a common global challenge

In order to link global warming countermeasures to the cyclical and sustainable development of the city's economy, it is important for companies in the city to participate by promoting international technical cooperation and overseas infrastructure business.

The City will participate in international conferences related to decarbonization and international networks of cities with a strong international presence to share knowledge and communicate Yokohama's initiatives to the world, thereby attracting more people and businesses from Japan and abroad and establishing a global reputation.

As the role of cities in combating global warming grows, domestic urban and regional networks are becoming increasingly important, and we will contribute to decarbonization by strengthening cooperation with national and national zero-carbon cities and promoting the creation of locally initiated decarbonization dominoes.

Indicators

(data) item	standard value	actual results	target value
Number of participation in international conferences, etc.	7 times (FY2021)	10 times (FY2023)	7 times (FY2030)

Achievements and future initiatives

1 **Technical Cooperation with Overseas Cities - Promotion of Overseas Infrastructure Business**

- We held local forums on the theme of decarbonization in cities such as Bangkok Metropolitan Administration in Thailand and Da Nang City in Vietnam, where we shared Yokohama's knowledge and the technologies of local companies, and worked with local companies to form energy-saving and energy projects in buildings and industrial parks. As a result of these efforts, companies in the city participated in projects such as the introduction of solar power generation facilities overseas and energy-saving projects for factory production lines, contributing to the reduction of greenhouse gas emissions in Asia. We will continue to encourage the decarbonization of overseas cities through technical cooperation that leverages the city's achievements and expertise, and support the overseas expansion of companies by providing the latest information on overseas cities and business matching opportunities to companies in the city, thereby contributing to the decarbonization of Asian cities through public-private partnership.

- We promoted technical cooperation, etc. for follow-up projects of sewerage projects in Hanoi, Vietnam and for improvement of water environment issues in the Cebu metropolitan area in the Philippines. We will continue to promote technical cooperation to improve water environment issues in cities in emerging countries.

- Under the African Clean Cities Platform (ACCP), we conducted training on waste management for administrative officials from African countries. We also promoted technical cooperation to solve waste management issues in Da Nang City, Vietnam through the Y-PORT project. In addition, we accepted visitors from overseas cities to our waste treatment facilities and other facilities.

  We will continue to support overseas cities in solving their waste-related issues.

- Through projects such as a safe 24-hour water supply in North Sumatra, Indonesia, and a project to strengthen measures against non-revenue water in Lilongwe, Malawi, as well as training to develop urban waterworks engineers in Africa, we have accepted overseas trainees and dispatched staff to Asia and Africa, and we also utilize online services. Also making use of online

We have implemented technical cooperation on sustainable water supply projects. We also support overseas water business development by providing PR opportunities to member companies of the Yokohama Water Business Council and Yokohama Water Corporation, and will continue to promote technical cooperation through public-private partnerships.

2 Hold international conferences related to decarbonization and strengthen ties with international city networks - increase presence through information dissemination

- At the 12th Asian Smart Cities Conference, under the main theme "Asian Cities Connected by Zero Carbon" and with the participation of 44 foreign cities and government agencies, Mayor Yamanaka, together with the Governor of Bangkok, declared a strong partnership with Asian cities for decarbonization. Continuing to work with international frameworks and organizations such as the OECD Champion Mayors for Inclusive Growth and the Global Climate and Energy Leaders' Pledge, Yokohama will communicate its urban vision and solutions for decarbonization and sustainable urban development in Asia to the world, and will also work with the Y We will also promote international networking in the field of decarbonization and contribute to solving global-scale issues, based on the Y-PORT Center Public-Private Partnership Office GALERIO.

- We have attended international conferences such as COP28 and the Smart City Expo in Barcelona, and have communicated our city's initiatives such as Zero Carbon Yokohama and SDGs Future City Yokohama. We will continue to promote our city's initiatives through international conferences related to decarbonization and SDGs, C40, and the Global Climate and Energy Leaders' Pledge, for which I became a board member in 2023, and other city-to-city networks with a strong international presence.

- Symposium on Decarbonizing Ports and Green Shipping Corridors, sponsored by the Ministry of Land, Infrastructure, Transport and Tourism and the State of California.

  (Los Angeles, October 2023), where we communicated our efforts to decarbonize the Port of Yokohama. Caliphate
  The Port of Yokohama's international presence was enhanced by sharing knowledge and experiences with officials from the State of California and approximately 50 Japanese and U.S. companies working on projects related to ports and decarbonization in the state.

- Leveraging our existing relationship, we have signed a Memorandum of Understanding (MOU) with the Ports of Los Angeles, Long Beach, Oakland, and Singapore to promote efforts toward the formation of a green shipping corridor to decarbonize our ports. We will continue to further strengthen and improve our relationship through web conferences and other means.

3 Strengthen collaboration with national and domestic zero-carbon cities, etc. - disseminate information

- In the Zero Carbon City Council (Chair city: Yokohama), information and opinion exchange meetings were held to exchange information and improve capacity among local governments, and requests were made to the national government through collaboration among local governments such as the Global Warming Prevention and Countermeasures Subcommittee of the Nine Metropolitan Cities Committee on Environmental Issues and the Designated Cities Natural Energy Council. In order to realize a decarbonized society, support from the national government and collaboration among local governments are important. As the chair city of the Zero Carbon City Council, we will continue to promote decarbonization from the local level by making proposals to the national government and deepening collaboration among local governments.

- We promoted the conservation of the Doshi headwaters forest for the purpose of maintaining stable river flow and good water quality, contributing to a healthy water cycle and environmental preservation, and supplying high-quality tap water to the citizens (2023 (2023)).
  5) Total area maintained in fiscal year (actual): 73 ha). A portion of the maintenance costs were funded by donations from the "Water Source Eco Project W-eco-p," which works with companies and organizations to ■water source forests.

6 Basic Policy 6: City Hall taking the lead

Yokohama City Hall is also one of the largest emitters of greenhouse gases in the city, accounting for approximately 5% of the city's total greenhouse gas emissions. From the perspective of setting an example to citizens and businesses, Yokohama City Hall must work to further reduce greenhouse gas emissions from its administrative and business operations.

We will make a concerted effort to achieve the reduction targets in the "Yokohama City Action Plan for Global Warming Countermeasures (City Hall version)".

Indicators

(data) item	standard value	track record	target value
Greenhouse Gas Emissions at City Hall (Reduction target for City Hall version: 50% reduction)	920,000 t-CO_2 [Note 1] (FY2013)	844,000 t-CO_2 (FY2022)	460,000 t-CO_2 (FY2030)
Energy Consumption at City Hall	10,307 TJ (FY2013)	10,079 TJ (FY2023)	9,483 TJ (FY2030)
Percentage of LED and other high-efficiency lighting in public facilities	34%. (FY2020)	47%. (FY2023)	100%. (FY2030)
Percentage of solar power generation equipment installed	310 facilities (Number of facilities installed) (FY2020)	369 facilities, 45%. (Number of facilities introduced, percentage of facilities introduced) (FY2023)	Approx. 50% of public facilities that can be installed (FY2030)
100% renewable energy for purchased electricity, etc.*2		12%. (FY2023)	20%. (FY2030)
Percentage of Next-Generation Vehicles, etc. introduced in General Government Vehicles	28% (FY2020)	39% (FY2023)	100%. (FY2030)

1 The base value for greenhouse gas emissions is the value for fiscal 2013, the base year in the "Yokohama City Action Plan for Global Warming Countermeasures (City Hall version)".

2 Purchase of 100% renewable electricity and zero CO_2 emission electricity from retail electricity suppliers, etc., and use of environmental value (non-fossil certificate)

How to read the table on the next page and beyond

＜温室効果ガス排出量及びエネルギー消費量の状況＞　　上段：実績、下段：増減率（基準年度比）

	基準年度（2013 年度）	2020 年度	2021 年度	2022 年度	2023 年度
温室効果ガス排出量［万 t-CO_2］	●	●	●	● （●%）	－
エネルギー消費量［TJ］	●	●	●	●	● （●%）

Progress of the plan (percentage change) is shown only for the latest actual results*3.

