



KAWASAKI CITY  
川崎市

Working to achieve environmentally-friendly, sustainable communities

# Cutting down on waste An Eco-gurashi plan for the future

Kawasaki City General Waste Processing Plan  
(Phase 1 of the Action Plan)  
— Summary Version —

## Kawarun

Born and raised in  
Kawasaki,  
I'm your local fairy!  
My job is to help  
residents get a better  
sense of the 3R as  
something familiar to  
all of us.



Eco Chans



Morion



KAWASAKI CITY

Created March 2016

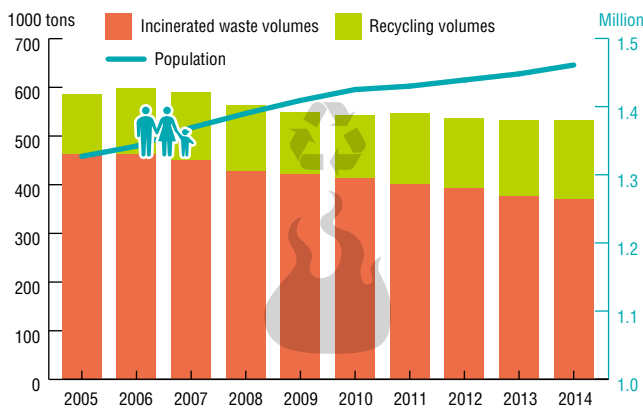
# General waste processing: Current Circumstances and Issues



## 1. Reducing total waste volumes

By FY2005, despite a population increase of nearly 150,000, decreasing total waste including both incinerated waste levels and recyclables from approximately 600,000 tons in 2006 to about 530,000 tons in 2014. This is a clear indicator that residents and business alike are becoming more aware of the need to reduce waste—and that they are doing something about it.

In recent years however, the trend toward decline has slowed and leveled out.

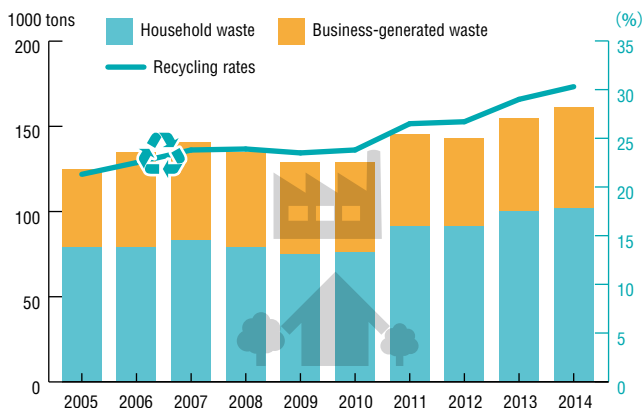


Graph 1-1 Trends in total waste emissions and population

## 2. Promoting recycling

Recyclables generated by households, collected by the municipality on specified dates as well as by recyclable collection groups, increased since March 2011, when the entire city began collecting mixed paper, and also a couple of the wards of the city launched plastic contained and wrapping collection.

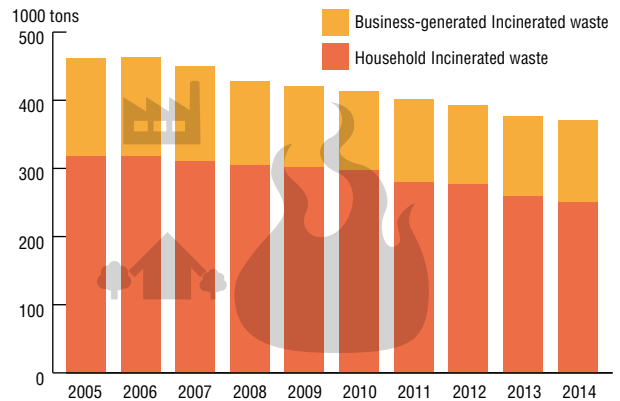
The volume of recyclables generated by businesses also rose from FY2005 through FY2008, but has subsequently leveled out.



Graphs 1-2 Trends in recycling volumes (rates)

## 3. Reducing incinerated waste volumes

By FY2014, incinerated waste volumes had been reduced by approximately 91,000 tons compared to 2005—indicating an increase in public awareness of the need to reduce waste volumes on the part of both residents and businesses.

