

Beautiful City Yokohama

2021





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Yokohama City Master Plan for General Waste Management

1 Yokohama City Master Plan for General Waste Management

Master Plan and Promotion Plan

[Concept of Master Plan] The Yokohama City Master Plan for General Waste Management is a long term plan with a duration of 16 years, running from FY 2010 to FY 2025.

The plan's goal is to promote "Reduce", the most environmentally friendly of "3Rs" (Reduce, Reuse and Recycle). Initiatives aim to lessen the burden placed on the environment by reducing the amount of waste generated by households, and to effectively utilize and secure resources and energy.

[The Promotion Plan] In order to promote the long-term Master plan, this plan gives specific initiatives to be taken every four years.



2 Overview of the Promotion Plan (2018-2021)

[Concept] The Promotion Plan for the Yokohama City Master Plan for General Waste Management (2018-2021) (hereafter, "Promotion Plan") sets out specific initiatives that will be taken over the course of the four years starting in FY 2018 to promote the Yokohama City Master Plan for General Waste Management.

Promote initiatives aim to achieve a "Yokohama-style recycling-oriented society" while placing value on individual 3R actions of citizens and businesses.

[5 Leading Projects] Amid the dramatic changes taking place in society, future waste policies need to be implemented in ways which bridge a variety of different fields, such as welfare, disaster prevention, civil society, and industry.

To achieve this, the City of Yokohama drew up the five Leading Projects. These projects set out directions for implementing a range of policies in the Promotion Plan, and are earmarked as important projects which play leading roles in the plan.

[9 Promotion Policies] With the understanding, cooperation and collaboration of citizens and businesses, we have been promoting waste management in a manner which supports the safety of civilian life.

To continue doing so, we have set out nine Promotion Policies covering initiatives that will be implemented while undergoing appropriate revisions based on changes in people's behavioral patterns, values, etc.



SDGs and the Promotion Plan

The SDGs (Sustainable Development Goals) are a series of goals for sustainable development adopted at a United Nations summit held in 2015. In addition to reducing environmental burdens and recycling resources as environmental administration, we aim find integrated solutions to multiple issues under the philosophies of "leave no one behind" and "partnership".

The promotion plan also incorporates the SDGs approach, as it is also important to solve multiple issues simultaneously by promoting efforts toward welfare and economic revitalization.



Goals of the Plan

1 Stepping up the 3R Challenge

Reduce Reuse Recycle

We intend to reduce the total amount of garbage and recyclable resources by **ten percent or more** by FY 2025 (over 2009 figures).

Goals of the Promotion Plan (2018-2021)

3% reduction or more
(over 2017 figures)

2 Working to reduce garbage to end global warming

We intend to reduce greenhouse gas emissions generated by the treatment of garbage by **fifty percent or more** by FY 2025 (over 2009 figures).

Goals of the Promotion Plan (2018-2021)

25% reduction or more
(over 2009 figures)

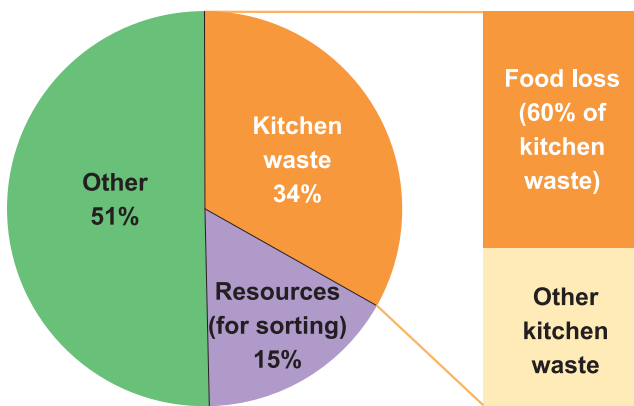
3 Our mission: achieving safe and stable garbage treatment

We are striving to guarantee safety, stability and peace of mind at all stages, from collection and transportation to treatment and disposal.



Strategic Targets - Priorities during the implementation of the Promotion Plan -

Strategic Target 1 Reduction of at least 20% in food loss generated by households (compared with FY 2015)



Types of food loss	Proportion of kitchen waste	Generated amount of food loss
Unused food products	10.3%	111,000 t/year
Leftovers	36.7%	
Food scraps	10.7%	

Results of a survey on the composition of burnable waste (FY 2015)

Ratio of food loss in kitchen waste (estimates for FY 2015)

Approximately 60% of kitchen waste generated by households is food loss caused by food that has been thrown away untouched, leftovers, and food scraps such as vegetable peelings.