("No": increase, "▲": decrease)

＜対策の取組状況＞

	2020 年度	2021 年度	2022 年度	2023 年度
LED 等高効率照明の導入	●%	●%	●%	●%
太陽光発電設備の導入	●施設	●施設	●施設	●施設
一般公用車における次世代自動車等導入	●%	●%	●%	●%

※2023 年度の次世代自動車等の台数 ●台（EV：●台、PHV：●台、FCV：●台、HV：●台）

3 The latest results are for GHG emissions in FY2022 and energy consumption in FY2023; GHG emissions for FY2023 can be calculated after the government releases the necessary coefficients for the calculation.

Please note that the percentage increase or decrease may differ due to fractional amounts.

(1) Results of efforts by bureaus and headquarters

Decarbonization-GREENxEXPO Promotion Bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 10 tons, down 65.3% from FY13.

Energy consumption in FY2023 was 0.35 TJ, down 32.2% from FY 2013.

There are no facilities subject to the conversion to LED or the installation of photovoltaic power generation equipment.

The company owns three general public vehicles, all of which are next-generation vehicles, etc.

<Greenhouse Gas Emissions and Energy Consumption

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	0.0027	0.0053	0.0020	0.0010 (-65.3%)	—
Energy consumption [TJ]	0.52	1.05	0.73	0.32	0.35 (-32.2%)

<Co

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	—	—	—	—
Installation of solar power generation equipment	—	—	—	—
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	100%.	100%.	100%.	100%.

Number of next-generation vehicles, etc. in FY2023 3 units (EV: 1 unit, PHV: 0 unit, FCV: 1 unit, HV: 1 unit)

2 Efforts by staff

We implemented Cool Biz and Warm Biz, promoted green purchasing, and went paperless by utilizing projectors and monitors. In addition, we conducted environmental training for all employees in cooperation with the Green Environment Bureau, etc., to promote global warming awareness.

The Company has been working to promote understanding of the measures to combat global warming.

Policy Management Bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were approximately 630 tons, down 35.0% from FY13.

Energy consumption in FY2023 was 15.1 TJ, down 19.3% from FY 2013.

The overall LED conversion rate for FY2023 is 47%. The facilities subject to the LED conversion rate are the three Gender Equality Centers and the Mayor's Office Building, for which the city has the authority to renew the lighting facilities.

There are no efforts to install solar power generation equipment or ownership of general public vehicles.

<Gr

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	0.097	0.063	0.066	0.063 (-35.0%)	—
Energy consumption [TJ]	18.7	13.8	14.1	13.9	15.1 (-19.3%)

<Co

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	46%.	46%.	47%.	47%.
Installation of solar power generation equipment	0 Facility	0 Facility	0 Facility	0 Facility
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	—	—	—	—

2 Efforts by staff

The bureau has implemented paperless initiatives, such as conducting internal meetings by referring to data. In addition, environmental training for all employees was conducted at least once a year, and "green" activities such as confirming that environmentally friendly goods are being procured were implemented.

The Company promoted "purchasing of products and services from the market".

General Affairs Bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 0.42 million tons, up 35.5% from FY13.

Energy consumption in FY2023 was 96 TJ, up 51.2% from FY 2013.

*The significant increase in greenhouse gas emissions and energy consumption compared to FY 2013 is due to the comparison with the results of the old building and other buildings.
Comparing the former city hall and the current city hall per floor space, greenhouse gas emissions in FY2022 will be reduced by about 33% compared to FY 2013, and energy consumption in FY2023 will be reduced by about 25% compared to FY 2013.

This is a reduction of approximately 25%.

In FY2023, the Yokohama Training Center introduced LED and other high-efficiency lighting through an ESCO project, bringing the LED conversion rate in the Bureau to 99%.

The percentage of next-generation vehicles, etc. introduced in FY2023 is 80%.

As part of the city's efforts to decarbonize its buildings, the city is maximizing the use of energy sources, including ventilation with natural ventilation, solar power generation, and air conditioning using geothermal heat.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	0.31	0.60	0.46	0.42 (35.5%)	—
Energy consumption [TJ]	64	139	102	95	96 (51.2%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	93%.	93%.	93%.	99%.
Installation of solar power generation equipment	1 facility	1 facility	1 facility	1 facility
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	80%.	80%.	80%.	80%.

Number of next-generation vehicles, etc. in FY2023: 8 (EV: 0, PHV: 0, FCV: 0, HV: 8)

2 Efforts by staff

The paperless system was promoted through explanations using a projector, etc., and the status of paperless initiatives was shared once a month through meetings of bureau managers, etc.

In addition, we promoted green purchasing, and all employees attended environmental training sessions to promote understanding of our efforts to combat global warming.

Digital Management Division

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 0.012 million tons, down 42.1% from FY13.

Energy consumption in FY2023 was 2.6 TJ, down 32.8% from FY 2013.

There are no facilities that are subject to the introduction of high-efficiency lighting such as LEDs or solar power generation equipment.

The company does not own any public vehicles. No general public vehicles are owned by the company.

<Greenhouse Gas Emissions and Energy Consumption Upper row: Actual, Lower row: Percentage change

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	0.021	0.012	0.014	0.012 (-42.1%)	—
Energy consumption [TJ]	3.9	2.8	3.0	2.7	2.6 (-32.8%)

<Co Effort

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	—	—	—	—
Installation of solar power generation equipment	—	—	—	—
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	—	—	—	—

2 Efforts by staff

We promoted a paperless office environment by sharing materials electronically at meetings. In addition, we promoted green purchasing and provided environmental training for all employees to promote their understanding of global warming countermeasures.

I tried to figure it out.

(Japanese) Fiscal Bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 5.7 tons, down 83.1% from FY13.

Energy consumption in FY2023 was 0.13 TJ, down 78.7% from FY 2013.

In FY2023, high efficiency lighting such as LED was installed in the Yamashita Regional Exchange Center, and the LED conversion rate reached 1%. There are no initiatives to install solar power generation equipment.

There is one general public vehicle owned by the Company, and no next-generation vehicles will be introduced in FY2023. The lease contract for this has expired in FY2024.

In civil engineering projects ordered by the city, the use of renewable energy sources, etc., has been promoted since FY2021.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	0.0034	0.00072	0.00055	0.00057 (-83.1%)	—
Energy consumption [TJ]	0.63	0.16	0.13	0.14	0.13 (-78.7%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	0 percent	0 percent	0 percent	1%.
Installation of solar power generation equipment	—	—	—	—
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	0 percent	0 percent	0 percent	0 percent

2 Efforts by staff

The paperless operation was promoted through explanations using monitors, etc. and web conferencing in meetings with internal and external parties. In addition, all employees of the bureau attended environmental training sessions to promote understanding of global warming countermeasures. We promoted environmentally friendly procurement (green purchasing) of goods and services necessary for conducting our business.

International Bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 400 tons, down 27.8% from FY13.

Energy consumption in FY2023 was 8.8 TJ, down 21.6% from FY 2013.

In FY2023, we installed LED and other high-efficiency lighting in the International Exchange Lounge and International Cooperation Center in each ward, bringing the LED conversion rate to 44%.

There are no facilities subject to the installation of photovoltaic power generation equipment or general public vehicles.

<Gr

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	0.055	0.036	0.038	0.040 (-27.8%)	—
Energy consumption [TJ]	11.2	8.2	8.5	8.9	8.8 (-21.6%)

<Co

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	22%.	22%.	24%.	44%.
Installation of solar power generation equipment	—	—	—	—
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	—	—	—	—

2 Efforts by staff

All employees participated in environmental training to promote understanding of global warming countermeasures. In addition, based on the "Yokohama City Basic Policy on the Promotion of Green Purchasing," we have been promoting procurement of environmentally friendly goods, etc., and have also been promoting the implementation of the "Yokohama City Green Purchasing Policy" within the bureaus.