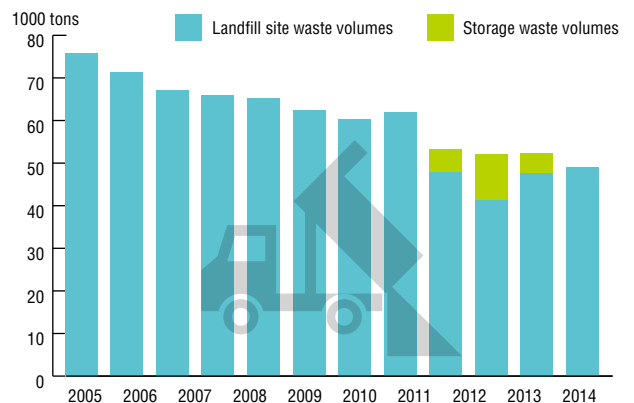


Graphs 1-3 Trends in incinerated waste volumes

## 4. The last landfill site

These initiatives have led to declining incinerated waste ash volumes disposed of in landfills. The Ukishima Landfill Waste Processing Plant is expected to push forward by about 40 years, through FY2056.

However, in light of the challenges of securing new landfill sites in the city, it is necessary both to reduce incinerated waste volumes and to extend the life of landfill sites.

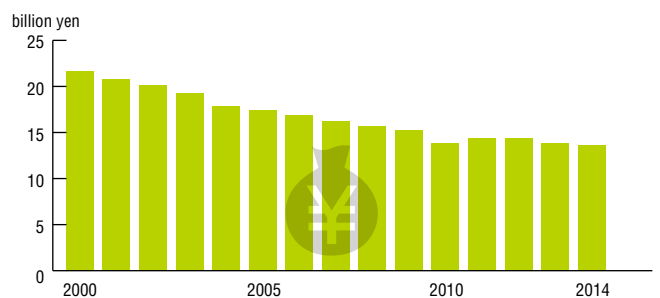


Graphs 1-4 Trends in landfill site waste volumes

\* For FY2011-FY2013, incinerated ash has been stored separately due to issues related to the Fukushima Daiichi nuclear power plant accident.

## 5. Waste processing costs

Kawasaki City initiatives such as making optimal use of private sector dynamism, making changes as necessary to the number of times waste is collected, etc., have contributed to large-scale reductions in household waste processing costs. Still, recyclable collection, transport, and processing costs amount to approximately 13.6 billion yen annually, indicating the need to continue in the future with effective and efficient implementation of these kinds of projects.

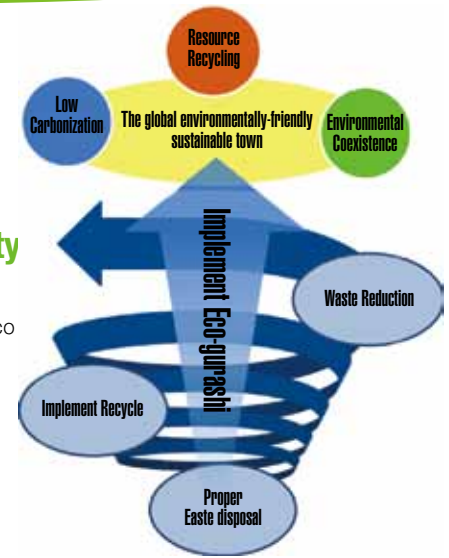


Graphs 1-5 Trends in waste processing costs

\* Waste processing costs here refers to Household Waste Graphs 1-2 (trends in recycling rates/Waste collection, transport, processing and disposal, etc.).

# Basic Plan

The following is an overview of the Basic Plan,



## 1. Basic Principle

### Working to achieve a sustainable, environmentally-friendly community

Kawasaki is a major city with a population of 1.47 million. Many of its residents and businesses are aware of environmental issues, and they lead the way on a diverse array of initiatives in their role of "Eco Residents."

We will continue to implement integrated initiatives on resource recycling, low carbonization, and beneficial coexistence with the environment, improving environmental issues by way of collaboration between residents and businesses. Kawasaki City works not only to make these improvements on a regional level, but also to do its part for environmental conservation not only in Japan but the entire region, and to be a leading Japanese city in this regard.

## 2. Basic Policy

### Respond effectively to social changes and strive for a society that generates as little waste as possible

Our city anticipates ongoing population increases, but also future population declines and lower birth rates. To appropriately prepare for changes such as these, and also to boost disaster prevention, we are pursuing a lifestyle where less waste is generated and material things are utilized more effectually. By implementing these initiatives, we are working toward a society that produces no waste in the first place.