Starting in FY 2018, we have set targets for the next 4 years, aiming to halve the amount of food loss generated by households by FY 2030. We aim to reduce the food loss generated by households by at least 20% compared with FY 2015, contributing to reducing the overall volume of waste.

Strategic Target 2 Increase the electricity provided by waste incineration by at least 5% by improving efficiency through better energy management and energy-saving measures (compared with FY 2017)

We aim to increase the amount of electricity generated at waste incineration plants through technological advancement and better energy management, and to save energy by introducing high efficiency equipment like LED lighting and revising operating methods for equipment.

Guideline

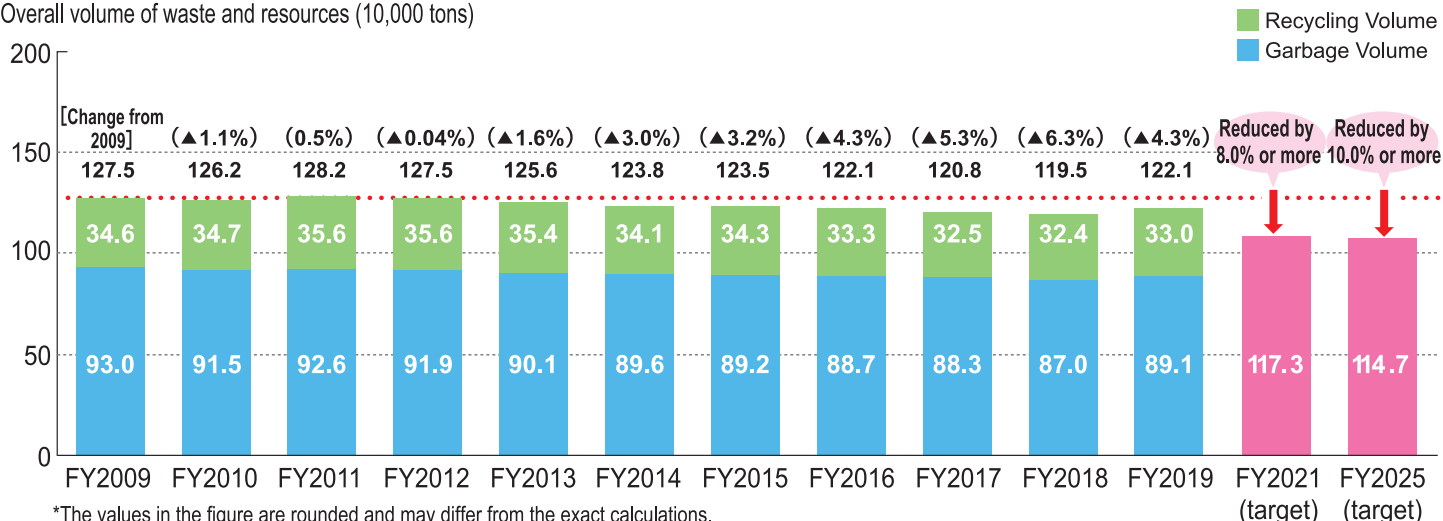
The facility shown on the right is Minami-Honmoku Block #5 Final Disposal Site, which opened in 2017. It is the only final disposal site for general waste in the City of Yokohama. Therefore, in order to ensure that this precious asset can be used for as long as possible, in FY 2017 we set a guideline to ensure a lifespan of at least 50 years, and informed citizens of this.

We aim to prolong the life of this final disposal site by reducing the amount of waste and by taking steps to turn incinerated ash into a resource.



3 Trends and goals for total volumes of garbage and recyclable resources

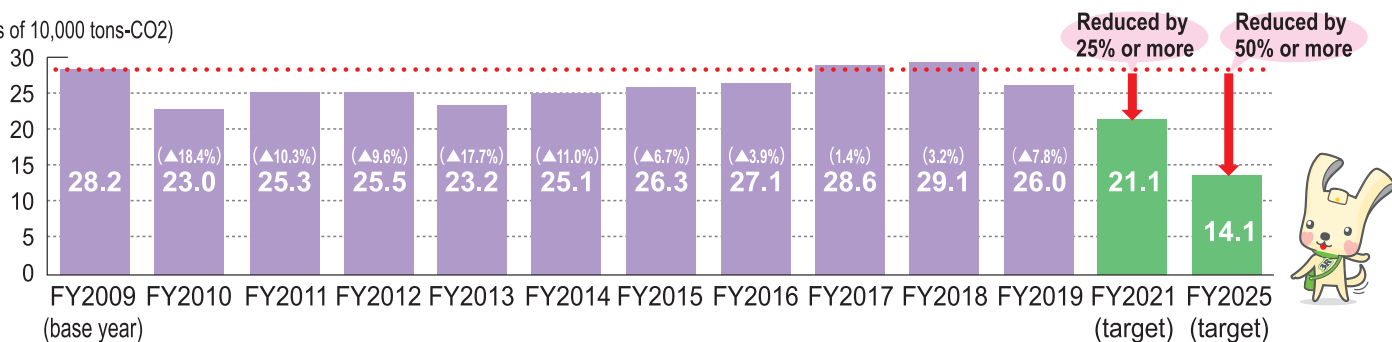
Overall volume of waste and resources (10,000 tons)