We have been working on paperless meetings and other activities.

civic bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in fiscal 2022 were 26,000 tons, down 3.4% from fiscal 2013.

Energy consumption in FY2023 was 574 TJ, up 8.3% from FY 2013.

In FY2023, the Honmoku District Center and other facilities introduced high-efficiency lighting such as LEDs through an ESCO project, resulting in an LED conversion rate of 81%.

In FY2023, solar power generation equipment was installed at the Midori Ward General Office Building through PPA, bringing the total number of installed facilities to 22.

In FY2023, 29 next-generation vehicles were introduced, for a total of 320 vehicles, or 62% of the total number of vehicles introduced.

The subsidy application period is from March to the end of October 2024.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	2.7	2.4	2.6	2.6 (-3.4%)	—
Energy consumption [TJ]	530	550	573	568	574 (8.3%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	74%.	76%.	78%.	81%.
Installation of solar power generation equipment	21 Facilities	21 Facilities	21 Facilities	22 Facilities
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	47%	52%	57%	62%.

Number of next-generation vehicles, etc. in FY2023 320 units (EV: 55 units, PHV: 7 units, FCV: 12 units, HV: 246 units)

2 Efforts by staff

We have implemented paperless initiatives at meetings, etc. by using projectors, promoted understanding of global warming countermeasures by having all employees participate in environmental training, and promoted green purchasing.

Nigiwai Sports and Culture Bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 16,000 tons, down 22.3% from FY13.

Energy consumption in FY2023 was 388 TJ, down 7.1% from FY 2013.

In fiscal 2023, the Yokohama Museum of Art and other facilities newly installed LED and other high-efficiency lighting, bringing the LED conversion rate to 59%.

Yokohama BUNTAI, Yokohama International Swimming Pool, and five other facilities are equipped with photovoltaic power generation systems.

For the "Yokohama Marathon 2023," we produced T-shirts for participation prizes made of recycled polyester and conducted carbon offsetting. Blue carbon offsets were also provided for the "2023 World Triathlon Yokohama".

The Yokohama Museum of Art has upgraded to energy-efficient air conditioning equipment through a major renovation.

In the creative illumination project "YORNOYO," wind power generation, solar panels, storage batteries, and partial power supply from next-generation vehicles were used.

No general public vehicles are owned by the company.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	2.1	1.6	1.7	1.6 (-22.3%)	—
Energy consumption [TJ]	418	344	357	363	388 (-7.1%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	31%.	35%.	47%.	59%.
Installation of solar power generation equipment	3 facilities	3 facilities	3 facilities	5 facilities
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	—	—	—	—

2 Efforts by staff

In addition to environmental training for all employees, we promoted "Cool Biz" and "Warm Biz" and green purchasing. In addition, we worked to reduce greenhouse gas emissions by using projectors and displays at meetings to make them paperless, and by promoting new ways of working such as web conferencing.

(Economic) Bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 0.12 million tons, down 27.7% from FY13.

Energy consumption in FY2023 was 28 TJ down 12.8% from FY 2013.

In FY2023, we installed LED and other high-efficiency lighting in the Kanagawa Office of the Silver Human Resources Center, the music room of the Technical Culture Hall, Room 102, Room 203, and corridors of the Industry-Academia Joint Research Center (Research Building), entrance lights of the Industry-Academia Joint Research Center (Laboratory Building), hall guide lights of the Industrial Trade Center Building, guide lights of the Consumer Affairs Center, exterior lights and office lights of the main office of the Central Wholesale Market, and exterior lights and office lights of the Central Meat Market. The percentage of LED lighting installed was 64%.

There are no initiatives to install solar power generation equipment.

In FY2023, the number of general public vehicles was reduced by one to three, of which one next-generation vehicle was purchased, accounting for 67%.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	0.17	0.12	0.13	0.12 (-27.7%)	—
Energy consumption [TJ]	32	27	27	28	28 (-12.8%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	42%.	47%.	54%.	64%.
Installation of solar power generation equipment	0 Facility	0 Facility	0 Facility	0 Facility
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	25%	25%	25%	67%.

Number of next-generation vehicles, etc. in FY2023 2 units (EV: 1 unit, PHV: 0 unit, FCV: 1 unit, HV: 0 unit)

2 Efforts by staff

As a rule, meetings and meeting materials were conducted in a paperless manner, utilizing electronic data.

In addition to environmental training for all employees, we also implemented web conferencing and promoted "Cool Biz" and green purchasing.

Children and Youth Bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 0.51 million tons, down 22.2% from FY13.

Energy consumption in FY2023 was 108 TJ, down 14.1% from FY 2013.

In FY2023, the city introduced high-efficiency lighting such as LEDs at municipal daycare centers and child consultation centers, resulting in an LED conversion of 52%.

Solar power generation systems have been installed at three facilities, including some municipal daycare centers.

Of the 21 general public vehicles, one next-generation vehicle was newly introduced in FY2023 (FY2023), accounting for 57%.

The Eastern Child Guidance Center (tentative name), which is under construction, will be equipped with a system on its roof to cover part of its electricity consumption.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	0.66	0.52	0.50	0.51 (-22.2%)	—
Energy consumption [TJ]	126	112	107	110	108 (-14.1%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	28%.	47%.	49%.	52%.
Installation of solar power generation equipment	3 facilities	3 facilities	3 facilities	3 facilities
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	40%.	40%.	52%.	57%.

Number of next-generation vehicles, etc. in FY2023: 12 units (EV: 1 unit, PHV: 0 unit, FCV: 1 unit, HV: 10 units)

2 Efforts by staff

We promoted paperless operation by utilizing projectors and displays at meetings and conferences within the bureau and by sharing monthly status of paper usage. In addition, we promoted the use of web-based meetings, environmental training for all employees, and green purchasing.

Health and Welfare Bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 31,000 tons, down 14.0% from FY13.

Energy consumption in FY2023 was 653 TJ, down 7.3% from FY 2013.

In FY2023, Tokaichiba Community Care Plaza and other facilities installed LED and other high-efficiency lighting through an ESCO project. Other facilities introduced LED and other high-efficiency lighting when replacing lighting that had deteriorated over time, bringing the LED conversion rate to 29%.

Solar power generation systems have been installed at 34 facilities, including community care plazas and senior citizen welfare centers.

Of the five general public vehicles, two next-generation vehicles, etc., have been introduced, accounting for 40%.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	3.6	3.0	3.2	3.1 (-14.0%)	—
Energy consumption [TJ]	705	644	662	664	653 (-7.3)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	20%.	23% (%)	26% (%)	29%.
Installation of solar power generation equipment	34 Facilities	34 Facilities	34 Facilities	34 Facilities
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	20%	40%.	40%.	40%.

Number of next-generation vehicles, etc. in FY2023: 2 (EV: 0, PHV: 0, FCV: 0, HV: 2)

2 Efforts by staff

In addition to promoting "Cool Biz" and "Warm Biz" and green purchasing, we conducted environmental training for all employees to promote their understanding of efforts to combat global warming. In addition, as a general rule, meetings within the bureau were conducted in a paperless manner.

medical bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 0.15 million tons, up 30.1% from FY13.

Energy consumption in FY2023 was 30 TJ, up 37.0% from FY13.

In FY2023, the Institute of Public Health and the Animal Protection Center introduced LED and other high-efficiency lighting, bringing the LED conversion rate to 33%.

Solar power generation equipment has been installed at the Institute of Hygiene and Sanitation.

Of the 12 general public vehicles, one next-generation vehicle will be introduced in FY2023, accounting for 58% of the total.