### Implement Eco-gurashi through collaboration between residents, businesses, and municipal governments, and further implement the 3Rs.

We work to carry out the concept of "Eco-gurashi" where each and every individual considers the earth's environment, going about our daily lives and our business with the environment as a basic tenet—that is assigning equal importance to high quality of life and environmental conservation. Initiatives include making Eco Living an integrated approach.

### Ensure a comfortable living environment where people can live healthy lives with peace of mind.

To protect our regional living environment and ensure that our residents are able to enjoy peace of mind, we ensure a safe and secure waste processing system as a lifeline delivering residents a healthy and comfortable life via appropriate waste processing.

## 3. Plan Duration

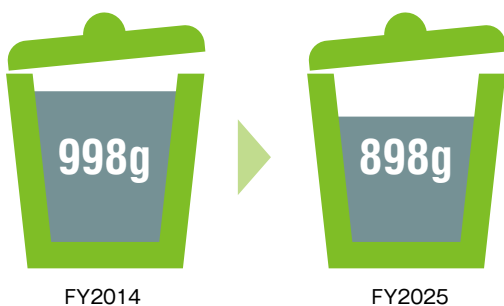
The basic plan duration is slated for the ten-year period between FY2016–FY2025.

However, the plan dates may be reviewed and/or revised in the instance of significant social changes.

## 4. Goals

### • Promoting waste reduction

**Goal 1** Reduce waste volumes by 10% per person

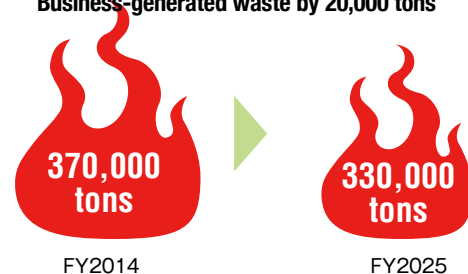


※ Waste volumes are the sum total of ordinary waste, oversized waste, regular recyclables, and recyclables collected by recycling groups; waste generated by businesses (incinerated waste and recyclables); and roadside cleanup waste.

### • Reducing incinerated waste volumes

**Goal 2** Reduce incinerated waste volumes by 40,000 tons

Reduce Household waste by 20,000 tons /  
Business-generated waste by 20,000 tons



Cut CO<sub>2</sub> by 18,000 tons  
(comparable to 1.28 million cedar trees)

### Results and impact of initiatives: better visibility and visualization

To convey this information to residents and businesses in an easy-to-understand format and enlist their collaboration, we report not only on goal progress status and results using publicized performance indicators (visibility) but also specific (visualization) indicators, which provide more concrete results.

### Extending landfill site life

By promoting reduction of waste levels and at the same time boosting recycling, we work to maximize landfill site life.



# Plan system

The system behind the plan is as follows:

66 specific strategies currently implemented

○...24 priority strategies

●...39 initiatives related to Eco-gurashi

Basic Plan (FY2016–FY2025)			Phase 1 Action Plan (FY2016–FY2017)	
Basic Principle	Basic Policy	Goals	Goals	
		Basic Initiatives	Specific initiatives	
<b>Working to achieve a sustainable, environmentally-friendly community</b>	- Respond effectively to social changes and strive for a society that generates as little waste as possible. - Implement Eco-gurashi through collaboration between residents, businesses, and municipal governments, and further implement the 3Rs. - Ensure a comfortable living environment where people can live healthy lives with peace of mind.	<b>(1) Reduce per-capita waste by 10%.</b> <b>(2) Reduce incinerated waste levels by 40,000 tons</b>	<b>(1) Reduce per-capita ordinary waste volumes by 15 g per day</b> <b>(2) Achieve a household waste recycling rate of 30%</b> <b>(3) Reduce incinerated waste by 10,000 tons</b>	
		<b>I "Eco Resident" initiatives</b>	<b>Specific initiatives</b>	
		(1) Promoting environmental training and education	1) Promotion for Toddlers ○● 2) Promotion for Young adults ○● 3) Promotion for Young people and foreign nationals ○● 4) Promotion for Residents and businesses ○●	5) Expand on educational projects using specific locations that help facilitate popularization ● 6) Expand on educational initiatives using events, etc. ●
		(2) Promoting information-sharing	1) Information-sharing incorporating a variety of different media ● 2) Useful sharing of information on effective separation of recyclables and waste /how to put out waste ●	3) Popularizing the Household Waste Diet Checklist and developing new indices ○● 4) Expanding on popularization and training at public facilities ○●
		(3) Stepping up resident participation	1) Boosting collaboration with waste reduction advisors and other related parties ○● 2) Training regional environmental leaders ● 3) Instituting new resident participation initiatives ○●	4) Promoting the Environmental Partnership Kawasaki initiative ● 5) Environmental Merit Award initiative ●
		<b>II Initiatives to reduce waste volumes and boost recycling</b>	<b>Specific initiatives</b>	
		(1) Reduce household waste and boost household-generated recyclables	1) Implement thorough waste separation ○● 2) Enhance appropriate product packaging ●	3) Expand on the number of collection points ● 4) Expand on the collection of recyclables by group ●
		(2) Business-generated waste reduction/stepping up recycling	1) Popularize certification systems for establishments engaged in initiatives in reuse of waste and recycling ● 2) Expand on public relations related to business-generated waste production ● 3) Consider review of business-generated general waste processing fees ○	4) Promote business-generated paper recycling at processing centers ○● 5) Expand on recycling routes for business-generated recyclables ● 6) Boost the Kawasaki brand of cutting CO2 ●
		(3) City-led waste reduction and recycling initiatives	1) Promote reduction initiatives at municipal government buildings, etc ●	2) Promote the Eco Office concept ● 3) Encourage green purchasing ●
		(4) Reducing kitchen waste and boosting kitchen recycling	1) Hold eco cooking classes ● 2) Promote reducing and recycling of food waste ○● 3) Promote the "three things to remember" about kitchen waste ○● 4) Expand on subsidy systems for kitchen waste recycling ●	5) Promote kitchen waste recycling initiatives ○● 6) Boost kitchen waste recycling at public facilities ● 7) Boost lunchtime waste recycling at elementary schools ● 8) Boost lunchtime waste recycling at junior high schools ●
		<b>III Initiatives on establishment of waste disposal facilities</b>	<b>Specific initiatives</b>	
		(1) Establishing a safe-and-reliable waste processing system	1) Perpetuate research and skills related to waste processing technologies 2) Incinerated waste (landfill ash) and appropriate landfill site management 3) Initiatives on hazardous waste and waste items presenting problems with disposal	4) Repair and renovation of waste disposal facilities 5) Securing safe and secure waste management processing systems in times of disaster ○
		(2) Stable operations of the three waste processing center system	1) Operating stable processing systems ○ 2) Reconstruction of the Tachibana Processing Center ○	3) Reconstruction of the Tsutsumine Processing Center ○
		(3) Building effective and efficient processing systems	1) Planning follow-up 2) Research on efficient and economical methodology	3) Bringing the dynamism of the private sector to the process
		<b>IV Initiatives to forge a healthy and comfortable living environment</b>	<b>Specific initiatives</b>	
		(1) Community cleanup initiatives	1) Clean up the areas around waste collection points, etc ○●	2) Implement various education and training campaigns ○●
		(2) Promoting initiatives to address resident needs	1) Expand on waste consultation desks ○● 2) Implement "Fureai" collection ○	3) Accommodate smaller areas
		(3) Initiatives to prevent inappropriate waste disposal	1) Implement illegal dumping strategies 2) Boost guidance on inappropriate waste disposal	3) Develop measures to prevent removal of recyclables 4) Prevent mixing in of prohibited waste with general waste
		<b>V Initiatives to facilitate a low-carbon society as well as beneficial coexistence with nature</b>	<b>Specific initiatives</b>	
		(1) Effective use of energy resources	1) Promote waste power generation ○ 2) Develop new means of utilizing waste power generation ○	3) Implement research and development with a view to promoting use of biomass resources
(2) Effective use of recyclables with a view to low carbonization and beneficial coexistence with nature	1) Boost collaboration initiatives with various regional organizations ●	(7 reuse businesses)		
(3) Building of environmentally-friendly processing systems	1) Build environmentally-friendly transport systems. 2) Operate processing systems incorporating environmental management systems	3) Conduct research on extending landfill life		
(4) Initiatives to utilize the sum total of our environmental technologies	1) Environment-building focusing on development of environmentally friendly products	2) Collaboration within the environment industry 3) Doing our part of the international community		

# Action Plan

## 1. Plan Duration

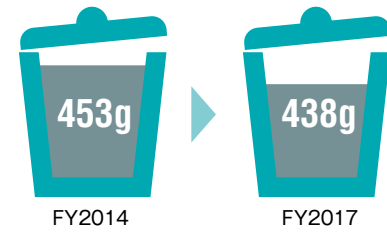
The Plan will be implemented over a two-year period from FY2016–FY2017.