*The values in the figure are rounded and may differ from the exact calculations.

4 Trends and goals for greenhouse gas emissions

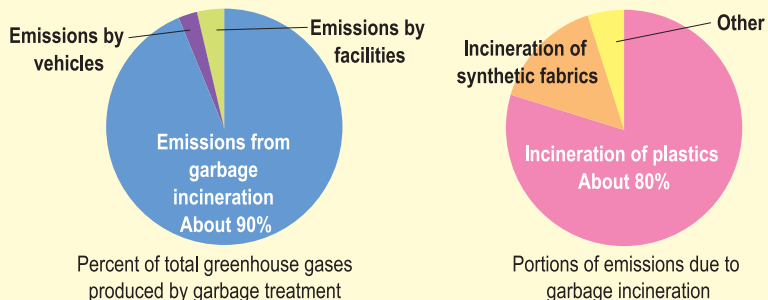
(Units of 10,000 tons-CO2)



*Because electricity CO2 emissions coefficients fluctuate greatly, we have revised the emissions coefficient from the base year FY 2009 starting with FY2013.

Greenhouse gases emissions situation

About 90% of the total amount of greenhouse gases emitted due to garbage processing are emitted by burning garbage in incineration plants. About 80% of greenhouse gases emitted due to incineration of combustible garbage are due to incineration of plastics.



To also reduce the amount of greenhouse gas emissions, please do more separating of plastic containers/packaging, etc.

*Greenhouse gases emitted by garbage treatment is the total greenhouse gas emissions ("emission by incineration of garbage" plus "emissions by vehicles and facilities") minus "reduction benefit by power generation".

City Hall uses power generated by incineration plants

We are facilitating the spread of renewable energy (*) at city hall by using some of the power generated by the incineration of waste at the Asahi and Kanazawa plants.

*The incinerated garbage consists of food, paper, etc., of biological origin and plastic derived from fossil fuels. The energy generated from natural and biological resources is referred to as renewable energy.



