

Climate Change Policy Headquarters, City of Yokohama

Yokohama's Climate Change Countermeasures/ SDGs FutureCity Yokohama

~ For a Sustainable Future ~



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Yokohama developed rapidly after the opening of its port in 1859. In the process, it overcame numerous difficulties, including a devastating earthquake, war, an explosive increase in population, and environmental challenges. Today it is the largest designated city in Japan.

With adoption in 2015 of the Paris Agreement and the UN's Sustainable Development Goals (SDGs), and in light of increasing expectations for cities around the world, Yokohama is engaged in activities toward realization of a carbon neutral society while endeavoring to integrate resolutions of environmental, economic and societal issues as an "SDGs FutureCity" designated by the national government.



Yokohama Medium-Term 4-Year Plan 2018–2021

On the basis of results accumulated up to now, Yokohama issued the Yokohama Medium-Term 4-Year Plan in October 2018. The city formulated a medium- and long-term strategy extending to 2030 and policies to be implemented with priority during the four years.

Yokohama, of course, has issues to resolve – declining population, a super-aging society, and deteriorating public facilities.

At the same time, during the four-year period, a series of major international events will be held and companies' head offices and R&D bases will be located here.

The city's chance for a further leap has come.

Strategy
2

Be an advanced environmental city full of flowers and greenery

Policy 10 Creation of a major-city model for initiatives in the areas of climate change and energy

Policy 12 Promote the practice and taking root of environment-friendly lifestyles

Yokohama City Action Plan for Climate Change Countermeasures

<Entry into force of the Paris Agreement >

November 2016

"2°C target and achieving net zero emissions by the second half of this century"

"Increasing role of non-state actors, including municipalities"

- Japan's target for reducing greenhouse gas emissions (from FY2013)
FY2030: 26% reduction FY2050: 80% reduction
- Japan's submission of "The Long-term Strategy under the Paris Agreement" to the United Nations *Submitted in June 2019

<IPCC Special Report on 1.5°C >

October 2018

- Possibility of holding global warming to 1.5 °C through 2030

SDGs FutureCity Yokohama

<SDGs (Sustainable Development Goals) were adopted by the UN>

September 2015

"Integrated resolution of environmental, economic and societal issues"

- Increasing role of cities in achieving SDGs
Need for cities and diverse entities to lead the way in resolving common issues originating in human activity.

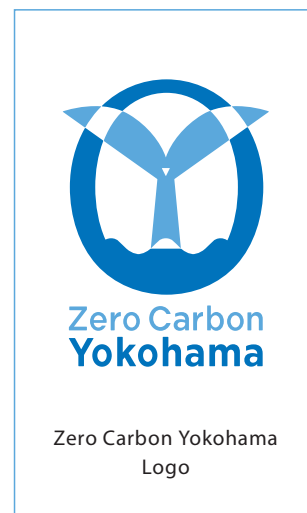
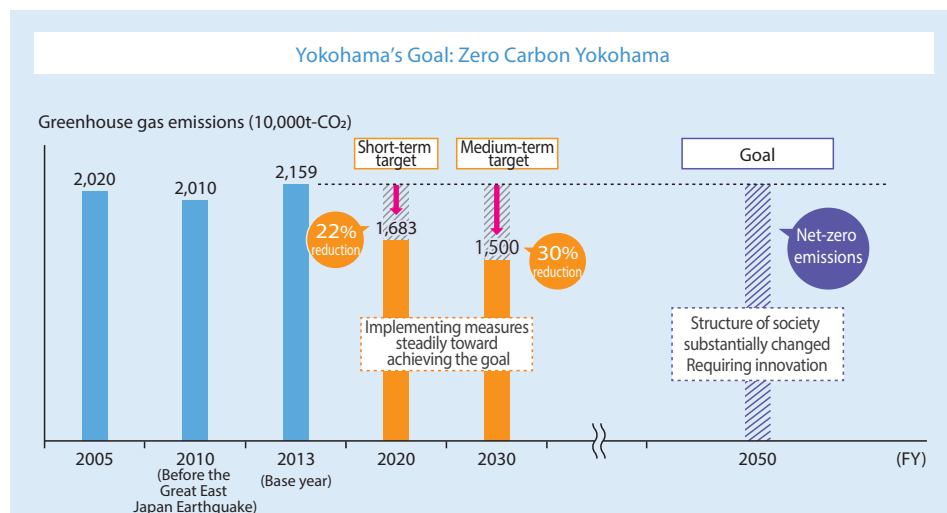


Realization of carbon neutrality "Zero Carbon Yokohama" by 2050

“Yokohama City Action Plan for Global Warming Countermeasures”

Given the global tide – a historic shift toward a carbon neutral society spurred by abnormal weather and other disasters linked to climate change; evidenced by adoption and entry into force of the Paris Agreement, Yokohama, in order to further its own climate change countermeasures, revised its “Action Plan for Global Warming Countermeasures” in October 2018.

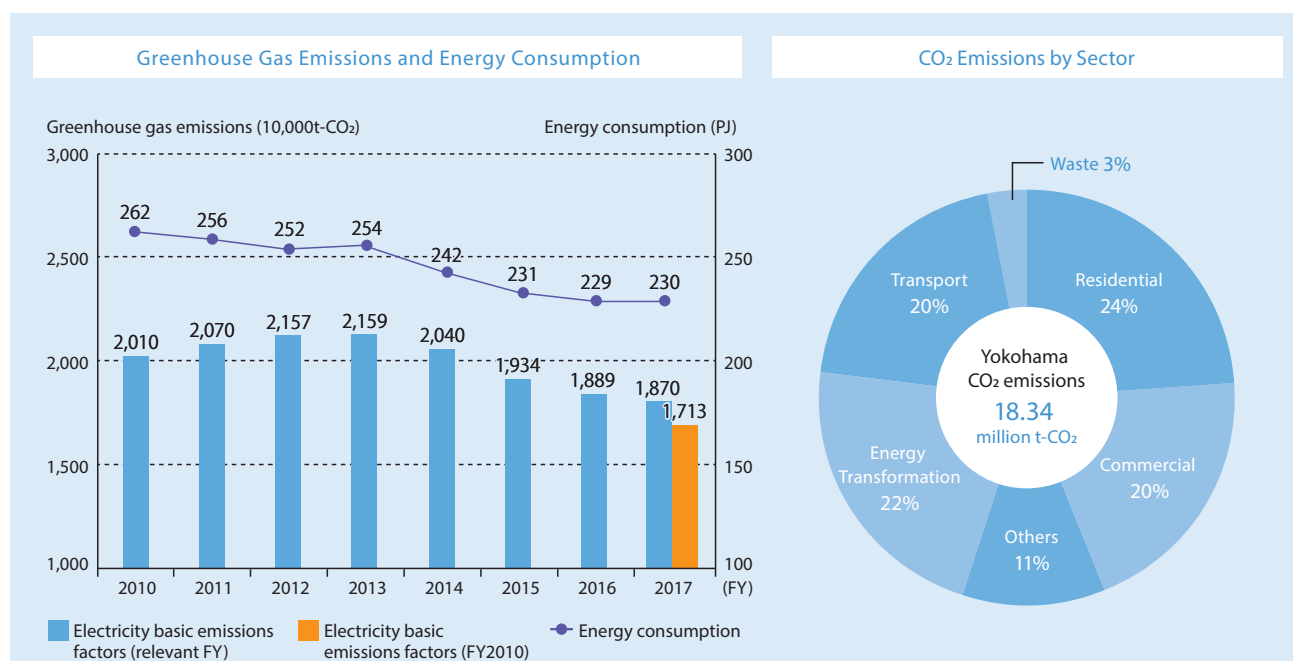
Under the revised plan, the goal of Yokohama’s global warming countermeasure is to “achieve net-zero greenhouse gas emissions (zero-carbon) by 2050”.



Greenhouse Gas Emissions in Yokohama

Greenhouse gas emissions in FY2017 were 18.70 million t-CO₂.

Using electricity emission factors* for FY2010, results under Yokohama City Action Plan for Global Warming Countermeasures calculated for FY2020 were 17.13 million t-CO₂, 20.6% less than the FY2013 level.