## 2. Goals

The actions of "separating plastic container/wrapping and mixed paper" as well as "reducing overall waste levels" has been promoted seamless initiatives. To achieve the goals of the Basic Plan taking FY2014 as the base year, we have established the following three goals.

### • Boosting waste reduction

**Goal 1** Reduce ordinary waste generated per capita by per day by 15 grams

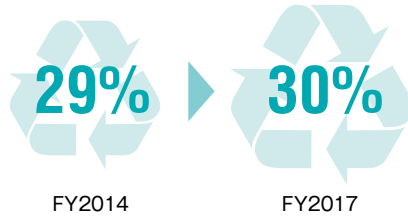


Basic plan goals	Base Year 2014 performance	Phase 1 Action Plan goals for 2017	Basic Plan goals for 2025
Waste levels per person	998g	971g	898g
Household-generated waste	660g	650g	615g
Action plan goals for general waste	453g	438g	396g
Business-generated waste	338g	321g	283g



### • Implementing recycling

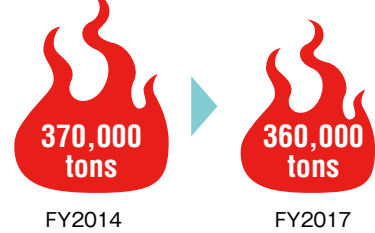
**Goal 2** Achieve a household waste recycling rate of 30%



### • Reducing incinerated waste volumes

**Goal 3** Reduce incinerated waste levels by 10,000 tons

Reduce Household waste by 4,000 tons / Business-generated waste by 6,000 tons



## Column

## How do we reduce waste?

The Action Plan entails the ambitious goal of reducing ordinary waste per person by 15 grams per day over a period of two years. This translates into 450-460 grams per person per month.

So what should we do to reduce and how?

Though it may be a challenge to consider things in terms of per-day units, if we think of it in terms of monthly units instead, we can get a better idea of just how much our initiatives are working to reduce waste.

We have compiled weight goals for waste reduction. Refer to these on waste reduction and recycling initiatives.

[Weight goals for reducing waste levels]

Action	Weight level goals
Choose refillable products	▶ Detergent and shampoo (two bottles/month), 6g per day
Refuse excess wrapping	▶ One sheet of wrapping paper: 5g
Purchase only the things you need in the quantities you need	▶ Wasted food ingredients: 70g
Choose items sold individually or by weight	▶ One plastic tray: 5g
Try to avoid leftover foods that are thrown away	▶ One bowl of rice: 100g ▶ One piece of cabbage: 10g
Drain kitchen waste when disposing of kitchen waste	▶ Drained kitchen waste: 50g

Carry your own shopping bag instead of taking grocery bags.

- One plastic grocery bag: 10 g



Do not take disposable chopsticks when you purchase a boxed lunch at a convenience store. Use your own chopsticks instead.

- One pair of disposable chopsticks: 5 g

Avoid disposable products wherever possible (use your own cups, etc.).

- Disposable paper cup: 5g



Give away unneeded clothing to someone who needs it, or re-make old clothing to fit.

- One shirt: 220g
- One pair of jeans: 500g



Carefully separate recyclable items such as plastic containers and packaging as well as mixed paper.

- Thorough recycling contributes to lower waste levels



# Strategic Policies



To move forward with basic policies that would have a big impact on facilitating “Eco-gurashi” as well as stabilize the waste processing sector, we are developing key measures for each of our basic policies, and we are working to clarify our basic plan and basic policies for key or priority initiatives.

Phase I of the Action Plan contains a total of 66 specific policies. Twenty of these initiatives (24 specific measures) are priority initiatives.

## Basic Policy I

### “Eco Resident” initiatives

With a view to achieving environmentally-friendly, sustainable community-building, as we promote comprehensive initiatives related to resource recycling, low carbonization, and beneficial co-existence with nature, we need to first understand what is meant by “Eco-gurashi” and how it should be implemented. To achieve these goals, we carry out opinion-sharing between residents, businesses, and municipal governments—and incorporate approaches gleaned in this way into other policies. Thus we are moving forward with interactive policy initiatives.