Incineration plant

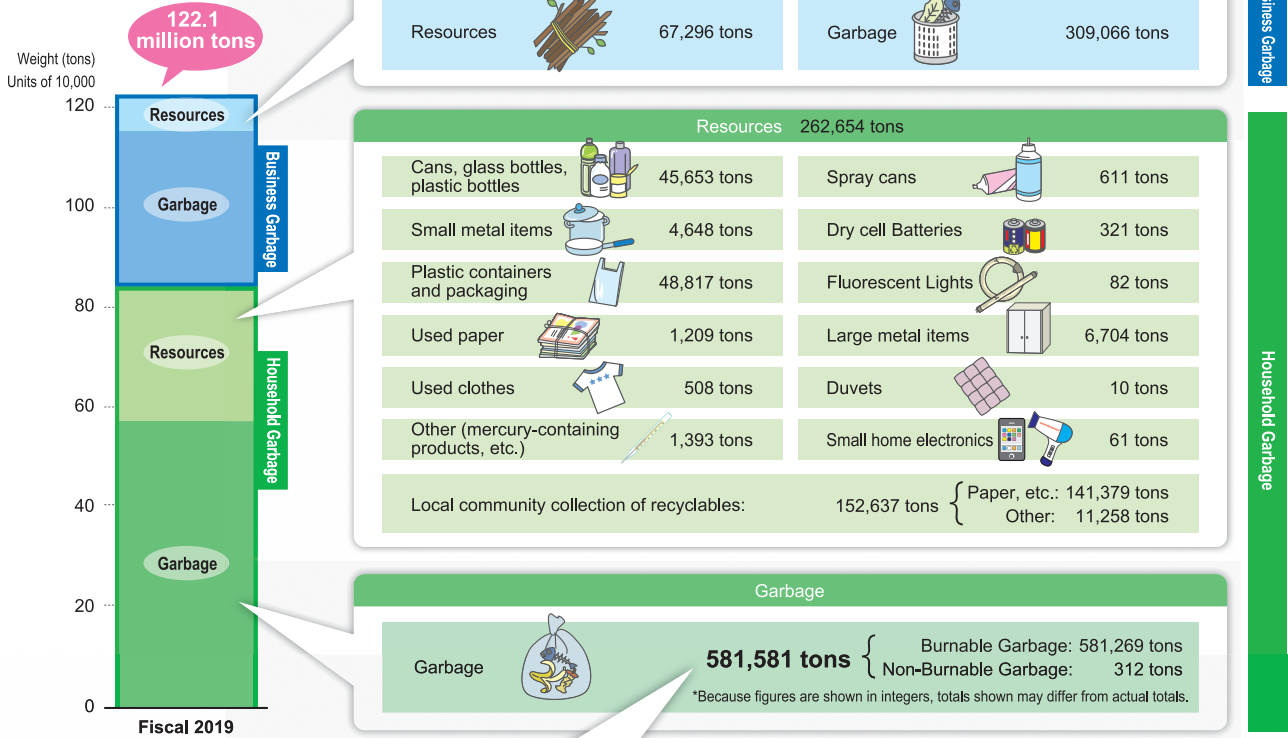


Sending of electricity generated by the plant



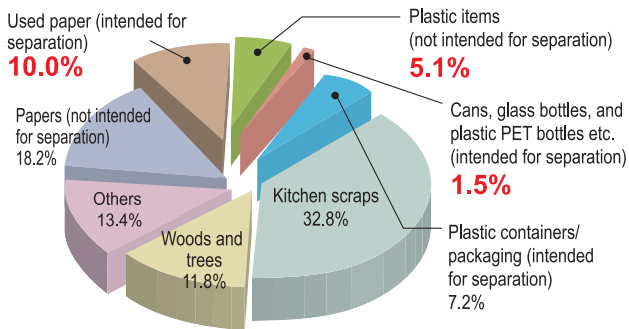
City Hall

5 Breakdown of all garbage and resources

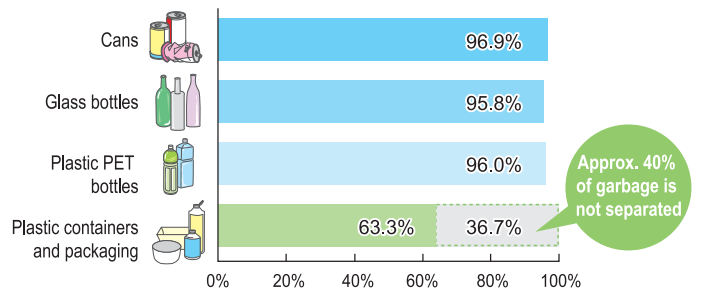


Contents of garbage

[Contents of burnable garbage disposed of by households]



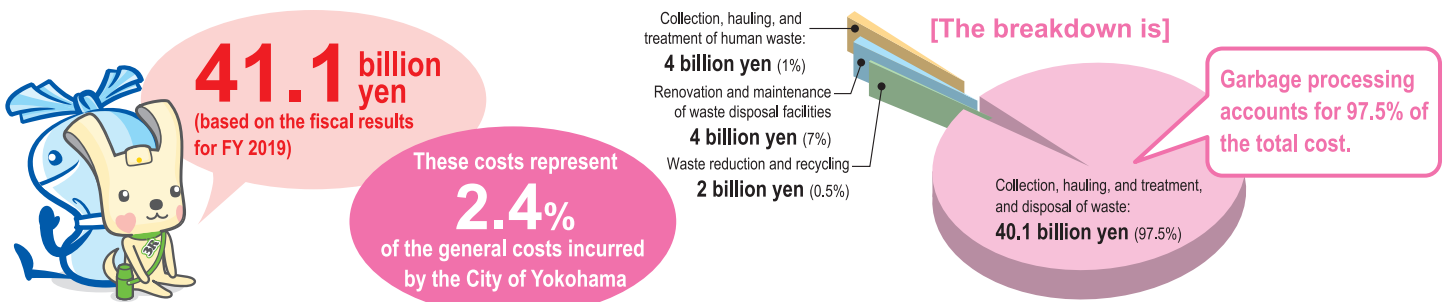
[Percentage separated as recyclable resources (separation ratio)]