*Electricity emission factors are total CO₂ emissions (kg-CO₂) from the generation of electricity by burning fuel, divided by the total amount of electricity produced (kWh). TEPCO Energy Partner, Incorporated’s electricity emission factor in FY2017: 0.475 (kg-CO₂/kWh); in FY2010: 0.375 (kg-CO₂/kWh)

Introduction
Toward Carbon Neutral ~Zero Carbon Yokohama~
Promoting Strategic Climate Change Countermeasures and Energy Policy
Preparatory Steps for Carbon Neutral Society and Innovation
Establishment of a City-Wide Linkage
Diverse Actions on Climate Change
Realization of SDGs Future City
Cooperation with Various Domestic and International Entities and Dissemination to the World

Promoting Strategic Climate Change Countermeasures and Energy Policy

Yokohama itself promotes energy saving while carrying out activities to utilize renewable energies in cooperation with citizens and private business operators.

Yokohama Smart City Project

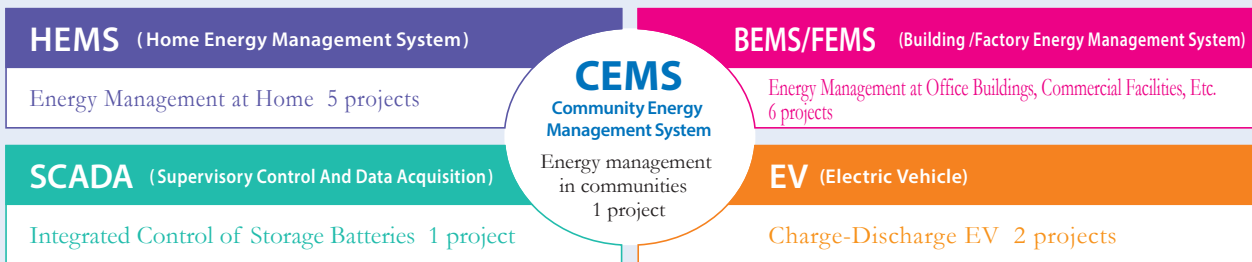


-Yokohama Smart City Project 2010 – 2014: Demonstration-

Having been selected in 2010 by the Ministry of Economy, Trade and Industry (METI) as a “Next-Generation Energy and Social System Demonstration Area,” Yokohama has been promoting demonstration projects for the Yokohama Smart City Project (YSCP).

The city has been working, for example, on introduction of a system to optimize the energy supply and demand balance in existing urban areas in collaboration with 34 of Japan’s leading energy-related operators, electronics manufacturers, construction companies and more. The city will continue to develop YSCP activities “from demonstration to implementation.”

	HEMS	PV	Electric vehicles	Reduced CO ₂ emissions	CO ₂ reduction rate
Result	4,200	37 MW	2,300	39,000 t	29%
Target	4,000	27 MW	2,000	30,000 t	25%



-Yokohama Smart City Project (2015 –) : Implementation-

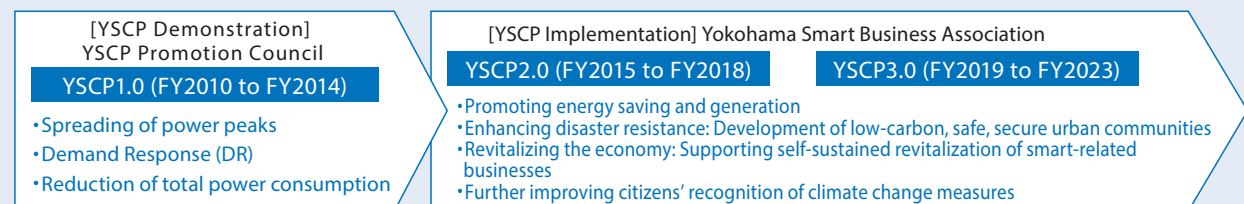
Yokohama Smart Business Association (YSBA)

A new public-private cooperation organization, the Yokohama Smart Business Association (YSBA), was established in order to advance “from demonstration to implementation,” making use of the technology and know-how that has been fostered through the Yokohama Smart City Project (YSCP). Yokohama aims to be an energy-recycling city that is environmentally robust, resistant to disasters, and economically strong, endeavoring also to expand use of its accumulated technology and systems both in and outside Japan.



Management Meeting of Yokohama Smart Business Association (YSBA)

- Purposes
- 1 Improving utilization efficiency of energy and resistance to disasters through local consumption of locally produced energy utilizing equipment for energy creation, systems for energy management, and more.
 - 2 Revitalizing the economy through creation of new services based on retail deregulation of electricity and gas.
 - 3 Further improving citizens’ recognition on climate change measures.



*FY2019 Enactment of YSCP3.0 Master Plan

Participants (end of January 2020)

- Core members (8) Azbil Corporation, Taisei Corporation, Tokyo Gas Co., Ltd., TEPCO Energy Partner Incorporated, Toshiba Energy Systems & Solutions Corporation, Minato Mirai 21 District Heating and Cooling Co., Ltd., MEIDENSHA Corporation, Yokohama City
- Other members (15) IHI Corporation, e-Mobility Power Inc., ORIX Corporation, Shimizu Corporation, Takasago Thermal Engineering Co, Ltd., Tokyo Gas Engineering Solutions Corporation, TTS Corporation, Nissan Motor Co., Ltd., Nippon Telephone and Telegraph Corporation, Panasonic Corporation, Mitsui Fudosan Co., Ltd., Mitsubishi Estate Co., Ltd., Mitsubishi Hitachi Power Systems Ltd., Pacific Convention Plaza Yokohama. (PACIFICO Yokohama), Yokohama Urban Future Create Co., Ltd.

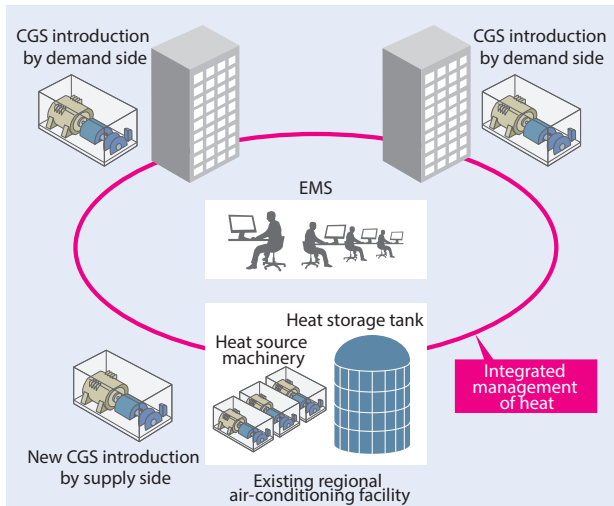
Cases of Realizing Community Energy Management

- Introducing Autonomous Distributed Infrastructure to the Minato Mirai 21 District -

Yokohama aims to establish an autonomous distributed infrastructure using an existing regional air-conditioning system in the Minato Mirai 21 District.

A co-generation system (CGS) is being introduced as an autonomous distributed energy supply system with enhanced environmental and disaster prevention properties.

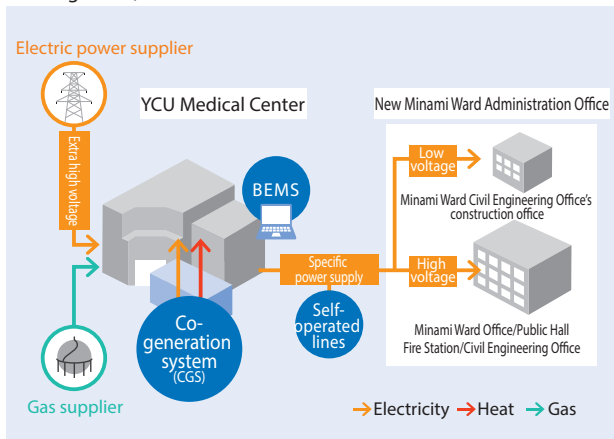
To introduce this system, introduction rules that will establish both a regional air-conditioning and a cogeneration system will be enacted, and it will not only be installed at the facilities of Minato Mirai 21 District Heating and Cooling Co., Ltd. which is the supplier of the regional air-conditioning, but also at the facilities of PACIFICO Yokohama and others on the demand side, to build energy management which will integrate the supply side and the demand side.