#### 1. Involvement initiatives between residents, businesses, and municipal governments [new]

We hold the “Zero Waste Café” (tentative name), designed to accommodate different segments of society, to discuss with everybody exactly what is meant by the key ten-year initiative called “Eco-gurashi” amongst other public involvement initiatives.

In addition, the opinions and ideas about reducing waste garnered at the “Zero Waste Café” (tentative name) sessions are shared in public relations materials, etc., between city residents, businesses, and municipalities to facilitate implementation. This system allows for feedback between municipalities, residents, and businesses.

**Reference Indices** → The Zero Waste Café (tentative name)

#### 2. Classes and training on the environment tailored to the different generations with a view to training “Eco Residents” capable of implementing “Eco-gurashi”

In addition to providing seamless educational opportunities across generations targeting everyone from toddlers to adults, we also offer residents the opportunity to take the lead, such as planning city waste reduction events and more.

Further, we implement environment study classes for businesses, to help them to learn about the advantages for them of reducing waste volumes and recycling.

- Reference Indices** →
- **Infants: Educational materials distribution**
  - **Young adults: Close-to-home “waste disposal sessions”:** number of sessions
  - **Young people/foreign nationals: No. of application views**
  - **Residents: “Fureai” travelling classroom: no. of sessions**
  - **Businesses: Travelling classroom: no. of sessions**

#### 3. Popularize Household Waste Diet Checklist/develop new indices

We use the Website and other means to further popularize the Household Waste Diet Checklist—a guideline tool for day-to-day 3R initiatives.

In addition, using the Household Waste Diet Checklist gives residents a more specific idea of how much Eco-gurashi initiatives including not only recycling but also the other two “Rs” (reduce and reuse) help reduce waste levels, how much reducing waste levels cuts costs, and more.

**Reference Indices** → Number of Household Waste Diet Checklists

#### 4. Step up collaboration with waste reduction advisors

We take various opportunities to boost collaboration with waste reduction advisors, a group of local volunteers who work to reduce waste volumes and bolster recycling. The goal is to boost waste volumes and step up recycling.

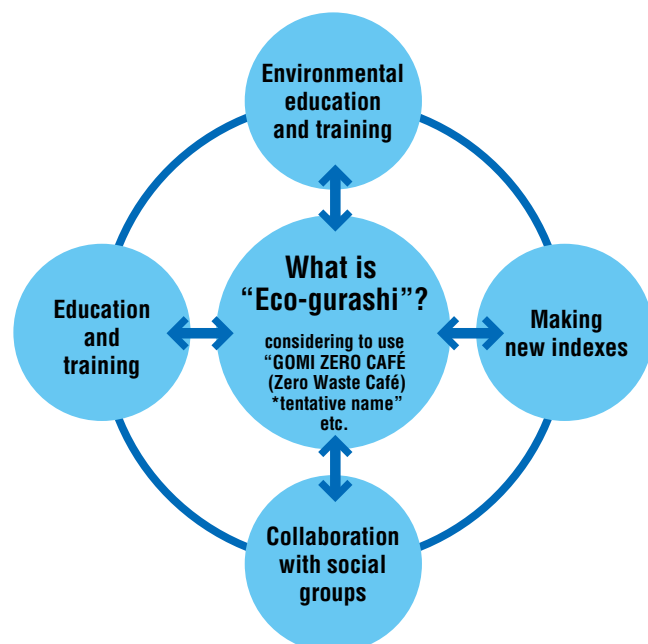
We also work with local area and work site leaders in the different environmental fields, including regional environmental leaders and kitchen waste recycling leaders to reduce waste volumes and step up resource recycling.

**Reference Indices** → Number of sessions of city (ward) waste reduction advisor council meetings/no. of regional environmental leader course graduates

#### 5. Expand on popularization/education at public facilities that draw large numbers of residents [new]

Use places where large numbers of residents tend to come together, including public facilities, universities, etc., to popularize various kinds of methodologies and train people in these methodologies, including model exhibits showcasing waste separation, etc., and regular issue of the newsletter “3R News.”