*Separation ratio = $\frac{\text{recyclable resources}}{\text{recyclable resources} + \text{recyclable resources in combustible garbage} \times 100}$

Burnable garbage includes various kinds of garbage, such as used paper and plastic containers/packaging that can be separated and recycled. Plastic containers/packaging that should be separated represent 5% of the garbage, yet 40% of plastic containers/packaging is not recycled; instead it is disposed of as burnable garbage. Used paper comprises 10% of the total. (Garbage Composition Survey for 2019)

6 Costs of garbage collection, treatment, and disposal

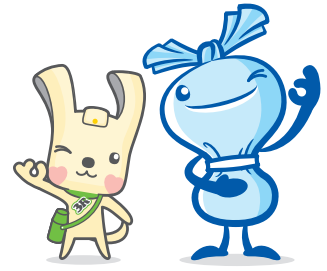


7 3R is the keyword for garbage reduction

[3R] is a keyword for expressing environmental behavior that reduces garbage.

- The three components of 3R are:
- R**educing the amount of garbage generated
 - R**eusing items as many times as possible
 - R**ecycling resources through garbage separation

The first letter of each of the above represents the 3R concept.



3R Dream actions that you can take in daily life

Bring your own

Shopping Bag

Stop using plastic grocery bags



Always keep a foldable reusable shopping bag in your handbag, and never take more plastic grocery bags than you need. Bags with long handles can be slung over the shoulder to make even heavy loads easy to carry.

Bottle



Carrying around your own drink in a thermos will mean that you are always ready for a hot cup of tea. This helps to reduce plastic PET bottle waste.

Chopsticks



Using your own chopsticks rather than the disposable ones provided with lunchboxes may even make the food taste better.

Take conservation into account when shopping

Choose products that use simple packaging and are refillable



Are the products you buy wrapped in more packaging material than necessary? Using refillable goods eliminates the need to throw away bulky containers each time you use up the contents.

Make stuff last longer

Repair and reuse



Wouldn't it be better to repair your favorite things, so they can be handed down to your children? You can also take advantage of flea markets and the recycling shops.

When throwing stuff away

Sort properly



Separate, recycle, and re-use items. For more information, see P12.

Yokohama 3R Dream! Publicity Ambassador

To widely inform citizens about the "Yokohama 3R Dream Plan" and have them get involved, we engage in various activities rooted in cooperative ties which center primarily on publicity efforts with the Yokohama F. Marinos soccer team.



3R Dream promotional posters

Posters that call for reductions in food loss will be posted around municipal schools, public facilities, public transportation, etc., primarily during October's "Food Loss Reduction Month."



2020 poster (general)



2020 poster (for elementary students)



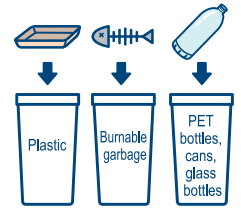
Plastic Waste Measures

1 The problem with plastic

Plastic is used in various products in your daily life because it is light, sturdy, and easy to process.

However, if it is incinerated instead of recycled, large amounts of greenhouse gases are emitted, which are a factor in global warming.

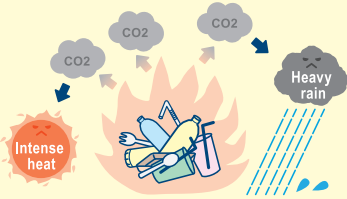
It is important to start with what you can do as an individual, such as reducing the unnecessary use of plastic and correctly sorting your trash so that it can be properly recycled.



2 The state of plastic

The state of global warming

- When plastic is incinerated, large quantities of greenhouse gases (CO₂) that cause global warming are released.
- Global warming causes global climate changes such as catastrophic heatwaves and record-setting heavy rain.



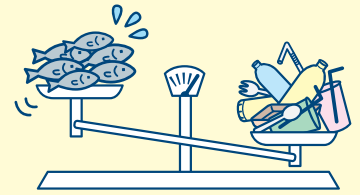
The state of resource circulation

- Japan is a major contributor of waste as number two in the world for the amount of plastic generated per person.
- The amount of oil resources used to make plastic are limited, and the unnecessary use of plastic leads to the depletion of these resources.



The state of ocean pollution

- Worldwide, several million tons of plastic are released from land into the ocean every year. At this pace, it is estimated that the weight of plastic waste in the ocean will exceed the weight of all fish by 2050.