- Energy Cooperation Project at Minami Ward Administration Office -

When the Minami Ward Administration Office was moved and a new facility was built at another location, the city collaborated with the adjacent Yokohama City University Medical Center (YUCMC) on a special energy supply system, realizing community energy management with excellent disaster resistance, environmental performance and economic viability.

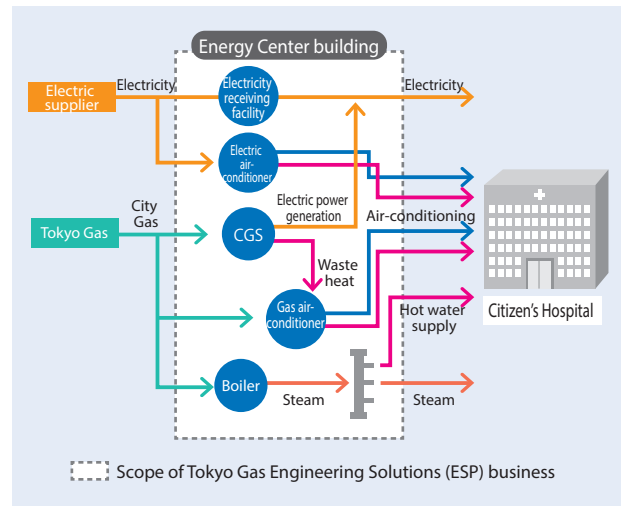
- Improved implementation of Business Continuity Plan (BCP) by introducing a cogeneration system (CGS) together with a highly safe and secure, extra high-voltage power-receiving system
- Reduction of CO₂ emissions through highly efficient operation of CGS
- Cost reduction by optimally controlling heat and electric power using BEMS, etc.



- Energy Service Provider (ESP) Business at the Yokohama Municipal Citizen's Hospital -

At the Yokohama Municipal Citizen's Hospital, CGS, boiler, hot and chilled water generator and other energy related equipment will be installed at the same time as an energy saving and cost saving will be realized by independently predicting electric power and heat demand with high precision based on electric power and heat demand data and weather information to provide remote automatic control optimized for the facility.

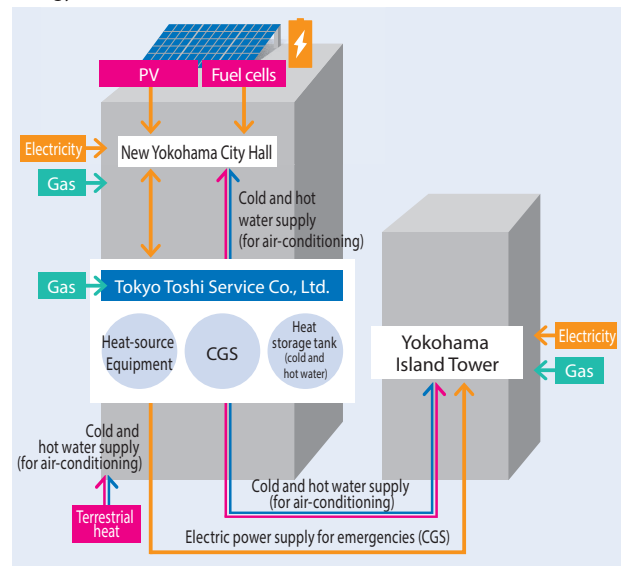
At the same time as "energy-saving and cost-saving" are achieved by efficiently operating the equipment, advanced medical treatment will be realized by stably supplying energy and outsourcing of equipment.



- Efforts at New Yokohama City Hall -

At the New Yokohama City Hall, electric power will be supplied by diverse means including fuel cells and photovoltaic generation. In addition, in collaboration with the adjacent Yokohama Island Tower, a district cooling and heating system has been introduced.

Additionally, by utilizing renewable energy generated at the city's incineration plant, we will achieve 100% of the actual renewable energy.



Promoting Strategic Climate Change Countermeasures and Energy Policy

Using Renewable Energy to Achieve Carbon Neutrality

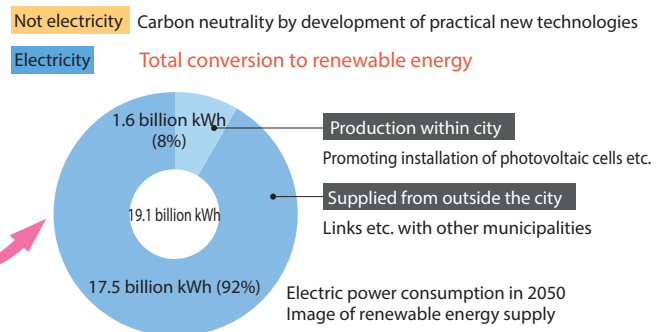
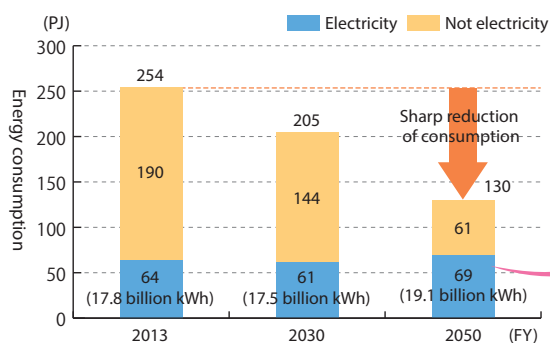
To realize carbon neutrality, it will be necessary to lower the quantity of energy consumed in Yokohama City to approximately half of its FY2013 energy consumption by 2050.

It is assumed that energy-saving and electrification will sharply reduce the quantities of energy other than electricity (mainly fuel) that is consumed while slightly increasing electric power consumption.

It will be necessary to achieve carbon neutrality by converting all electric power to renewable energy and providing other energies by achieving practical use of hydrogen and other new technologies.

Regarding renewable energy, we will promote local consumption of locally produced energy, but because this can only supply about 10% of consumption in the city, so it will be necessary to supply about 90% from outside the city.

Conceptual image of carbon neutrality realization



Broad-Area Supply of Renewable Energies in Collaboration with Other Municipalities

Yokohama's current potential to create renewable energies is about 10% of current electric power consumption (according to Ministry of the Environment), and in order to proceed with conversion to renewable energies, it is necessary that they be supplied from outside the city through broad-area collaboration.

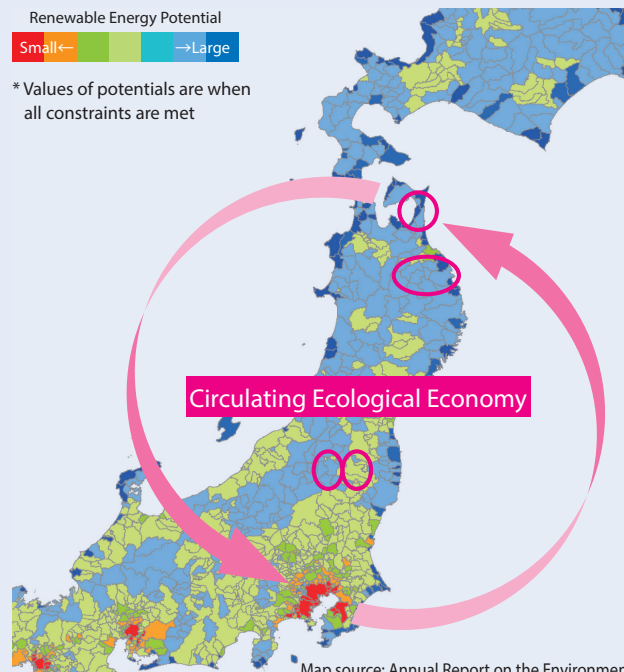
Yokohama has concluded agreements on renewable energies with 12 municipalities with abundant renewable resources based on the concept of Circulating Ecological Economy.

