

# 3Rs & Waste Management in Tokyo

1. 3Rs and Waste Management in Tokyo
2. TOKYO 2020 Sustainability Plan and SDG-12
3. Plastic Waste and Marine litter

# 1. 3Rs and Waste Management in Tokyo

# National Legislation

## Basic Act for the Sound Material-cycle Society



**Effective Resource  
Utilization Act**

**Waste Management  
Act**

**Containers & Packaging Recycling Act**  
**Home Appliance Recycling Act**  
**Construction & Demolition Waste Recycling Act**  
**Food Waste Recycling Act**  
**End-of-Life Vehicle Recycling Act**  
**Small WEEEs Recycling Act**

# Waste Management Act

## Roles of National and Local Governments

### National Government

- Establish **basic policies**
- Formulate **waste disposal standards**
- Provide support to prefectures/municipalities, etc.

### Prefectures

- Establish **waste management plan**
- Provide **control/guidance for appropriate disposal of industrial waste**
- **License industrial waste disposal companies** and approve construction of **waste management facilities**
- Provide support to municipalities etc.

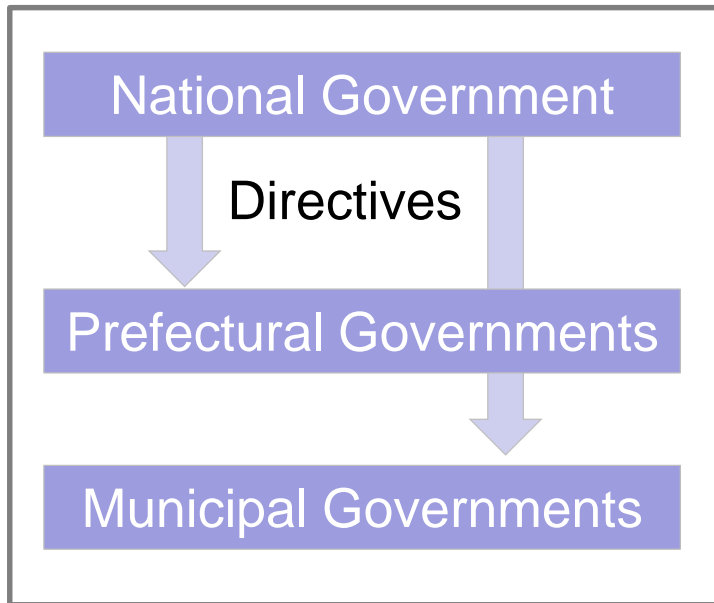
### Municipalities

- Establish **municipal waste management plan**
- **Treat municipal waste** according to the plan
- **License municipal waste disposal companies** etc.

# Two-Tier Local Autonomous System

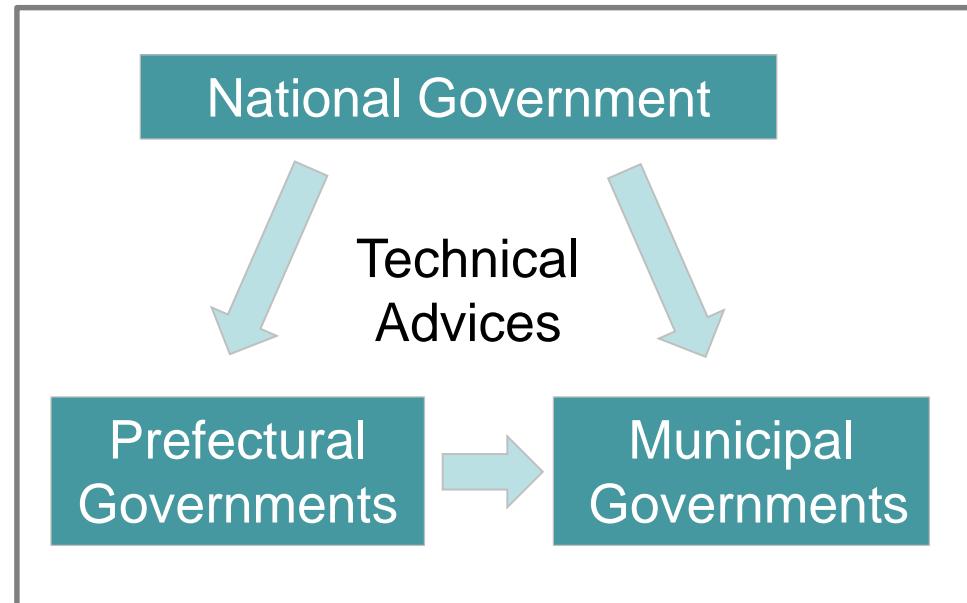
**Before the Decentralization Reform in 2000**