3 Yokohama Action Program for Circulating Plastic Resources

In order to move forward with plastic waste measures, it is important for citizens and businesses to take concrete action. In order for the City of Yokohama to move forward with plastic waste measures across the city, we created and are implementing the "Yokohama Action Program for Circulating Plastic Resources", which outlines the concrete actions we will take.

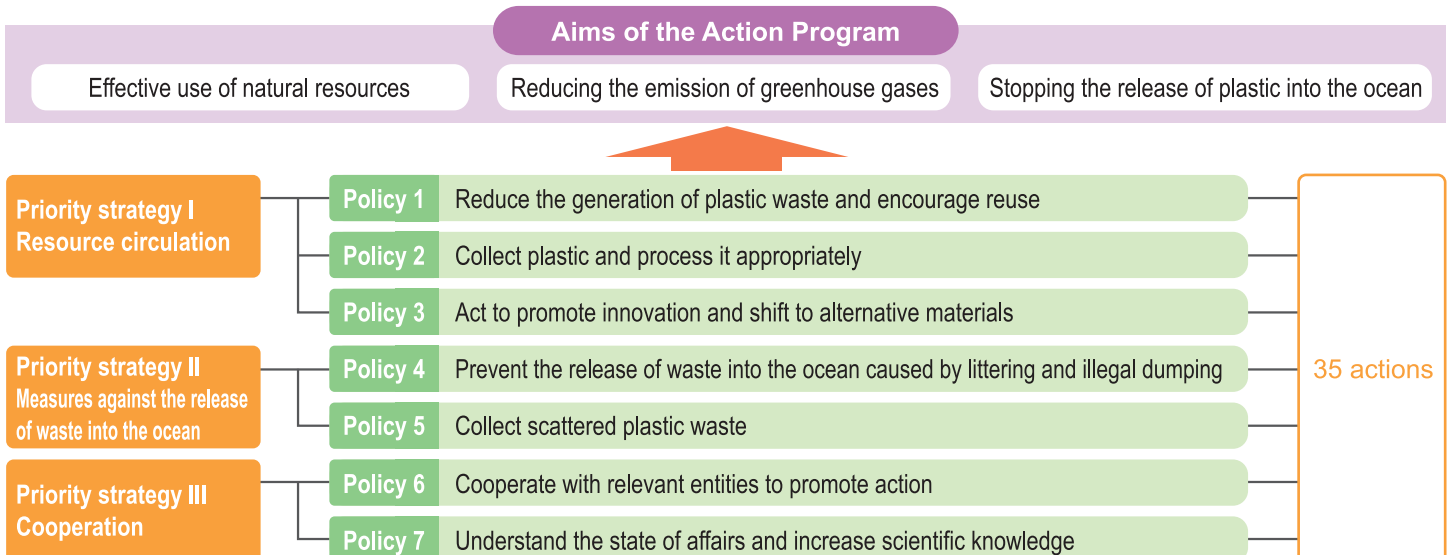


Figure 1 Diagram of Yokohama Action Program for Circulating Plastic Resources

4 Things you can start today

- **Use your own bag** Take your own bag instead of getting a plastic bag at the register
- **Use your own bottle** Take your own bottle to reduce the need for PET bottles
- **Refuse disposable utensils** Do not accept disposable utensils such as plastic straws, etc.
- **Correctly separate your garbage** Take care to sort your garbage properly
- **Do not litter** A clean city requires a clean heart
- **Promote cleaning activities, etc.**..... Actively participate in beautifying your city and in environmental conservation

5 Reusable Bottle Spots

This effort has been in effect since October 2010 to reduce the amount of disposable PET bottles. Stores, businesses, and other facilities that provide free or paid drinks for use with your personal bottle instead of in disposable containers or that have a water dispenser for free use are registered as "Reusable Bottle Spots" and published on the website.



Number of Reusable Bottle Spots 340 (as of December 2020)

6 Use of alternative materials

Because the City strives to use plastic alternatives or 100% recycled plastic in the promotional goods distributed to citizens at events, etc., we are broadly accepting proposals from businesses for promotional goods in line with these policies.



Pocket tissues using alternative materials

Twitter Yokohama Plastic Waste Measures@yokohama_pla
Facebook Yokohama Eco-plastic Style

Collaborative initiatives with businesses

Campaign of plastic waste reduction; Review Disposal Plastics! Cooperate with AEON Co., Ltd.

We implemented a campaign to reduce plastic waste through cooperation with over 350 retail stores in the AEON Group.



PET bottle recycling project with SEVEN-ELEVEN JAPAN CO., LTD. and Nippon Foundation

PET bottle collection machines were installed at around 120 Seven-Eleven stores (with plans for expansion) in Yokohama as a part of the PET bottle recycling project.