<Municipalities having agreements with Yokohama>

- Yokohama Town in Aomori Prefecture
- Kuji City, Ninohe City, Kuzumaki Town, Fudai Village, Karumai Town, Noda Village, Kunohe Village, Hirono Town and Ichinohe Town, all under the jurisdiction of the Northern Iwate Regional Development Bureau in Iwate Prefecture
- Aizuwakamatsu City and Koriyama City, both in Fukushima Prefecture



From left, Mayors of Koriyama City, Ichinohe Town, Yokohama City, Ninohe City, Kuji City and Yokohama Town



Map source: Annual Report on the Environment in Japan 2015 (Ministry of the Environment)

<Electric power supplied through collaboration>

- Electric power from Yokohama Town in Aomori Prefecture supplied to companies in Yokohama City
- Electric power from Ichinohe Town in Iwate Prefecture supplied to companies and to residents in Yokohama City



Virtual Power Plant (VPP) Construction Project

Assuming increasing use of renewable energies, Yokohama launched a project to build a Virtual Power Plant (VPP)* in FY2016 to provide a stable supply of electric power and improve disaster resistance.

* Virtual Power Plant (VPP)

A system to adjust power supply and demand using high-level energy management technology, by which storage batteries, power generation equipment, electric vehicles, etc., owned by commercial entities, households, etc., can be made to function by remote, integrated control as if they were a single power generation plant.



Yokohama's VPP Construction Project

Storage batteries are installed at public facilities to be used as disaster shelters or evacuation places. In addition to VPP operation at normal times, the storage batteries will be served as "emergency power sources" in emergencies involving power failures, contributing to regional resistance to disasters. This is deemed a "Yokohama-Type VPP."

State of Implementation

<Demonstration Project>

FY2016 – 2017 (36 elementary and junior high schools (2 schools in each ward))

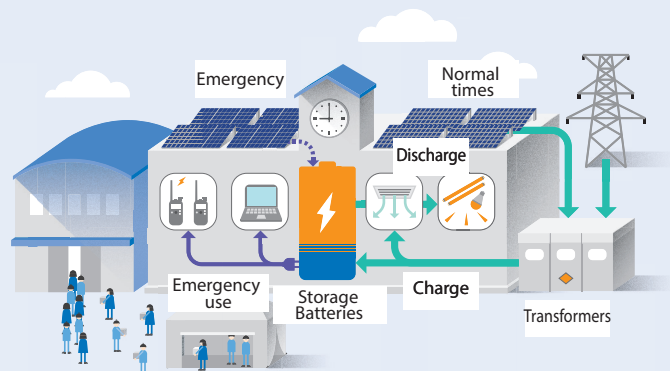
<Implemented Projects>

FY2018: 11 elementary schools (Kohoku Ward)

FY2019: 12 elementary schools (Konan, Isogo, Kanazawa, Totsuka and Sakae Wards) and Kohoku Ward Office

FY2020: 12 elementary schools (Midori Ward, Aoba Ward, Tsuzuki Ward)

FY2021 and later: will be introduced sequentially



[VPP Promotion Municipal Liaison Conference]

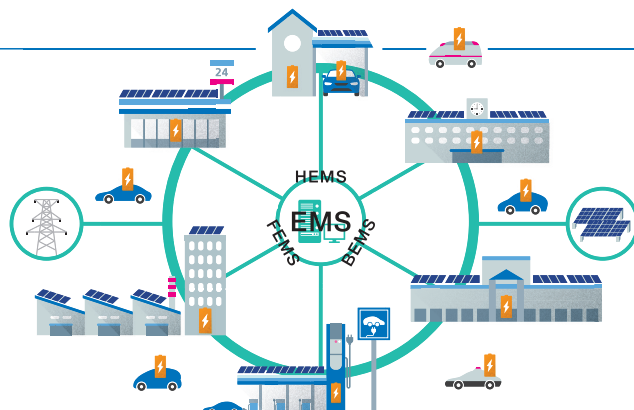
With Yokohama serving as its secretariat, the liaison conference is held to share expertise, information and common issues among municipalities working on VPP projects, and to disseminate information on diverse examples for the ultimate purpose of spreading and expanding VPP projects to all municipalities in Japan

- First VPP Promotion Municipal Liaison Conference (January 23, 2019)
(Total of 51 participants from METI, 17 municipalities and 10 companies)
- Activities by working level officials (May 15, September 19)
(35 participants from METI and 22 municipalities)
(58 participants from METI, 27 municipalities, and 5 companies)
- Second VPP Promotion Municipal Liaison Conference (January 23, 2020)
(91 participants from METI, 29 municipalities, and 19 companies)



» Implementation Hereafter

While continuing its urban VPP project and installations at elementary and junior high schools through public-private collaborations, Yokohama will make use of various other resources in the city, including photovoltaic cells and electric vehicles (EV) ward offices and other public facilities, private facilities.



Aiming to achieve carbon neutrality by 2050, Yokohama is carrying out projects in anticipation of that.

Yokohama Blue Carbon



Yokohama Blue Carbon promotes the “Yokohama Blue Carbon Offset System” through which CO₂ emitted by staging events such as the World Triathlon Yokohama is offset through the CO₂ reduction effects of, for example, Blue Carbon that is carbon absorbed or captured by sea weed and marine plants, or Blue Resources created using marine energy. It also includes activities by hands-on events such as children gathering cultivate wakame seaweed for “creating a friendly ocean” skelp.

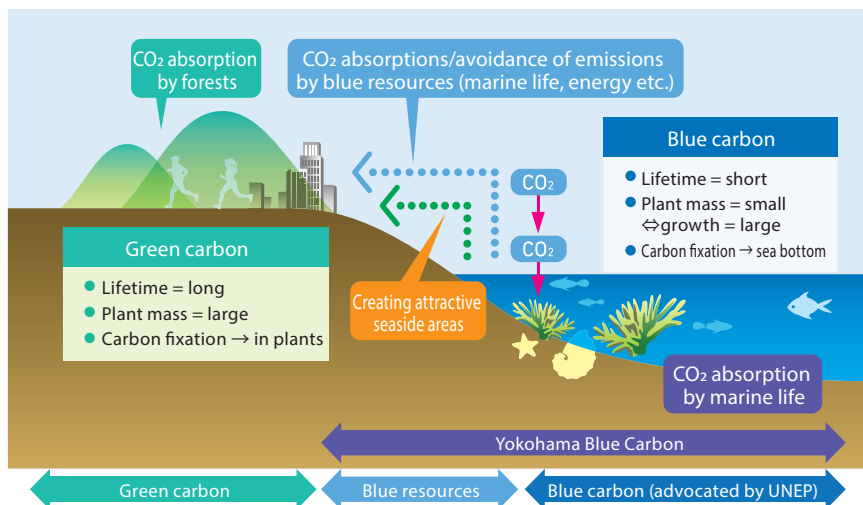
These initiatives lead a virtuous cycle with reducing CO₂, improvement of water quality, and enhancing biodiversity. Furthermore, Municipal Blue Carbon Liaison Conferences are held to share the knowledge of Yokohama Blue Carbon with other municipalities. In the future, we will certificate blue carbon from other municipalities in Yokohama Blue Carbon Offset System.



World Triathlon Yokohama



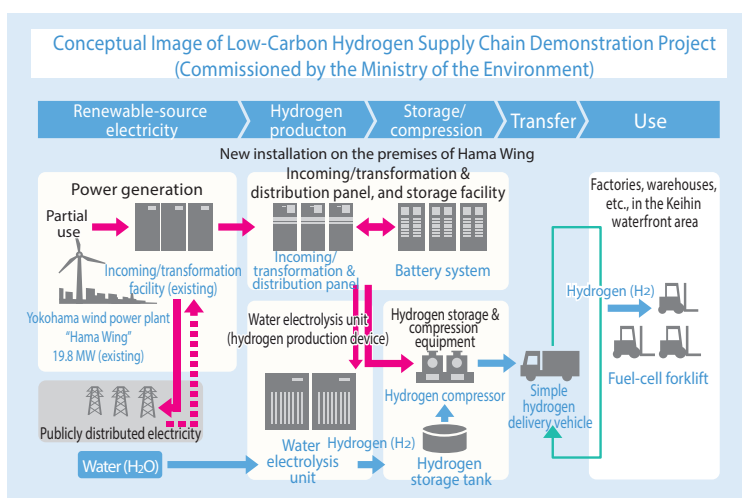
Harvesting wakame seaweed



Hydrogen Energy Use

Hydrogen is expected to contribute to reducing environmental burdens as clean energy, Yokohama promotes use of hydrogen energy toward realization of a “hydrogen society” where hydrogen will be used in various fields.