I was very pleased with the results.

<G

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	0.11	0.14	0.15	0.15 (30.1%)	—
Energy consumption [TJ]	22	31	32	32	30 (37.0%)

<Co

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	26% (%)	26% (%)	25%.	33%.
Installation of solar power generation equipment	1 facility	1 facility	1 facility	1 facility
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	31%.	33%.	50%.	58%.

Number of next-generation vehicles, etc. in FY2023: 7 (EV: 3, PHV: 1, FCV: 0, HV: 3)

2 Efforts by staff

We have promoted green purchasing and ensured that all employees participate in environmental training programs. In addition, we are promoting paperless meetings by using projectors and monitors and sharing materials in electronic format.

I tried.

Green Environment Bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 1.31 million tons, down 27.8% from FY 2013.

Energy consumption in FY2023 was 308 TJ, down 10.8% from FY 2013.

In FY2023, we introduced LED and other high-efficiency lighting in park facilities, and the LED conversion rate reached 49%.

To date, we have installed solar power generation equipment at four facilities, including Yokohama Animal Forest Park.

Of the 58 general public vehicles, next-generation vehicles accounted for 40%.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	1.81	1.36	1.43	1.31 (-27.8%)	—
Energy consumption [TJ]	345	290	312	300	308 (-10.8%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	37%.	38%.	40%.	49%.
Installation of solar power generation equipment	3 facilities	4 facilities	4 facilities	4 facilities
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	29%	32%	35%	40%.

Number of next-generation vehicles, etc. in FY2023 23 units (EV: 8 units, PHV: 1 unit, FCV: 1 unit, HV: 13 units)

2 Efforts by staff

In addition to implementing "Cool Biz" and "Warm Biz", and promoting green purchasing, we have promoted a paperless office environment by actively using personal computers and projectors. In addition, all employees are required to attend "Environmental Training" based on the Yokohama City Hall Environmental Action Policies to promote understanding of environmental initiatives.

Bureau of Sewerage and Rivers (Sewerage Projects - Government Buildings, etc.)

1 Business Results and Initiatives, etc.

The initiatives of the Bureau of Sewerage and Rivers include water reclamation centers, sludge recycling centers, pumping stations, and other sewage treatment-related

The two projects include "Sewerage Projects" and "Government Buildings, etc." for river facilities.

(1) Sewerage projects

Greenhouse gas emissions in FY2022 were 138,000 tons, down 23.7% from FY13.

Energy consumption in FY2023 was 1,968 TJ, up 0.3% from FY 2013.

In FY2023, the Facilities Division's construction office and sewerage office installed LED and other high-efficiency lighting, bringing the LED conversion rate to 51%.

The company has installed solar power generation systems at three facilities, including the Western Water Reclamation Center.

Of the 23 general public , one next-generation vehicle was introduced in FY2023, accounting for 8%

At the Tsuzuki Water Reclamation Center, we improved the efficiency of equipment by installing a low-pressure-loss membrane diffuser.

<Greenhouse Gas Emissions and Energy Consumption> Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	18.1	14.9	13.7	13.8 (-23.7%)	—
Energy consumption [TJ]	1,962	2,044	2,095	2,016	1,968 (0.3%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	14% (%)	33%.	48%.	51%.
Installation of solar power generation equipment	3 facilities	3 facilities	3 facilities	3 facilities
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	70%	74%	83%	87%.

Number of next-generation vehicles, etc. in FY2023 20 units (EV: 10 units, PHV: 3 units, FCV: 0 unit, HV: 7 units)

(2) Government buildings, etc.

Greenhouse gas emissions in fiscal 2022 were 0.014 million tons, down 15.9% from fiscal 2013.

Energy consumption in FY2023 was 2.7 TJ, down 9.2% from FY 2013.

The LED conversion rate for FY2023 is 1%.

There are no facilities eligible for the installation of photovoltaic power generation equipment.

No general public vehicles are owned by the company.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change

(fro

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	0.017	0.015	0.017	0.014 (-15.9%)	—
Energy consumption [TJ]	2.9	3.0	3.4	2.9	2.7 (-9.2%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	1%.	1%.	1%.	1%.
Installation of solar power generation equipment	0 Facility	0 Facility	0 Facility	0 Facility
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	—	—	—	—

2 Efforts by staff

We promoted paperless office by using projectors and displays at meetings, etc., and procured environmentally friendly goods and services based on the "Yokohama City Basic Policy on Promotion of Green Purchasing". In addition, we promoted understanding of environmental initiatives through workplace training based on the Yokohama City Office Environmental Action Policies.

Bureau of Natural Resources and Recycling (General Waste Management)

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in fiscal 2022 (2022) were 33.2 million tons, up 1.1% from fiscal 2013 ( ).

Energy consumption in FY2023 was 217 TJ, down 34.1% from FY 2013.

In FY2023, we introduced LED and other high-efficiency lighting at the Tsurumi Plant and other facilities, achieving an LED conversion rate of 26%.

Solar power generation systems have been installed at three facilities, including the Konan Office.

Of the 321 general public vehicles, 10 next-generation vehicles were introduced in FY2023 (2023), accounting for 9%.

In January 2024, we formulated a new basic plan for general waste disposal, "Yokohama Plastic 5.3 Plan," in order to respond to changes in social conditions, such as the achievement of the SDGs and the realization of a decarbonized society. The plan places particular emphasis on plastic measures, with the goal of reducing plastic waste contained in burnable waste by 20,000 tons.

In order to make employees aware of the need to refrain from using single-use plastics, the convenience store on the 11th floor of City Hall will no longer provide plastic bags, plastic forks, or straws for iced coffee.

In collaboration with the Yokohama City Government and related bureaus, we conducted a "bottle-to-bottle" PET bottle recycling demonstration in the Minato Mirai 21 district, which includes Yokohama City Hall.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	32.8	34.0	31.9	33.2 (1.1%)	—
Energy consumption [TJ]	328	285	281	223	217 (-34.1%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	11% (%)	17%.	25%.	26% (%)
Installation of solar power generation equipment	2 facilities	2 facilities	3 facilities	3 facilities
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	8%	7 percent	10% (of the total)	13%.

Number of next-generation vehicles, etc. in FY2023 42 units (EV: 4 units, PHV: 2 units, FCV: 1 unit, HV: 35 units)

2 Efforts by staff

We promoted green purchasing and paperless initiatives. In addition, all employees participated in environmental training to promote understanding of global warming countermeasures and other initiatives.

Building Bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 7.7 tons, down 83% from FY13.

Energy consumption in FY2023 was 0.11 TJ down 86.7% from FY 2013.

In FY2023, 16 municipal housing complexes installed LED and other high-efficiency lighting for exterior lighting and common areas, bringing the LED conversion rate to 36%.

・Photovoltaic power generation equipment has been installed in five municipal housing units. For other municipal housing, we will identify buildings where installation is possible and prepare for public solicitation to select a roof rental project (PPA) operator. In addition, the apartment complexes that are being reconstructed are being designed so that solar power generation equipment can be installed.

The percentage of next-generation vehicles among general public vehicles was 100%.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	0.0045	0.00077	0.00085	0.00077 (-83.0%)	—
Energy consumption [TJ]	0.82	0.11	0.12	0.11	0.11 (-86.7%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	6%.	8%.	15%.	36%.
Installation of solar power generation equipment	5 facilities	5 facilities	5 facilities	5 facilities
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	80%.	80%.	80%.	100

Number of next-generation vehicles, etc. in FY2023: 4 (EV: 0, PHV: 0, FCV: 0, HV: 4)

2 Efforts by staff

Based on the "Yokohama City Basic Policy on the Promotion of Green Purchasing," we promoted procurement of environmentally friendly goods and services. In addition, we promoted the use of paperless office spaces by utilizing projectors and displays at meetings, etc., and conducted environmental training for all staff members to promote their understanding of our efforts to combat global warming.