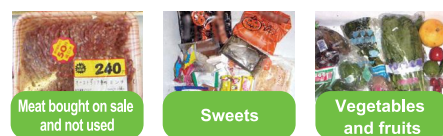
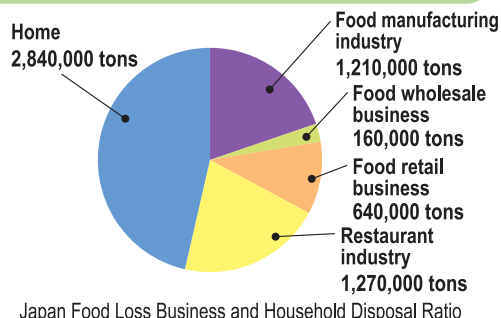




Reduction of Food Loss

Food loss is food that is disposed of regardless of whether it is still edible. In Japan, it is estimated that about 6.12 million tons of food loss (about 3.28 million tons from businesses and about 2.84 million tons from households) occurred in fiscal 2017. Therefore, "food loss reduction" is one of the core principles of the Promotion Plan (2018 to 2021).

About 94,000 tons of food is lost through burnable waste from households in Yokohama. This is equivalent to about 25 kilograms per citizen per year, or in terms of monetary value, this is equivalent to disposing of about 19,000 yen worth of food. Of this, about 20,000 tons of "untouched food" that is thrown away without being touched is included (*estimated from the results of a waste composition survey conducted by the City of Yokohama).



"Untouched food" included in burnable waste

1 Promotion of efforts at home

A plan for reducing the waste of food!

Buy only what you need!



- 1 Make a shopping list.
- 2 Buy only the amount you can eat.

Use up ingredients without waste!



- 1 Correctly understand the best-before date and the expiration date.
- 2 Organize the refrigerator.
- 3 Write food expiration dates large.

Eat all of the food on your plate!



- 1 Make only the amount of food you can eat.
- 2 Store food that is not eaten in the refrigerator or freezer.
- 3 When eating out, try not to leave food on your plate.

Correctly understand the best-before date and expiration date!

Best-before date

This is the date before which the food will taste best when saved according to the displayed storage method without opening. Even beyond this date, it is important to determine yourself whether or not the food can be eaten without discarding immediately.

•Products on which the best-before date is written



Foods such as ham, cheese, snacks, canned foods that can be stored under refrigeration or normal temperature

Expiration date

This is a safe deadline before which the food can be safely eaten when stored unopened according to the displayed method. Try to eat the food before this deadline.

•Products on which an expiration date is written



Foods that cannot be stored for a long time, such as raw meat and fish, box lunch and pastries.

Seasonable vegetables - Zero-waste recipes -

This is a collection of recipes based on the concept of completely using your vegetables in order to reduce food loss. In addition to introducing recipes based on school lunches that are popular with children and recipes that focus on consuming local products, it also provides the correct methods to store food, recipes for using leftovers, and time-saving pointers.



Seasonable vegetables - Zero-waste recipes - (City of Yokohama Website)

<https://www.city.yokohama.lg.jp/kurashi/sumai-kurashi/gomi-recycle/sakugen/tsukaikiri.html>

Food drive activities

In a food drive, households bring their excess, unused food, which is then collected and donated to a food bank* or local welfare facility/group, thereby contributing to society and reducing food loss.

Through these activities, we want to promote the habit of regularly checking for forgotten food and checking expiration dates on food that was purchased in bulk or received as a gift. By donating food that cannot be consumed at home before the expiration date to a food drive, people can foster a sense of value towards food.

In this way, we can turn waste into appreciation.

*A food bank is a group that collects food that is still safe to eat, which would otherwise be discarded, from families or food-related businesses and donates it to welfare facilities, etc.