- Promoting use of fuel-cell vehicles (subsidies, adoption as official vehicles)
- Introducing fuel-cell municipal buses
- Encouraging installation of hydrogen stations (subsidies)
- Encouraging use of stationary fuel cells (subsidies; use at the new city hall)
- Participating in low-carbon hydrogen technology demonstration projects
- Considering extracting hydrogen from digestion gas from sewage sludge
- Activities to raising awareness (exhibits at events, including test-drives)



Fuel Cell Bus

We introduced a fuel cell bus as municipal bus to publicize our hydrogen policies, and this is the first municipal fuel cell bus in Kanagawa prefecture.

Fuel cell bus causes a chemical reaction between the hydrogen that is the vehicle’s fuel tank with the oxygen in the air. This produces electricity to turn the motor and make the vehicle run.

Superior environmental performance that CO₂ and environmental load substances are not produced while running are realized, and we can enjoy comfortable ride with low noise and vibration are provided.



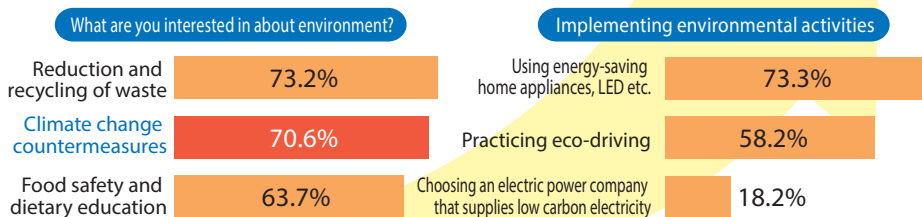
By creating city-wide linkage of climate change countermeasures with great force of local residents, Yokohama facilitates the understanding of local residents with awareness packaged campaigns on need for climate change countermeasures, target and specific climate actions.

COOL CHOICE YOKOHAMA

To create city-wide chain of climate change countermeasures, we, promote campaigns that encourage concrete activities, linking all stakeholders, including citizens, business operators, NPOs and universities under the catchphrase "COOL CHOICE YOKOHAMA".



Aiming to increasing attention on to the environment and promote Practical Actions



Source: 2019 Survey of public opinions concerning the environment



Linked with the Japanese government's campaign "COOL CHOICE" (Photo: a COOL CHOICE YOKOHAMA event)

Yokohama Eco School (YES)

Yokohama Eco School – "YES" – is a citizen participatory project. Activities, including seminars and events related to climate change countermeasures and eco-lifestyles staged by individual citizens, citizens' groups, business operators, universities and the administration are networked under the YES umbrella, providing places to study and learn, and expanding the loop of actions around the city.



YES Collaboration Partners

Organizations and companies etc. that are environmentally active are registered as "YES Collaboration Partners". These activities, which include the dispatch of lecturers and hands-on education are conducted at various places in the city.



The YES Collaboration Partners Introduction Book has been published. You can check it from the website.



Radio Programs "YES! For You"

Various guests engaged in environmental activities give a 5-minute short seminar "tips for a better life".

On FM Yokohama, E-ne!
—good for you—
First and second
Mondays of each month,
from 14:31 (as of April 2020)



Encouraging Choices of Low-Carbon Electric Power

CO₂ emissions attributed to the use of electricity differ greatly depending on the original energy source and associated power systems.

As climate change countermeasures, it is important to positively choose low-carbon electric power – electricity whose production involved a lower environmental burden overall.

In addition to various campaigns to citizens and businesses, we further facilitate reporting system for electricity retailers of supply and choose low carbon electricity.

(➤ Refer to page 13 for the system)



PR in comic book format

Establishment of a City-Wide Linkage

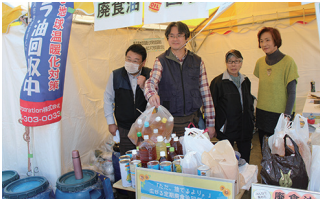
Activities in Cooperation with Various Entities

~Yokohama Climate Change Countermeasures Promotion Council~

The Yokohama Climate Change Countermeasures Promotion Council is a regional council under Art. 40, paragraph 1 of the Act on Promotion of Climate Change Countermeasures. As one of the main actors for achieving Zero Carbon Yokohama, the council endeavors to expose citizens to various awareness-raising activities related to energy saving and renewable energies in order to inspire them to adopt low carbon lifestyles.

Main Activities (2019)

- Educating on energy saving and collecting waste cooking oil at community festivals etc.
- Tours to the wind power plant Hama Wing etc.
- Sharing awareness for solar power generation
- Holding matching events where universities offer solutions to companies' climate change challenges.



Collecting waste cooking oil at an event



Tour



Received the Minister of the Environment's 2018 Commendation for Global Warming Prevention Activity

Launch of "Yokohama Team Zero" on Facebook

Yokohama Team Zero is launched on Facebook as a platform for the dissemination of information and exchange of views by organizations and companies.

Facebook:

Seminars for Business Operators about Energy Saving

~Yokohama Climate Change Countermeasures Council of Business Operators~

In order for business operators to effectively promote climate change countermeasures, a council of operators and others subject to the system for filing action plans for climate change countermeasures was formed.

The council gives energy saving seminars approximately three times a year, sharing information on the energy saving measures of each company and highlighting best practices.



Yokohama Carbon Offset Project

In anticipation of major international sports events in Yokohama, the city has called on citizens and business operators for efforts to reduce CO₂ by saving energy and the like. Reduced CO₂ emissions are used as carbon offsets. More than 30,000 citizens, mainly elementary and junior high school students have already participated.

* What is "carbon offset"?

In various events and other activities, all or part of CO₂ emissions that cannot be reduced are compensated for (offset) with CO₂ emissions reductions achieved elsewhere.



Promoting participation at an event

Promotions in Collaboration with Industries

“Switch off” Events and Environmental Education

In 2015, Yokohama concluded a partnership agreement on the environment with the World Wildlife Fund for Nature (WWF) Japan. We work together to disseminate information on climate change and to implement environmental education and more. We hold EARTH HOUR, the world’s biggest switch off event, for education and raising awareness.



EARTH HOUR in YOKOHAMA

Promotion of Use of LED Lighting

In 2015, Yokohama concluded a partnership agreement on sustainable society with IKEA Japan and works together with it in various activities, including energy saving measures such as greater use of LED lighting. IKEA Kohoku makes portions of its premises available for mobile hydrogen fueling stations.



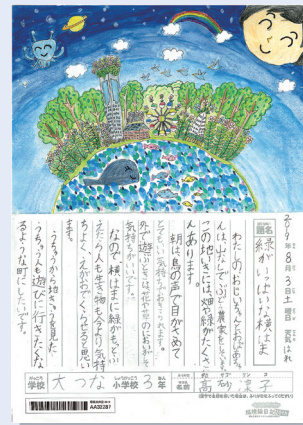
LED lighting replacing by IKEA Kohoku staff

“Environment Picture Diary” – Fostering Children’s Awareness of the Environment –

In collaboration with the Yokohama City Recycle Resources Association, since 2012, the city has been educating children on SDGs FutureCity through “Environment Picture Diary”.

The “SDGs FutureCity Environment Diary Exhibition 2019” was held, presenting about 600 superior works selected from about 15,000 works submitted within the city and works from other cooperating cities in Japan and Yokohama’s sister city San Diego in the U.S.

*Environment Picture diary in which elementary school children use pictures and text to freely express views they talk about at home and their own thoughts concerning environmental issues and environmental preservation.