Urban Development Bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 0.20 million tons, down 27.7% from FY13.

Energy consumption in FY2023 was 50 TJ, down approximately 7.9% from FY 2013.

In FY2023, we installed LED and other high-efficiency lighting in the New Tsunashima Station West Exit (underground walkway), New Tsunashima Station Bicycle Parking Lot, Yokohama Station Kita Passage, Totsuka Station West Exit Central Promenade, etc., resulting in an LED conversion rate of 88%.

There are no efforts to install solar power generation equipment or ownership of general public vehicles.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	0.27	0.22	0.22	0.20 (-27.7%)	—
Energy consumption [TJ]	54	48	49	43	50 (-7.9%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	55%.	60%.	76% of	88%.
Installation of solar power generation equipment	—	—	—	—
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	—	—	—	—

2 Efforts by staff

In accordance with the "Yokohama City Basic Policy on the Promotion of Green Purchasing," we procured environmentally friendly goods and services, and promoted the use of paperless office equipment by, for example, using projectors and displays at meetings. In addition, all employees participated in environmental training sessions to promote understanding of global warming countermeasures.

Highway Bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 1.64 million tons, down 51.6% from FY13.

Energy consumption in FY2023 was 334 TJ, down 47.6% from FY 2013.

In FY2023, we introduced high-efficiency lighting such as LEDs for road lighting, etc., and the LED conversion rate reached 92%.

There are no efforts to install solar power generation equipment or ownership of general public vehicles.

<Gr

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	3.39	1.93	1.84	1.64 (-51.6%)	—
Energy consumption [TJ]	637	429	401	359	334 (-47.6%)

<Co

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	77%.	88%.	89%.	92%.
Installation of solar power generation equipment	—	—	—	—
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	100%.	100%.	100%.	—

2 Efforts by staff

We promoted the paperless office environment by using projectors and displays for meetings and discussions. In addition, based on the "Yokohama City Basic Policy on the Promotion of Green Purchasing," we promoted the procurement of environmentally friendly goods and services.

In addition, we conducted environmental training for all employees to promote understanding of global warming countermeasures.

Port and Harbor Authority

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 0.6 million tons, down 44.9% from FY13.

Energy consumption in FY2023 was 129 TJ, down 37.0% from FY 2013.

The introduction of LED and other high-efficiency lighting has been renewed at the Nipponmaru Memorial Park and other facilities, and the percentage of lighting installed is now 18%.

Solar power generation facilities have been installed at two locations: the Yokohama Port Distribution Center and the Daikoku Wharf T-4 Shed.

The introduction of next-generation vehicles and other vehicles in general public vehicles accounted for 80% of the vehicles as three vehicles were renewed.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	1.10	0.57	0.60	0.60 (-44.9%)	—
Energy consumption [TJ]	205	127	130	132	129 (-37.0%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	12%.	13%.	15%.	18%.
Installation of solar power generation equipment	2 facilities	2 facilities	2 facilities	2 facilities
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	48%.	50%.	65%.	80%.

Number of next-generation vehicles, etc. in FY2023 20 units (EV: 0, PHV: 6, FCV: 1, HV: 13)

2 Efforts by staff

In addition to proactively making meetings and discussions within the bureau paperless, we exhibited at the "Umi-Haku (Sea Expo)" and the "Tokyo Bay Thanks Festival" events to inform about our efforts to protect the marine environment.

The procurement rate of compliant products based on the Green Purchasing Law was 100%.

fire department

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 10,000 tons, up 6.2% from FY13.

Energy consumption in FY2023 was 178 TJ, up 8.0% from FY13.

In FY2023, we introduced high-efficiency lighting such as LEDs through an ESCO project, and the LED conversion rate reached 91%.

Solar power generation systems have been installed at three facilities: the Midori Fire Station, Aobadai Fire Station, and Nara Fire Station.

Of the 53 general public vehicles, 9 next-generation vehicles will be introduced in FY2023, accounting for 64% ■

The company has become the first in the world to be awarded a "Best in Show" prize.

＜Gr

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	0.94	0.82	0.95	1.00 (6.2%)	—
Energy consumption [TJ]	165	165	175	178	178 (8.0%)

<Co

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	32%.	33%.	35%.	91%.
Installation of solar power generation equipment	3 facilities	3 facilities	3 facilities	3 facilities
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	46%.	47%.	62%.	64% (%)

Number of next-generation vehicles, etc. in FY2023: 34 (EV: 0, PHV: 0, FCV: 4, HV: 30)

2 Efforts by staff

We promoted paperless initiatives by actively utilizing monitors and projectors during meetings and conferences.

In addition, we will procure environmentally friendly goods in accordance with the "Yokohama City Basic Policy for the Promotion of Green Purchasing" .

The first time, the company was in a position to do so.

Waterworks Department (Water Utilities)

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 60,000 tons, down 12.4% from FY13.

Energy consumption in FY2023 was 1,278 TJ up 2.6% from FY 2013.

In FY2023, the water source forest management office and the industrial water management office installed LED and other high-efficiency lighting, resulting in a LED conversion rate of 29%.

Solar power generation systems have been installed at four facilities, including the water purification plant and the waterworks office.

Of the 294 general public vehicles, 23 next-generation vehicles were introduced in FY2023 (2023), up 16%.

In addition, as an initiative of the waterworks business, one water distribution pump was replaced with an efficient VVVF control system in conjunction with the renewal of the pumps, and 17 pumps had been replaced by the end of FY2023.

In order to further expand the natural flow water supply area, the Nishitani Filtration Plant is being reconstructed to increase treatment capacity and water conveyance capacity.

In other renewable energy sources, the company has installed six small-scale hydroelectric power generation facilities.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	6.8	5.8	5.9	6.0 (-12.4%)	—
Energy consumption [TJ]	1,246	1,313	1,292	1,270	1,278 (2.6%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	19%.	23% (%)	22%.	29%.
Installation of solar power generation equipment	5 facilities	5 facilities	4 facilities	4 facilities
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	7 percent	8%	8%	16%.

Number of next-generation vehicles, etc. in FY2023: 46 units (EV: 7 units, PHV: 1 unit, FCV: 0 unit, HV: 38 units)

2 Efforts by staff

The paperless system was promoted through the use of projectors and displays at meetings and other occasions.

We procured environmentally friendly goods and services in accordance with the "Yokohama City Basic Policy on the Promotion of Green Purchasing.

Department of Transportation (High-Speed Rail Operations - Motor Vehicle Operations)

1 Business Results and Initiatives,
etc. (1) High-Speed Rail
Business

Greenhouse gas emissions in FY2022 were 58,000 tons, up 14.7% from FY13.

Energy consumption in FY2023 was 1,197 TJ up 0.8% from FY 2013.

In FY2023, we converted fluorescent and mercury lamps installed in stations to LED, and the LED conversion rate reached 44%.

Four of our stations and rail yards are equipped with photovoltaic power generation systems.

At this time, we are not introducing next-generation vehicles into the general public fleet.

The introduction of the new Blue Line train (Type 4000) has resulted in power saving (5 new trains in FY2022, 3 FY2023, and 2 in FY2023, respectively). The number of trains is expected to increase in 2023.

Since FY2023, the Green Line has been operating with virtually zero CO_2 emissions by utilizing the environmental value of electricity generated at the Waste Incineration Plant of the Bureau of Recycle and Resources (non-fossil certificate (no [illegible] designation)).

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	5.0	5.7	6.0	5.8 (14.7%)	—
Energy consumption [TJ]	1,188	1,263	1,268	1,254	1,197 (0.8%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	29%.	30%.	42%.	44%.
Installation of solar power generation equipment	4 facilities	4 facilities	4 facilities	4 facilities
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	0 percent	0 percent	0 percent	0 percent

(2) Automobile business

Greenhouse gas emissions in FY2022 were 29,000 tons down 14.8% from FY13.