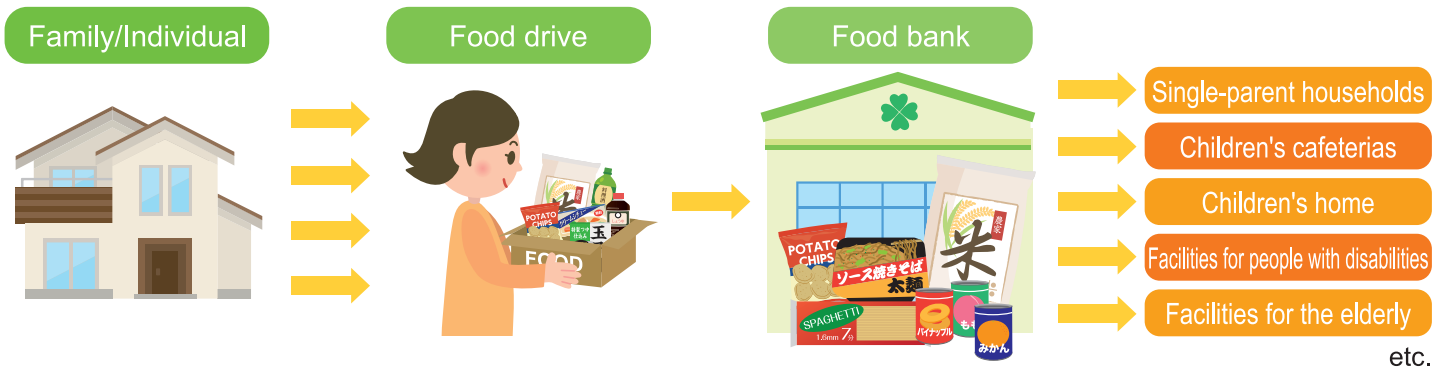


Reduction of Food Loss



Providing food where it is needed

Flow of food drives/assistance

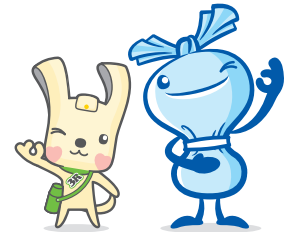


Composting

One initiative designed to reduce garbage is the method of mixing garbage with soil until it breaks down.

You can use garbage as compost by mixing it with soil in a planter, cardboard box, etc., to produce fertilized soil.

This method not only reduces kitchen waste but also creates quality soil for growing flowers and vegetables.



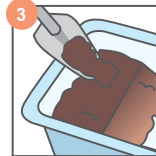
- What you need: a planter, kitchen waste, and soil
- Instructions



1 Cut kitchen waste into 2-3 cm size pieces and mix with soil.



2 Place the mixture of garbage and soil in the planter.



3 Cover the garbage with the soil so that the garbage is not visible.

It keeps decomposing, and when kitchen waste disappears, it is done (about 3 to 4 weeks)



Repeat steps ①-③ as you add more of the garbage. When the planter is full, mix all the garbage and soil. Once the garbage is broken down and disappears, the process is complete (approximately 3-4 weeks).

This information is also available on the following Website: City of Yokohama Resources & Waste Recycling Bureau:
<https://www.city.yokohama.lg.jp/kurashi/sumai-kurashi/gomi-recycle/namagomi/namablend.html>

2 Efforts for reducing food waste in restaurants

“Eat Everything Cooperating Restaurants” operation

The City of Yokohama is running an "Eat Everything" initiative requiring cooperation from eating and drinking establishments to reduce food loss from eating out.

This initiative involves the introduction of menu items with smaller servings, the ability to adjust the quantity of rice, the ability to take home leftovers, etc., in order to reduce food loss. Restaurants and lodging facilities are expected to cooperate, and ones that are registered as an "Eat Everything Participating Restaurant" and introduced on the website and through social media.

When eating out in Yokohama, please go to establishments registered as an "Eat Everything Participating Restaurant" as a part of your eco-friendly eating activities.



Sticker



Poster



“Eat Everything Cooperating Restaurants” initiatives

Restaurants registered as “Eat Everything Cooperating Restaurants” do at least one of the below initiatives.

- ① Introduction of small-serving menus and half-size menus
- ② Allow customers to bring home leftovers
- ③ Take actions to reduce leftover food
- ④ Hang posters to help people think about reducing leftovers
- ⑤ Other ways to reduce leftovers

Yokohama City Food 3R Kiraboshi Activity Award

This award is for businesses or groups that act as an example for others in terms of reducing food waste, reuse, promotion, etc. Widespread promotion of these activities influences other businesses and further reduces food waste.

2020 award winners



IKEA Japan K. K., IKEA Kohoku

They installed a scale in the restaurant kitchen that statistically analyzes waste by food item. This improves employee awareness of food loss reductions and is useful for predicting demand.



Yokohama Beer

They compost leftover food from restaurants, etc., to grow vegetables and establish a "food recycling loop" for directly operated restaurants.



Hamandarina

They manufacture and sell dressing that uses oranges disposed of through fruit thinning. They also raise awareness through hands-on events to collect these oranges, etc.