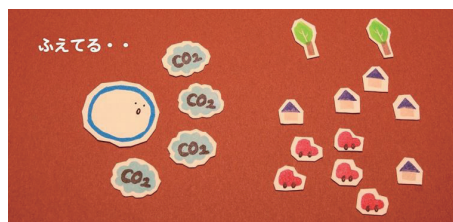
Grand prize winning
“Environment Picture Diary” in 2019

Promotion on Video

Eraser-Stamp Animation

The eraser-stamp animation regarding climate change, renewable energy and saving energy has been released. Viewing these charming frame-by-frame animations, everyone can enjoy learning.

[Yokohama Eraser-Stamp Animation](#) [Search](#)



Energy Saving at Home

Mr. Otsuka, an energy conservation advisor who has won the Minister of the Environment Award introduces energy saving activities and points that can be done at home.

[Yokohama Saving Energy at Home](#) [Search](#)

Diverse Actions on Climate Change

Toward realizing Zero Carbon Yokohama, not only the Climate Change Policy Headquarters, but all offices in the Yokohama City Hall, are making unified efforts.

Climate Change Actions with Regional Communities

In order to inspire citizens' interest in the global environment, the city endeavors in its 18 wards to promote climate change countermeasures at events and community festivals in collaboration with business operators and citizens groups.

Main Activities

- Uchimizu (Sprinkling of water)
- Promoting green walls
- Raising awareness of local production for local consumption
- Holding eco-classes and seminars
- Collecting waste cooking oil, etc.
- Lending Service of power consumption measuring equipment, etc.



Eco-day camp for elementary school students (Aoba Ward)



Tsuzuki vegetable cooking school (Tsuzuki Ward)

Climate Change Countermeasures by Bureaus

Smart Port (Policy Coordination Division, Port and Harbor Bureau)

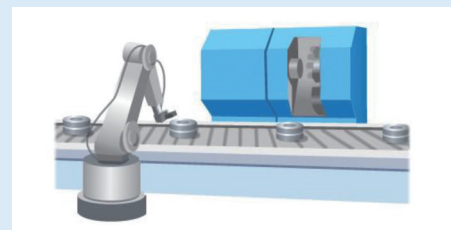
The Port and Harbor Bureau works on various activities, including creation of an incentive system for environmentally friendly vessels and making a base for LNG bunkering, contributing to the tightening of international emission control for vessels. A hydrogen-based autonomous energy supply system using renewable energy has been installed in warehouse facilities to make energy use more efficient by demand control, etc., as well as to serve as an emergency power source.

Mayor Hayashi receives a courtesy call by Executive Director Jan Fransen of the Green Award Foundation (certifying organization)



Subsidy Program for Capital Investment for SME (Manufacturing Industry Support Division, Economic Affairs Bureau)

The program aims to revitalize the economy in Yokohama by supporting SME with subsidies for the introduction of new equipment/facilities and enhancement of their productivity. It also promotes climate change countermeasures by increasing subsidies for the introduction of equipment/facilities with high levels of energy saving. In FY2019, eligibility for the program was expanded to all categories of businesses so that as many SME as possible could benefit from it.



Promoting Energy Saving at Home (Housing Measures Division, Housing and Architecture Bureau)

To encourage the insulating of homes to the effect that there is little variation in room temperature – a fundamental of “energy saving” as well as health – the bureau offers subsidies for ZEH* (Net Zero Energy House) and for eco-renovation of homes, provides a system for registering as a counselor on energy saving housing, and offers the “Yokohama energy saving house academy,” a seminar on home energy saving.

*ZEH

Insulation performance of the exterior is enhanced and highly efficient equipment/systems are introduced so that the quality of the interior environment is maintained and substantial energy saving is achieved, and renewable energy is used.



Booklet on energy saving

Low-Carbon, Next-Generation Transportation (Eco-Mobility)

To realize Zero Carbon Yokohama, including low carbon in the transportation sector, which accounts for about 20% of total emissions, Yokohama works with business operators on development of low-carbon transportation infrastructure, low-carbon transportation vehicles such as automobiles and railways, and improving the awareness of transportation users.

Major Activities

- Promoting activities to expand use of next-generation vehicles (EV, FCV, PHV)
- Pursuing a transport policy leading to a low-carbon city
- Introducing advanced-mobilities, new transportation systems to improve convenience in moving around the urban area

Choi-Mobi Yokohama

With an aim of promoting a low-carbon transportation system primarily in the central area of Yokohama, the city, together with Nissan Motor Corporation, has carried out demonstration testing using ultra-compact EV since FY2013. 16 rent/return stations, 13 places for temporary parking and 30 vehicles (as of March 2020).



Location: Satoyama Garden

Baybike

Since FY2014, to improve convenience in moving around urban area and contribute to low carbon city, the city has been engaged in a downtown area community bicycle program – Baybike – with 91 bicycle ports (locations for renting and returning) and about 800 bikes (as of December 2019).



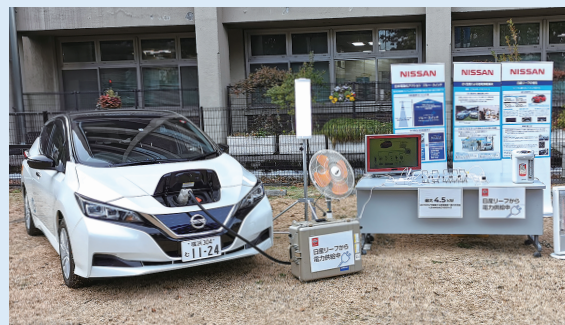
Expansion of the EV Charging Infrastructure in the City

To create new methods of improving the environment and expand the charging infrastructure so it is easy to travel in EV and PHV in the city, an Agreement on Collaboration to Promote the Spread of EV in Yokohama was signed with e-Mobility Power Inc.



Disaster Partnership Agreement with Nissan Motor Co., Ltd.

As a valuable effort to preserve the electric power supply during a disaster by using the electric storage capacity of EV, an Agreement on Collaborative Electric Power Supply from EV during Disasters was signed with Nissan Motor Co., Ltd.



Checking System of Action Plan for Climate Change Countermeasures (Environmental Management Division, Environmental Planning Bureau)

In an effort to encourage business operators in Yokohama to accelerate climate change countermeasures, Yokohama systematically stages activities to limit greenhouse gas emissions in collaboration with business operators through a system of filing actions plans for climate change countermeasures.

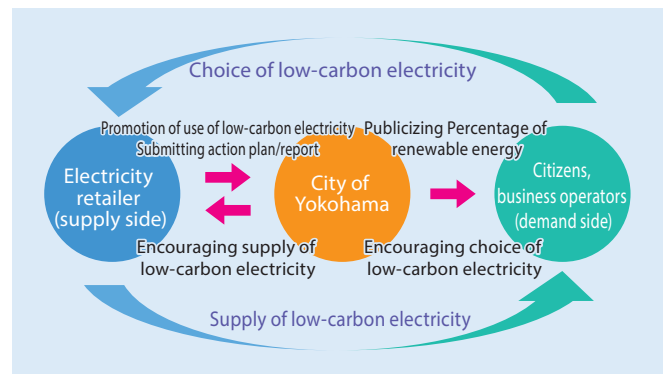
Operators who perform well under the system are recognized with the Yokohama Climate Change Countermeasures Award encouraging the spread of beneficial efforts throughout the city.



"Yokohama Climate Change Countermeasures Award" ceremony

System for Filing an Action Plan to Promote Use of Low-Carbon Electricity (Environmental Management Division, Environmental Planning Bureau)

In order to encourage power consumers to select low-carbon power suppliers, based on the Yokohama City Low Carbon Electricity Promotion Planning System, Yokohama City gathers and publicizes information on electric retailers who supply electricity in the city, and the renewable energy introduction rate etc.