“Assigned Functions”



**After the Decentralization Reform in 2000**

“Entrusted Functions”

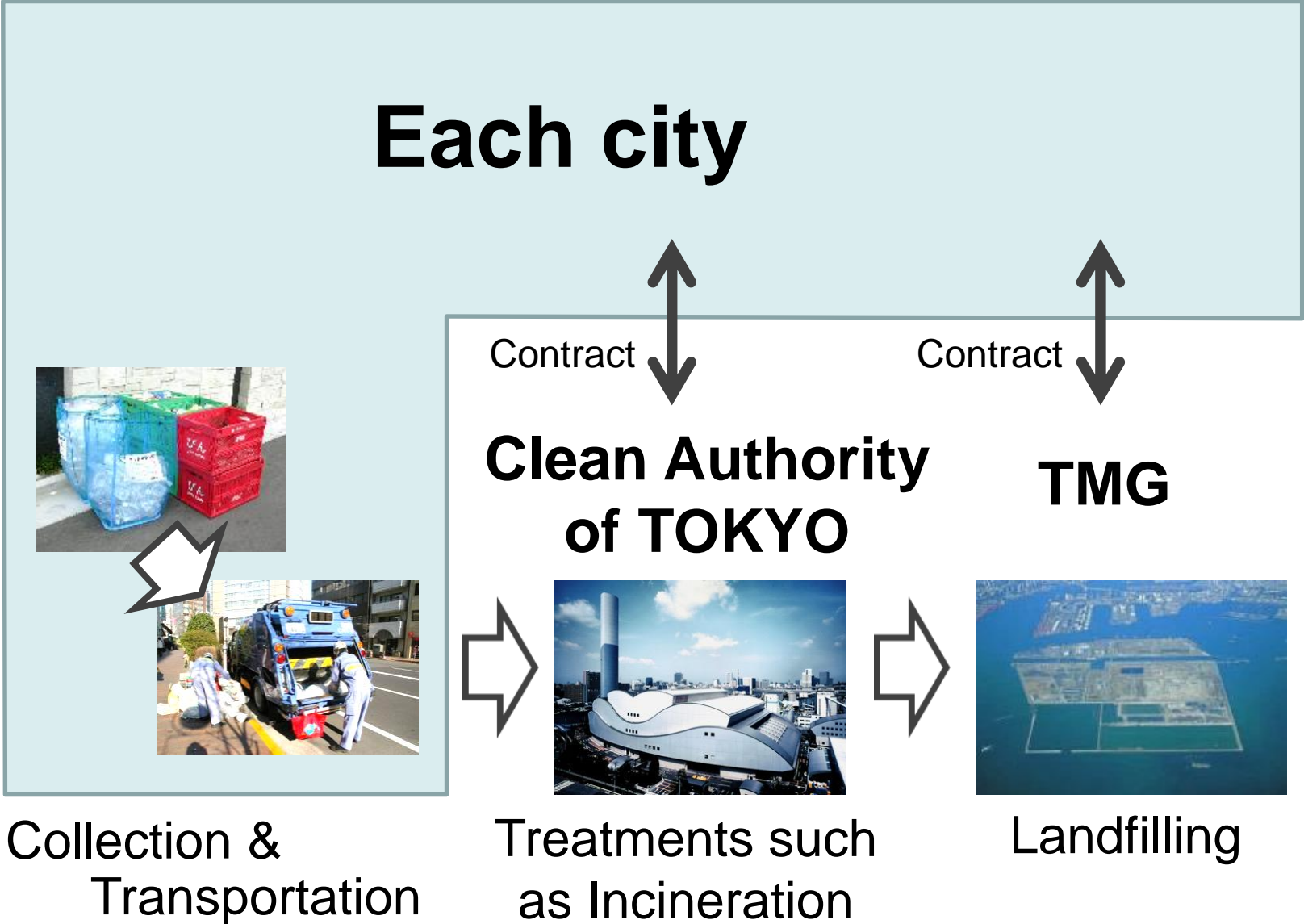


Intervention by the National Government not based on law is prohibited.