Energy consumption in FY2023 was 438 TJ, down 15.2% from FY 2013.

The LED conversion rate in FY2023 was 49%.

No photovoltaic power generation equipment has been installed at the facilities owned by the company.

At this time, we are not introducing next-generation vehicles into the general public fleet.

Three FC buses are being leased.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change

(fro

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	3.4	3.0	2.8	2.9 (-14.8%)	—
Energy consumption [TJ]	517	454	424	435	438 (-15.2%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	46%.	49%.	49%.	49%.
Installation of solar power generation equipment	0 Facility	0 Facility	0 Facility	0 Facility
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	0 percent	0 percent	0 percent	0 percent

2 Efforts by staff

We promoted a paperless environment by utilizing displays and groupware to share materials electronically at meetings and other occasions. In addition, all employees participated in environmental training and promoted green purchasing.

Medical Bureau, Division of Hospital Management (Hospital Operations)

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 21,000 tons up 0.6% from FY13.

Energy consumption in FY2023 was 467 TJ up 15.4% from FY 2013.

In FY2023, the Stroke and Neurospine Center introduced high-efficiency lighting such as LEDs, and the LED conversion rate reached 55%.

The percentage of next-generation vehicles among the five general public vehicles is 20%.

The hospital has been working on energy conservation by promoting optimal operation of air conditioning, lighting, elevators, etc. The Municipal Hospital introduced an energy service provider project and held monthly energy meetings to promote energy conservation throughout the building.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	2.1	2.4	2.2	2.1 (0.6%)	—
Energy consumption [TJ]	405	518	467	459	467 (15.4%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	49%.	51%.	54%.	55%.
Installation of solar power generation equipment	0 Facility	0 Facility	0 Facility	0 Facility
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	0 percent	0 percent	20%.	20%.

Number of next-generation vehicles, etc. in FY2023 1 (EV: 1, PHV: 0, FCV: 0, HV: 0)

2 Efforts by staff

We have promoted green purchasing and ensured that all employees attend training sessions on the environment. In addition, all conference rooms at the Municipal Hospital are equipped with projectors and monitors, and meetings and conferences are in principle conducted in a paperless manner.

accounting office

1 Business Results and Initiatives, etc.

Since there is no ownership of jurisdictional facilities or general public vehicles, the results of greenhouse gas emissions and installation of solar power generation equipment, etc. are not available.

No, there is not.

＜Greenhouse Gas Emissions and Energy Consumption　　Upper row: Actual, Lower row: Percentage change

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	—	—	—	—	—
Energy consumption [TJ]	—	—	—	—	—

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	—	—	—	—
Installation of solar power generation equipment	—	—	—	—
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	—	—	—	—

2 Efforts by staff

Promote a paperless environment using projectors and displays to share materials electronically at meetings, etc., and provide training for all employees to promote environmental activities.

In addition, we have been promoting understanding of the "Cool Biz" and "Warm Biz" energy-saving activities. We also promoted energy-saving activities such as "Cool Biz" and "Warm Biz," as well as the "Yokohama City 6

In accordance with the "Basic Policy on the Promotion of Environmentally Friendly Purchasing," we procured environmentally friendly goods.

Board of Education Office (Education Programs)

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 74,000 tons, up 20.4% from FY13.

Energy consumption in FY2023 was 1,607 TJ, up 21.7% from FY 2013.

In FY2023, LED and other high-efficiency lighting was installed in municipal schools, resulting in a LED conversion rate of 17%.

In fiscal 2023, solar power generation systems were installed in 35 municipal , bringing the total to 275 facilities.

The ratio of next-generation vehicles, etc. to the six general public vehicles is 83%.

In addition to reducing energy consumption by installing high-efficiency air conditioners and other equipment when expanding, remodeling, or installing or updating equipment, we also promoted the use of wood for interior decorating and other purposes.

In the project to promote ESD, we held online exchanges among students of 27 "ESD promotion " and information exchange meetings and debriefing sessions for teachers and staff (see p.22 again). In addition, we compiled reports on the initiatives of the schools and the results of the information exchange and other activities, and distributed them to all municipal schools and ESD promotion organizations nationwide.

We continued to remind all facilities under our jurisdiction, including municipal schools, to review their energy use, including electricity and fuel, on a quarterly basis and to promote energy conservation efforts.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	6.1	7.0	7.4	7.4 (20.4%)	—
Energy consumption [TJ]	1,320	1,498	1,558	1,611	1,607 (21.7%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	9%.	11% (%)	13%.	17%.
Installation of solar power generation equipment	211 Facilities	222 Facilities	240 Facilities	275 Facilities
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	67%.	67%.	83%.	83%.

Number of next-generation vehicles, etc. in FY2023: 5 (EV: 0, PHV: 0, FCV: 0, HV: 5)

2 Efforts by staff

We eliminated paper-based distribution of materials at bureau meetings and all school-type principals' meetings, and promoted a paperless environment by utilizing projectors and displays and sharing materials on the cloud. Furthermore, in order to decarbonize our operations, we conducted waste separation training and environmental training for all employees, including teachers and staff, and promoted green purchasing.

Election Administration Committee Secretariat

1 Business Results and Initiatives, etc.

Since there are no facilities under the jurisdiction or general public vehicles owned, there is no emission of greenhouse gas emissions or installation of solar power generation equipment.

As part of our efforts to promote understanding of SDG initiatives, we selected pocket warmers that can be used over and over again as souvenirs for participants in the municipal bright election promotion conventions.

At the time of the local elections, environmentally friendly paper curing sheets are used at polling stations, and poster boards are collected and recycled after the elections by the contractors who made them.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	—	—	—	—	—
Energy consumption [TJ]	—	—	—	—	—

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	—	—	—	—
Installation of solar power generation equipment	—	—	—	—
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	—	—	—	—

2 Efforts by staff

In addition to implementing "Cool Biz" and "Warm Biz" and promoting green purchasing, we have been promoting paperless operation by using personal computers, etc., and shared the status of paperless efforts once a month at the monthly meetings of the bureau managers. In addition, all employees participated in environmental training to promote understanding of the promotion of environmentally conscious behavior.

Personnel Committee Secretariat

1 Business Results and Initiatives, etc.

Since there are no facilities under the jurisdiction or general public vehicles owned, there is no data of greenhouse gas emissions or installation of solar power generation equipment.

We have gone paperless by discontinuing the "Report and Recommendation on Salaries" booklet to the approximately 200 companies that cooperated in the "Survey of Private Sector Salaries by Job Category" and instead providing them with the URL of the city's web page where the data is posted.

As part of our efforts in employment examination operations, we have introduced a system to process documents such as acceptance letters, which used to be sent by mail.

The Company has been working to improve the quality of its products and services.

<Gr

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	—	—	—	—	—
Energy consumption [TJ]	—	—	—	—	—

<Co

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	—	—	—	—
Installation of solar power generation equipment	—	—	—	—
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	—	—	—	—

2 Efforts by staff

The Authority implemented "Cool Biz" and "Warm Biz", promoted green purchasing, and went paperless by using computers and other means for explanations. In addition, all staff members of the authorities attended environmental training sessions to learn about the measures taken to combat global warming.

We have promoted understanding of the organization.

Audit Secretariat

1 Business Results and Initiatives, etc.

Since there is no ownership of jurisdictional facilities or general public vehicles, the results of greenhouse gas emissions and installation of solar power generation equipment, etc.