Effects of Climate Change

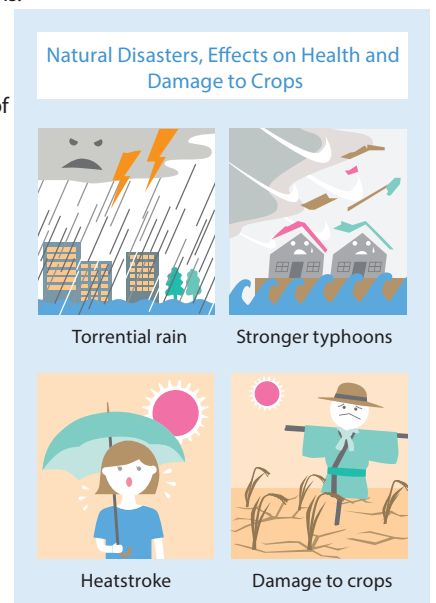
The average temperature in Japan has risen about 1.24°C over the past 100 years, considered attributable to increased artificial emission of greenhouse gases. Recently, disasters due to abnormal weather have been seen all over the world: hurricanes, torrential storms, droughts and heat waves. Japan, too, has experienced extreme weather such as powerful typhoons and heavy rains.

As global warming continues, such weather occurs more frequently. Impacts on health, such as heatstroke, and devastating damage to crops are major concerns.

In terms of countermeasures, in addition to mitigation efforts aimed at restricting the emissions of greenhouse gases that drive climate change, via energy saving and introduction of renewable energies, adaptation measures are also important.

» Adaptation Measures

"Adaptation measures" are those to minimize or avoid damage from the effects of climate change. Yokohama set five basic aims for its adaptation strategies: ①To promote measures to protect citizens' lives and property; ②To improve city resilience; ③To incorporate the perspective of adaptation into city measures; ④To create a virtuous environmental-economic circle by promoting adaptation measures; and ⑤To promote collaboration between cities in Japan and overseas. Under these, citizens, business operators and the administration cooperate and collaborate on measures against wind and flood damage, landslide damage, and measures against heatstroke and infectious diseases.



<Use of Green Infrastructure>

Yokohama carries out activities across administrative divisions on use of green infrastructure, which include storage/infiltration using rainwater inlets, water retention/infiltration using parks, farmland and woodlands, and maintaining/redeveloping planter boxes and waterfront bases.

The Yokohama SDGs Design Center is working to provide “major city model”, Yokohama will disseminate these ideas and efforts both domestically and internationally.

Vision: SDGs FutureCity Yokohama

Yokohama was selected as a “FutureCity” in 2011, and has actively promoted efforts to tackle climate change while also developing economically and to improve the quality of the life of its citizens.

As a “SDGs FutureCity” selected in 2018, to further advance the advanced efforts we have made so far and contribute to the achievement of the Sustainable Development Goals (SDGs), we will promote collaboration with domestic and overseas actors, and we will promote new efforts to solve integrated social issues.

2011



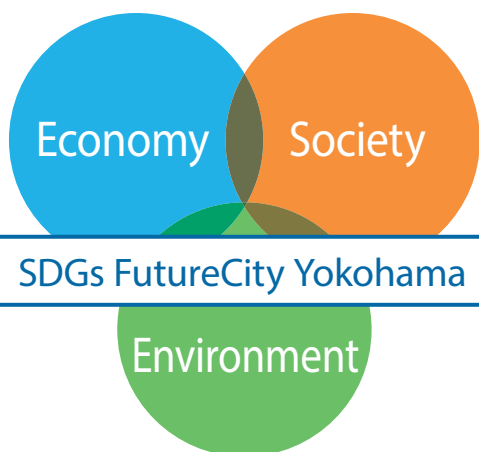
Step up to next stage

2018

SDGs FutureCity Yokohama



Realization of a city that continues to create new value and bustling through economy, culture and art centered on the environment.



SDGs

An abbreviation of Sustainable Development Goals, it defines international goals adopted at the UN summit.

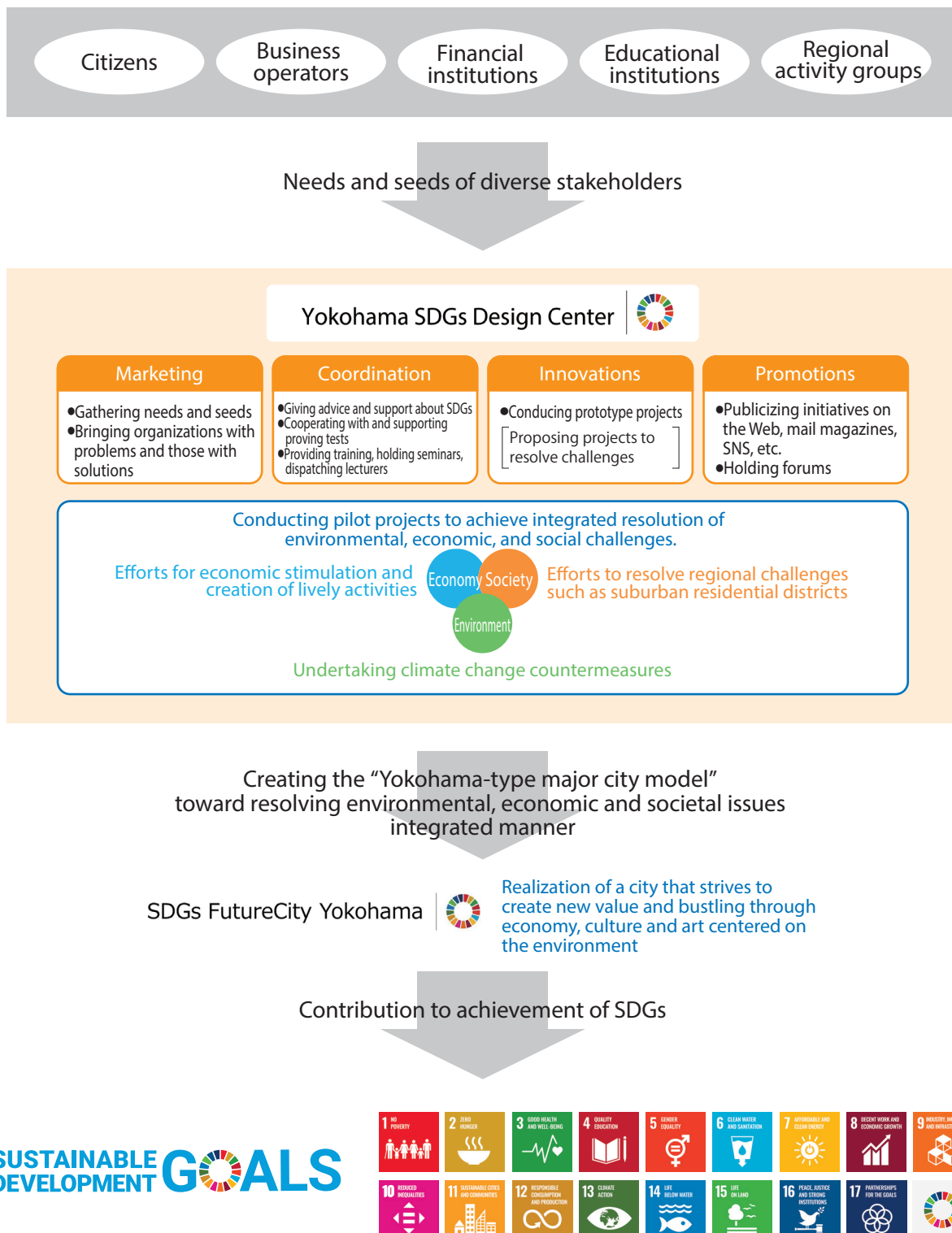


Realization of SDGs FutureCity Yokohama

“Yokohama SDGs Design Center”

The Yokohama SDGs Design Center is an intermediate support organization that strives to overcome challenges through links with various entities to create “Yokohama-type major city model” of integrated resolution of environmental, economic, and social challenges.

By carrying out various efforts and actions in cooperation with a variety of entities, it will realize SDGs FutureCity Yokohama, and design the story with the SDGs.



Examples of Pilot Projects

Environment

Yokohama Wooden Straw Project



Expanding the SDGs Straw Yokohama, wooden straws made by disabled people using material obtained by thinning trees in Doshi village provides many people with the chance to experience the sensation of SDGs and enables them to take concrete actions while contributing to carbon neutrality and countering plastic waste in the ocean.

Undersea Classroom, an Ocean Educational Program That Links the Ocean with Classrooms Through Live Video



This creates a way for children to study and consider the marine environment which surrounds them, the problem of plastic waste in the ocean and so on through lessons with the city's elementary schools linked with the sea by live video.