**Reference Indices** → Events using public facilities (number of sessions)



Interactive policy implementation

## Basic Policy II

### Waste reduction and recycling initiatives

Because these initiatives are also directly related to achieving the goals of the Basic Plan and Action Plan, residents, business, and the local municipalities all work together to reduce waste volumes and recycle resources.

#### 1. Thorough waste separation

The recyclables separation system did engender a waste reduction effect, yet we still find ordinary waste mixed in with recyclables. Separation rates for plastics and plastic containers and packaging (items that people find difficult to separate) as well as mixed paper now stand at 35%. We are currently working with waste reduction advisors to achieve levels comparable to the city, where these initiatives are said to have the greatest impact (at 50-60%). The goal is to boost guidance on waste separation.

Reference Indices → **Mixed paper ratio/plastic container and wrapping separation rates**

#### 2. Popularize the following three “things to remember” about kitchen waste: 1) use everything, 2) eat everything, and 3) drain water [new]

As means of reducing the instance of food waste and volumes, implement popularization and educational initiatives, primarily the three steps noted above.

Reference Indices → **Kitchen waste content in ordinary waste**

#### 3. Promoting kitchen recycling initiatives

Together with the kitchen waste recycling leaders, we are working to reduce kitchen waste and boost composting, and to popularize methods of utilizing this compost. We also assist city resident groups to make effective use of kitchen leftovers to create compost out of this material for use in agriculture and for other effective purposes.

Reference Indices → **Kitchen waste recycling leader dispatch (number of times)**

#### 4. Review/revision of general waste processing costs for business [new]

Based on waste processing costs following the shift to the three-processing center systems, and in light of socioeconomic conditions as well as conditions in other cities, we are implementing a review of general waste processing fees for businesses.

Reference Indices → **Incinerated waste levels generated by businesses**

#### 5. Boosting recycling of business-generated paper [new]

In order to move forward with recycling of used paper, follow-up must be implemented for businesses along with actively providing information on recycling methods. Additionally, we plan to expand on content review as well as to control volumes of paper inbound to processing centers (incinerated waste processing facilities).

Reference Indices → **Amount of paper mixed in with incinerated waste**

#### 6. Moving ahead with food waste Reduce/Recycle initiatives [new]

These initiatives are about cutting food loss by working with the restaurant industry, e.g. by setting up a system of participating restaurants in the “Eat Everything” program.

Additionally, we assess waste levels of businesses generating high levels of waste (including food waste), working to popularize the concept of food waste recycling.

Reference Indices → **Number of participating (registered) establishments**

## Basic Policy III

### Initiatives to establish processing systems

Waste processing plays an important lifeline role in support of the lives of the people. Due to the tremendous costs involved in facility construction, etc., we are setting up carefully devised plans with a view to the long term.

#### 1. Ensure waste processing systems that would provide for safety and security during times of disaster

To maintain critical lifeline infrastructure even during times of disaster, and to ensure a quick and appropriate processing response, we are revising the Kawasaki City Disaster Time Waste Processing plan. To boost systems within agencies, we will also be stepping up collaboration with businesses and others with whom we have agreements in place.

Additionally, due to the fact that in the instance of a large-scale disaster a single municipality would not be able to handle the situation, we are implementing broad-region initiatives including information-sharing during non-disaster times between the national government, local municipalities, and others.

Reference Indices → **Current progress status of initiatives**

#### 2. Operating a stable processing system [new]

To ensure that waste collection, transport, and processing are conducted effectively and efficiently at the three processing center systems, we work to operate stable processing systems to accommodate social changes.

Reference Indices → **Incinerated waste volumes**

#### 3. Initiatives on reconstructing the Tachibana Processing Center

In accordance with plans for waste incineration processing facilities, the existing Tachibana Processing Center will be dismantled and a new waste incineration processing facility and mixed paper resource recycling facility set up.

We will be ensuring proper communication with area residents throughout the process.

Reference Indices → **Construction plan progress status**

#### 4. Initiatives on reconstructing the Tsutsumine Processing Center [new]

Also according to plans for waste incineration processing facilities, we will decide on a direction for the future with a view to rebuilding the Tsutsumine Processing Center, which is the next candidate for rebuilding following on the Tachibana Processing Center.

We will be ensuring proper communication with area residents throughout the process.

Reference Indices → **Construction plan progress status**



## Basic Policy IV

### Initiatives designed to bring about a healthy, comfortable living environment

We work to ensure a safe living environment where people also enjoy peace of mind as well as health and comfort by boosting living environment conservation as well as public sanitation.