There is no

＜Greenhouse Gas Emissions and Energy Consumption　　Upper row: Actual, Lower row: Percentage change

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	—	—	—	—	—
Energy consumption [TJ]	—	—	—	—	—

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	—	—	—	—
Installation of solar power generation equipment	—	—	—	—
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	—	—	—	—

2 Efforts by staff

We promoted the use of projectors and displays at meetings of the Audit Committee, department managers, and other meetings to make them paperless, as well as the practice of energy-saving activities such as Cool Biz and Warm Biz, and the procurement of environmentally friendly goods and services in accordance with the "Yokohama City Basic Policy for the Promotion of Green Purchasing". We also promoted the procurement of environmentally friendly goods and services based on the "Yokohama City Basic Policy on Promoting Green Purchasing. In addition, we also promoted procurement of environmentally friendly goods and services based on the "Yokohama City Basic Policy for Promoting Green Purchasing,

Environmental training for all employees was attended to promote understanding of global warming countermeasures.

parliamentary bureau

1 Business Results and Initiatives, etc.

Greenhouse gas emissions in FY2022 were 8.3 tons, down 49.7% from FY13.

Energy consumption in FY2023 was 0.09 TJ down 63.9% from FY 2013.

The Capitol Building is part of the City Hall and there are no other facilities under its jurisdiction, so there is no track record of installing solar power generation equipment.

As of FY2023, 100% of the three general public vehicles are next-generation vehicles.

When using official vehicles, drivers strive to drive in an eco-friendly manner and to reduce fuel consumption by conducting appropriate inspections and maintenance. In addition, all drivers participate in eco-driving training.

＜Greenhouse Gas Emissions and Energy Consumption＞ Upper row: actual results, lower row: percentage change (from base

	Base year (FY2013)	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Greenhouse gas emissions [10,000 t-CO_2	0.00165	0.00087	0.00079	0.00083 (-49.7%)	—
Energy consumption [TJ]	0.24	0.12	0.11	0.12	0.09 (-63.9%)

<Countermeasure Efforts

	FY2020	Fiscal Year 2021	Fiscal year 2022	Fiscal year 2023
Introduction of LED and other high-efficiency lighting	—	—	—	—
Installation of solar power generation equipment	—	—	—	—
Introduction of Next-Generation Vehicles, etc. in General Government Vehicles	100%.	100%.	100%.	100%.

Number of next-generation vehicles, etc. in FY2023: 3 (EV: 0, PHV: 0, FCV: 1, HV: 2)

2 Efforts by staff

We have promoted paperless operation by sharing materials electronically through the use of monitors at meetings and related preliminary explanations, etc., and shared the status of paperless efforts once a month through meetings of responsible officers within the bureau. In addition, in order to promote environmentally conscious behavior, all employees participated in environmental training, practiced energy-saving activities such as "Cool Biz" and "Warm Biz," and promoted procurement of environmentally conscious goods and services in accordance with the "Yokohama City Basic Policy on Promoting Green Purchasing.

7 Basic Policy 7 Adaptation to Climate Change Impacts

Agriculture and Natural Environment Sector" in order to adapt to more severe and frequent disasters and rising temperatures due to the effects of climate change,

In each of these areas, we will promote measures to protect the natural environment, including the water cycle and nature-based solutions (NbS: Nature-based Solutions), inundation countermeasures, and improvement of local disaster prevention capabilities, Adaptation to climate change and improvement of resilience will be promoted through measures based on related plans, such as flood control and improvement of local disaster prevention capabilities.

Indicators

(data) item	standard value	track record	target value
Increased safety of watersheds against heavy rainfall **River] Riverbank protection maintenance rate*1** **Sewerage: Completion rate of measures in areas subject to maintenance** *2	River 90% Sewage 85 (End of FY2021)	Rivers 90% Sewage 86 (FY2023)	Rivers 91% Sewage 88 (End of FY2025)
Number of green infrastructure installations*3	9 locations/year (FY2021)	14 locations/year (FY2023)	10 locations/year (FY2025)
Newly designated area for green space preservation system*4	31.9 ha/year (FY2021)	32.1 ha/year (FY2023)	60.0 ha/year (FY2025)

1 Percentage of riverbank protection in the 28 planned rivers requiring drastic flood control measures (hourly rainfall: approx. 50 mm)

2 Targeted areas for maintenance at the target maintenance level (hourly rainfall: approx. 50 mm; approx. 60 mm) among inundation-damaged areas

3 Number of systems in which rainwater retention and infiltration functions introduced in redevelopment of public facilities, etc.

4 Linked to the Yokohama Green Up Plan [2019-2023]

Achievements and future initiatives

1 Agriculture - Promotion of adaptation measures in the natural environment sector

- In order to promote good urban agriculture that improves agricultural productivity and demonstrates the multifaceted functions of agriculture, we promoted the development of production infrastructure and provided support for the construction of water source protection facilities and canals and measures to prevent sediment runoff.
- Under the green space preservation system, 32.1 ha of green space was newly designated, and 8.7 ha of green space was purchased from landowners in designated areas.
- In order to nurture good forests, we promoted maintenance and management based on the characteristics of the region, conservation and management plans formulated in cooperation with patronage associations, etc., and forest development guidelines. In addition, we provided support to owners of forest land designated under the Green Space Preservation System to reduce the burden of maintenance and management.
- ＜In the project to develop the former Kamiseya Telecommunication Facility Park (tentative name), which will also serve as the foundation for the GREEN x EXPO 2027 venue, we have studied ways to secure the amount of greenery by transplanting existing trees and other maintenance work and to establish a water circulation system by combining bare ditches, a storage crushed stone roadbed, water retention and permeable pavement, and other measures. We will continue to develop park facilities based on the active introduction of green infrastructure.
- We have implemented biodiversity-friendly river development activities through the "River Development Coordinator System" in two rivers in the city. We will continue to promote this initiative.
- Conducted environmental education classes for local communities and schools to promote biodiversity conservation (87% of the total number of lectures conducted)

In addition, we concluded cooperation agreements with sports teams for various promotion and awareness-raising activities.

- In addition to a monitoring survey of the bio-attachment substrate in the waters in front of Yamashita Park, we conducted a bio survey in terrestrial and aquatic areas and a citywide biota survey targeting elementary schools in the city. We will continue to conduct surveys in the future.

- At Shin-Honmoku Wharf, the installation of the main body of the seawall in symbiosis with living organisms, which had been underway since FY2021, has been completed. In addition, we are studying the formation of seaweed beds and shallow areas as blue carbon that absorb same amount of CO_2 as cedar trees. Furthermore, as environmental conservation efforts, the "UMI Project" was held by NPOs and citizen groups to sow and transplant eelgrass in the Shiraho district of Kanazawa Ward, and the "Dream Wakame Workshop" was held in front of Rinko Park to sow and harvest wakame seaweeds. We will continue to expand Blue Carbon.

2 Promote adaptation measures in the area of windstorms, floods, landslides, etc.

- In addition to promoting revetment and other measures to cope with hourly rainfall of approximately 50mm, we implemented measures based on longevity and maintenance plans in order to promote measures against aging river facilities, etc. We will continue to implement measures in river basins.

- In the Yokohama Station area, we have been discussing the installation of rainwater harvesting facilities based on the Excite Yokohama 22 Urban Development Guidelines at the time of individual redevelopment projects, etc. In 2023, a rainwater harvesting facility was installed on the site of THE YOKOHAMA FRONT. In addition, in order to promote flood countermeasures in the Yokohama Station area, the site for a pumping station is being developed in the Higashi Takashima Station North District Land Readjustment Project.

- In addition to steadily promoting flooding countermeasures by upgrading facilities such as rainwater trunk lines and rainwater regulating reservoirs, we also promoted the introduction of water retention and infiltration functions at 14 locations in the redevelopment of public facilities, etc., as part of our efforts to utilize green infrastructure. We will continue to promote flooding countermeasures.