Building a Resource Recycling Type Eco-cycle



Striving to solve environmental, economic, and social issues in an integrated manner by effective use of waste such as food loss and activating local communities through these efforts.

SDGs Life Design Project "SDGs House"



Taking action on homes and life-styles that contribute to the SDGs 17 goals by giving visitors to the wooden model house the actual sensation and experience of SDGs using environmentally friendly furniture and other products people use in their daily lives.

Economy

The Local Production of Biofuel for Local Use Project to Create Renewable Energy Industries in the City



Biofuels are produced using microscopic algae that grows by absorbing CO₂ and oil disposed of by the city's restaurants as the raw materials. The aim is local production of biofuel for local use by expanding the uses of such fuel.

Yokohama SDGs Idea Exhibition



Ideas and proposed actions intended to achieve SDGs collected by Design Center members are widely publicized in order to create innovations.

Society

Projects to Enhance Comfortable Transportation Methods in the Region



On-demand busses are introduced in the Wakabadai district in Asahi Ward to provide a comfortable mobility environment simplifying travel by the child-rearing generation and the elderly.

Short-time Telework to Realize Women's Empowerment in Region



To realize short commuting to nearby workplaces at the Shiomidai District in Isogo Ward and the Tama-Plaza District of Aoba Ward, we introduced ICT. It proposes new workstyle called "Short Time Telework".

Collaborative Efforts of Bureaus in City Hall and Ward Offices in Suburbs - Toward Realization of SDGs FutureCity Yokohama

The suburbs, with their aging residents and low birth rates, face many challenges. To create a community where everyone can continue living comfortably in a familiar environment, Yokohama is implementing “Model Project for a Sustainable Residential District”, in four locations selected for their differing characteristics.

In addition to these, wards are working on creating communities meeting their particular challenges.

Sustainable Residential District Promotion Project

1 Area along the Tokyu Den-en-toshi Line

With “Living and Working in Den-en-toshi (garden city)” as its theme, in collaboration with railway companies, Yokohama studies new work styles in suburban residential regions and undertakes efforts to resolve the city’s problems using the Living Lab* method based on collaboration by industry, academia and local government.
*Living Lab... Seeing roles of local residents as partners in creating services to search for and discover essential challenges in residents’ actual living environments and to study and verify resolutions.

2 Area around Tokaichiba-cho, Midori Ward

This project takes advantage of the use of city land to develop a residential district to make efforts to achieve SDGs and build area management throughout the city.

3 Area along the Sotetsu Izumino Line

This project uses agricultural resources and other natural resources to stimulate the region, and at the same time, applies IoT for proving tests for the realization of a new residential district.

4 Yokodai and surrounding area, Isogo Ward

This project conducts pilot projects related to area management using the local information gathering and dissemination base Machimado (Town Window) and promotes efforts to revive large housing complexes applying the results of a questionnaire survey on urban improvement.

Promoting SDGs FutureCity Efforts in the region

5 Minami-Nagata Housing Complex, Minami Ward

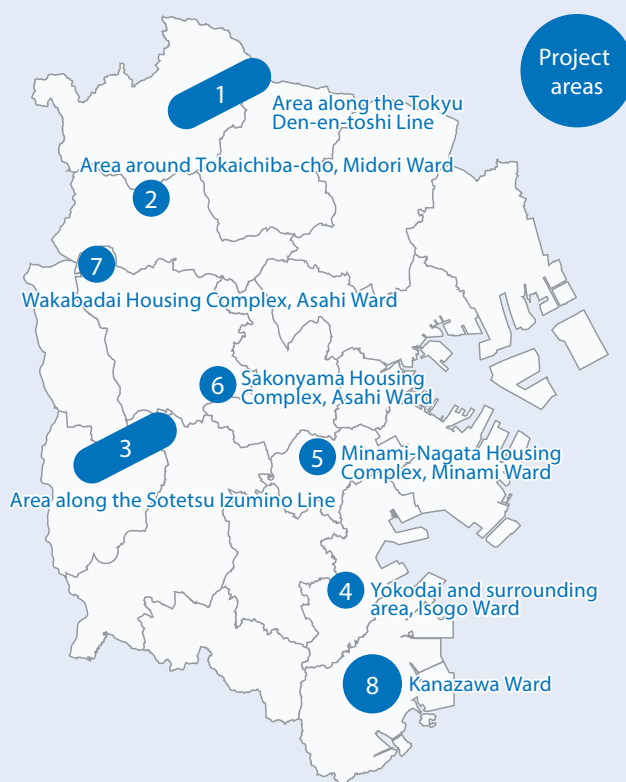
This project that is conducted using an empty store as its regional hubs, promotes sustainable urban improvement led by the region, such as efforts to reduce food waste or encourage lively activity in collaboration with elementary and junior high schools and local social welfare council.

6 Sakonyama Housing Complex, Asahi Ward

In cooperation with university students living in the district, Yokohama undertakes continuous efforts led by the district to revive a large-scale housing complex through multi-generation exchanges and stimulation of shopping streets.

7 Wakabadai Housing Complex, Asahi Ward

Conduct proving tests and initiatives directed at the environment in order to resolve local problems through links with a variety of partners and carry out studies of methods of attracting businesses in cooperation with the Yokohama SDGs Design Center.



8 Kanazawa Ward

This project includes surveys done to achieve sustainable urban improvement through links with companies, universities, etc. and actions to publicize attractive features and perform promotions that appeal strongly to members of the child-rearing generation.

Examples of Activities

Area along the Tokyu Den-en-toshi Line

~Tamapla Living Lab~

Verification of services using ICT in collaboration with companies, local government and academia to solve regional issues.



Area around Tokaichiba-cho, Midori Ward

~Blocks 20, 21, 22 of Tokaichiba Hill Town~

Realization of “SDGs area” through public-private partnership



Minami-Nagata Housing Complex, Minami Ward

~Tsunagari-matsuri (Cohesion Festival)~

Creating a system to circulate resources within the housing complex, such as implementing food links.



Sakonyama Housing Complex, Asahi Ward

~Resident University Student Team “Sakolab”~

Planning and implementation to form a community for child-rearing generation and revitalize the shopping district by university students



Yokohama shares information on such as Zero Carbon Yokohama and SDGs FutureCity initiatives at international conferences and more. We also work to strengthen relationships through international city networks and with other cities.

Disseminating at International Conferences

Making active use of opportunities at international conferences in and outside Japan, Yokohama disseminates its efforts to the world to increase its presence.



COP24 (24th Conference of Parties to the United Nations Framework Convention on Climate Change)



The 7th Asia Smart City Conference

Global Evaluations

- 2017** | **2017 CNCA Innovation Fund (Yokohama Blue Carbon Project)**
 This project was highly evaluated for its advanced proposals and its experience working with overseas parties in the area of global warming countermeasures.
- 2018** | **2018 OPCC (One Planet City Challenge)**
 This is an international contest of municipal global warming countermeasures sponsored by the WWF (World Wildlife Fund for Nature) jointly with ICLEI. Yokohama was selected as Japan's national winner (best performing municipality).
- 2019** | **2019 CNCA Innovation Fund (Renewable Energy Promotion Project)**
 It was highly evaluated as a proposal for challenges common to all CNCA member cities.

Networks

We join some city networks that aggressively tackle climate change countermeasures to publicize Zero Carbon Yokohama and SDGs FutureCity efforts, etc.

- ICLEI - Local Governments for Sustainability
- SDGs Leadership Cities
- Japan Climate Initiative
- Global Covenant of Mayors for Climate and Energy
- CNCA (Carbon Neutral Cities Alliance)
- C40 (C40 Cities Climate Leadership Group)
- JCLP (Japan Climate Leaders' Partnership)

City-to-City Collaboration

- **San Diego** | Sister-city exchange activities on children's environmental picture diary.
- **Barcelona** | Collaboration under a MOU on Smart City.
- **Bangkok** | Technological cooperation for urban development based on the Bangkok Master Plan on Climate Change.
- **Frankfurt am Main** | Exchanges in fields such as energy management under an EU - Japan International Urban Cooperation Project.





SDGs FutureCity Yokohama



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