#### 1. Step up cleanup around waste collection areas and urban areas as a whole by way of regional collaboration

By enhancing education and guidance related to appropriate use of waste collection areas where waste and/or recyclables are not disposed of properly, we work to clean up these areas in collaboration and cooperation with waste reduction advisors and area residents.

**Reference Indices** Number of waste disposal improvement consultations and campaigns implemented

#### 2. Expanding on waste consultation desk services

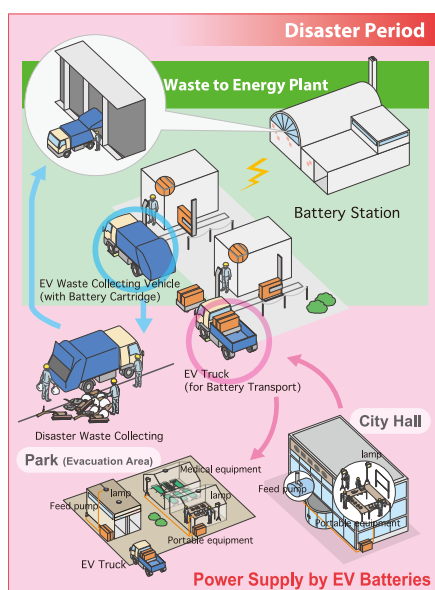
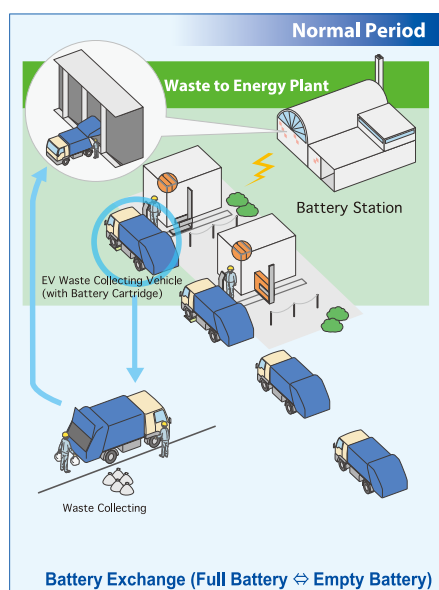
To serve residents who are unaware of the rules on how to put out household waste, etc., we have set up a waste consultation desk operating once or twice a week at municipal offices, where people can easily stop in to ask questions. We are developing means to improve this service such as increasing the number of times per week the window is open.

**Reference Indices** Number of waste consultations held at waste consultation desks

#### 3. “Fureai” collection services for the elderly as well as for people with disabilities

The percentage of the elderly in Japan is growing, and to accommodate this trend we offer a service called “Fureai” collection, where waste is picked up at the door of elderly individuals or persons with disabilities who are unable to bring their waste to the designated placed themselves.

**Reference Indices** Number of collections by Fureai



Waste collection by the “Zero Emission System” using waste power generation

## Basic Policy V

### Low carbonization and beneficial coexistence with nature

Taking the perspective of recycling, we are working on large-impact policies designed to forge low carbonization and beneficial coexistence with nature.

#### 1. Promoting waste power generation

Amongst the electric power generated at the processing center (incinerated waste processing facilities), we are moving toward selling some of the surplus power as well as adding highly-efficient heat recovery equipment at the rebuilt incinerated waste processing facilities.

**Reference Indices** Electric power generation/amount of power sold

#### 2. Develop new means of utilizing waste-generated electric power [new]

In addition to providing the verification testing field using the energy recycling collection system incorporating waste power, we also work on verification projects together with businesses on making EV waste collection more effective. In addition, we are also conducting research and study on waste power generation with a view to achieving local production/local consumption.

**Reference Indices** Initiative implementation status



### Specific policies

The current plan strives to achieve its goals--together with residents--through 66 specific policies including high-priority measures.

#### Major specific policies

- Expanding on training and education utilizing locations ideal for popularization activities
- Providing information by way of diverse media
- Expanding on waste collection by specialized groups
- Expanding on recycling routes for business-generated recyclables
- Promoting waste recycling at junior high school lunchrooms
- Utilizing private sector dynamism
- Preventing banned items from being mixed in with ordinary waste
- Promoting collaborative initiatives with various regional organizations
- Collaboration with the environmental industry