- In addition to conducting training sessions in local communities using the "Inundation Hazard Map" and "My Timeline" creation sheets, which combine inland water, flood, and storm surge hazard maps into a single map, we also held various disaster prevention events to promote the use of the official Yokohama City disaster prevention application "Yokohama Evacuation Navi" and educate the public. In addition, we will disseminate information on heat stroke alerts, landslide warning information, river water levels, weather warnings and advisories, etc. through the Disaster Prevention Information Portal (website), disaster prevention information e-mail, SNS, etc., in order to promote appropriate evacuation actions.

- The seawalls in the Fukuura and Sachiura areas of Kanazawa Ward, which were severely damaged by a typhoon in 2019, have been restored as seawalls capable of preventing flooding due to the largest imaginable storm surge and tidal waves, and a promenade is now available for walking and fishing while enjoying the view of the sea. In addition, in order to prevent damage from tsunamis, storm surges, and tidal waves, which occur once every hundred or so years, the Daikoku Pier area will be upgraded with coastal protection facilities based on raising the seawall to improve disaster prevention capabilities and promote the creation of a safe and secure port.

- In order to adapt to the increasingly severe disasters caused by climate change, 12 subsidies were provided for the construction of retaining walls and protection of slopes under the subsidy program for disaster prevention and mitigation measures for cliffs.

To reflect the changes, the landslide hazard maps were updated and disseminated in the 2 wards.

- In addition to working with the prefecture to designate steep slope areas at risk of collapse, we promoted the improvement of cliffs at 117 locations by bearing a portion of the costs for collapse prevention work, etc. constructed by the prefecture within the areas.

- The "Yokohama Disaster Prevention Capability Improvement Condominium Certification System" (launched in February 2022), which aims to create disaster-resistant condominiums and improve the disaster prevention capability of the surrounding community, has certified 35 condominiums so far. We will continue to promote the system and promote disaster prevention and mitigation measures for cliffs and buildings.

3 Heat stroke - Promotion of adaptation measures in the field of infectious diseases, etc.

- Each district and bureau headquarters implemented measures to reduce solar radiation and heat, such as publicity through websites, SNS, flyers, in-car advertisements, etc., publicity on the streets in cooperation with companies, etc., and use of green curtains, shade nets, and shades to alert people about heat stroke countermeasures. In addition, we reminded participants at various events and seminars to drink plenty of water, reminded construction workers and outdoor workers to take basic measures against heat stroke, such as drinking plenty of water, taking appropriate breaks, and using the shade, and raised awareness when visiting the homes of the elderly.

- 453 city-owned facilities (ward office buildings, libraries, district centers, etc.) with air conditioning facilities have been designated as "cool spots" for temporary relief from the heat when out and about. In the future, we intend to expand the program to include private facilities, etc., to make them more accessible to citizens and to use them as a countermeasure against heat stroke.

- For gymnasiums in sports centers and other facilities where air conditioning systems have not yet been installed, we have sequentially installed energy-efficient air conditioning systems, in principle, at the same time as the specified ceiling fallout countermeasure work. We will continue to promote the installation of air conditioning systems in the future.

- We contacted facilities under our jurisdiction such as daycare centers, kindergartens, certified childcare centers and other childcare and educational facilities, after-school child sound upbringing facilities, after-school daycare services, children's homes, community treatment centers, and youth-related facilities to warn them of heat stroke. At After-School Kids Clubs, air conditioners were renewed and expanded at some facilities.

- In order to widely spread awareness and alert citizens of the need to take measures against heat stroke, we have conducted PR activities using the city's website, including its multilingual page, the city subway, the Minatomirai Line, radio, SNS, and other media. As the summer season is expected to continue to be severely hot, we will continue to inform citizens of the need to take measures against heat stroke.

- (The "Heat Stroke Information" using emergency transport data (from the Fire Department) from May to September was posted 16 times from June to October on the website of the Institute of Public Health. We will continue to provide information on heat stroke in the future.

- As a countermeasure against heat in park fee sports facilities, we have taken measures in the event that the predicted maximum heat index is 31 or higher on the day before or on the day of use and a user requests to cancel for the reason of heat stroke prevention.

  In addition, the company has been working on the construction of the park. In addition, we took advantage of opportunities such as site inspections to warn contractors of heat stroke and other health issues related to construction work in the park.

The company has conducted a

- In order to block out the summer sun and ensure shade trees that provide a cool feeling while passing by, we have been promoting the healthy growth of street trees by properly pruning them under the guidance of a street tree pruner.

- To help citizens avoid heat stroke, we provided information and alerted them through our website, SNS, posters, and leaflets, as well as through digital signage at train stations and large customer-attracting facilities, and publicized the information through disaster drills, instruction, and lifesaving courses. In addition, as a countermeasure against heat stroke for personnel working at disaster sites, heat acclimatization training was conducted to acclimate them to the heat before the period of extreme heat, as well as on-site hydration and emergency cooling of the personnel.

- In order to prevent heat stroke and improve the educational environment, we carried out replacement of existing aging air conditioning systems at municipal schools and installation of air conditioning systems in gymnasiums. In addition, we revised the "Yokohama Municipal School Heat Stroke Prevention Guidelines" formulated in May 2019 as a guideline for making rules at each school with the safety of students as the top priority, and disseminated and announced the revised guidelines to the public. In addition, a heat stroke prevention training course was held for teachers and staff with the aim of further enhancing their understanding of heat stroke and strengthening their daily efforts to prevent accidents from occurring.

- As a countermeasure against heat stroke in employment examinations, etc., we allowed students to drink water during the examinations and recommended that they take the examinations in light clothing.

- Through temperature observations in the city, we grasped the situation of the heat in the city, which is becoming more severe year by year, and disseminated information through press releases and websites. In addition, as part of our research on the heat environment for adaptation to the heat, we conducted a verification experiment on the heat mitigation effect of airflow fans with mist to clarify their effective operation. Continued,

  We will examine the heat environment in various locations and conditions.

- As a measure against mosquito-borne infectious diseases, mosquito population surveys were conducted at 22 parks and other locations in the city, and as a result, no mosquitoes carrying viruses such as dengue fever were found. In addition, we have educated the public about mosquito bites through our website and digital advertisements on public transportation and at ward offices, mainly during the summer months when mosquitoes are abundant. We will continue to promote efforts against mosquito-borne infectious diseases.

4 Promote adaptation measures in the field of industrial and economic activities

- <Reinforcement> In addition to promoting revetment to cope with hourly rainfall of approximately 50mm, we implemented measures based on the longevity plan and maintenance plan to promote measures against aging of river facilities, etc. We will continue to implement measures in river basins.

- ＜In addition to the steady promotion of flood control measures through the construction of facilities such as rainwater trunk lines and rainwater control reservoirs, we have introduced water retention and infiltration functions in the redevelopment of public facilities at 14 locations as part of our efforts to utilize green infrastructure. We will continue to promote flooding countermeasures.

Chapter 3 Conclusion

- Greenhouse gas emissions in the city were 16.41 million tons-$CO_{(2)\ in}$ FY2022, and city hall greenhouse gas emissions were 844,000 tons-CO_2, a decrease of 24% and 7.9% from FY 2013, respectively.
- Although there is an overall downward trend, in order to achieve the FY2030 target and become carbon neutral, it will be necessary to reduce greenhouse gas emissions by 5.62 million tons over the next eight years, and further efforts will be needed.
- City Hall has taken the lead in switching to LED lighting in ward office buildings and accelerating the installation of solar power generation equipment through the PPA method.
- To promote energy conservation, we are introducing energy-saving facilities and equipment and expanding the use of next-generation automobiles. To expand renewable energy, we are promoting the switch to renewable and utilizing cutting-edge technologies such as next-generation solar cells.
- We will continue to follow the trends of the government and innovation, etc., and accelerate our efforts to achieve the target for FY2030 by comprehensively and proactively taking on the challenge of promoting energy conservation, introducing renewable energy that also utilizes cutting-edge technologies, and building a circular economy by expanding the sorting of plastic waste, among others.