# MSW Management in 23-city area

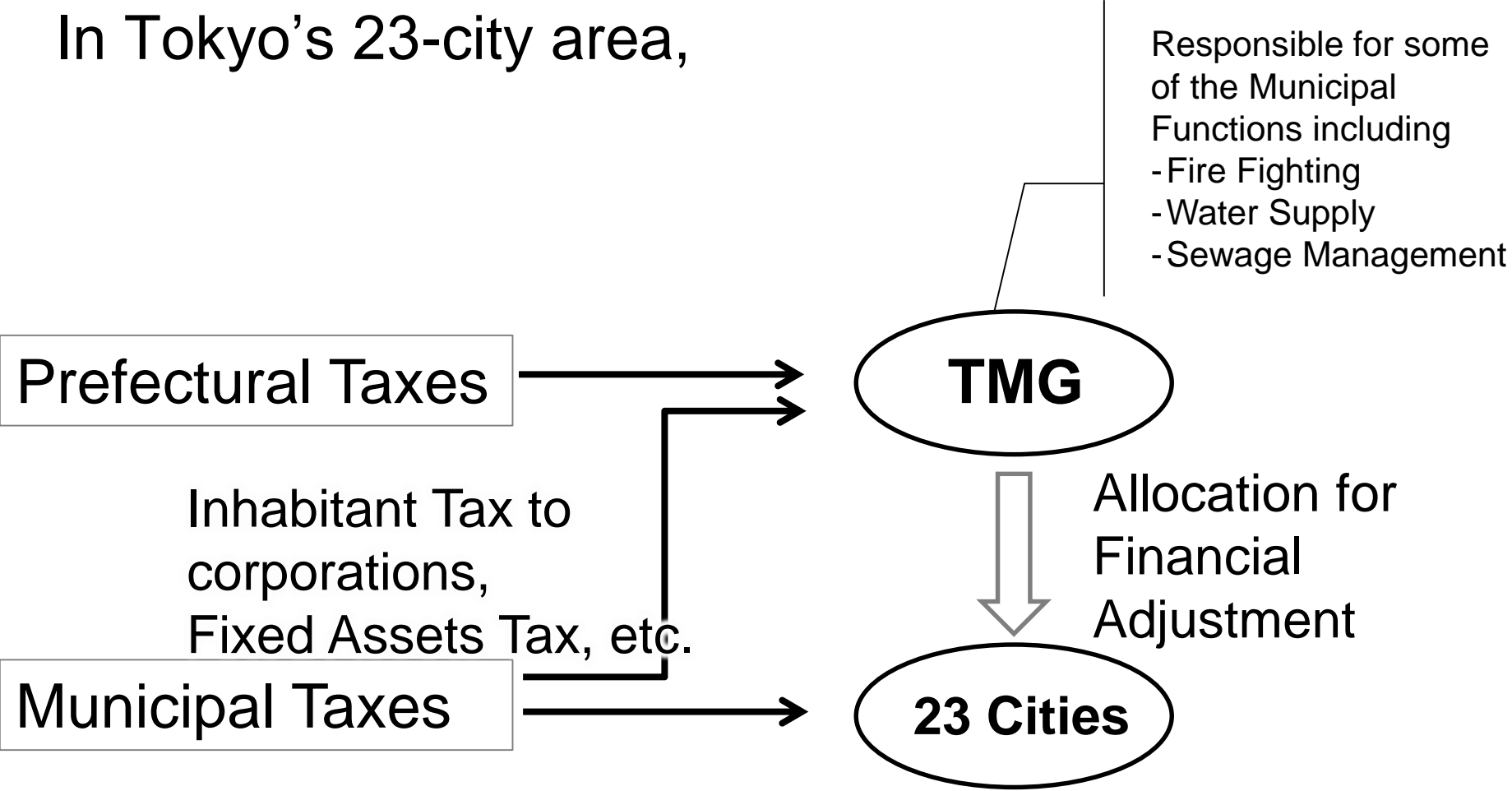
Legally Responsible

Actually Operated by



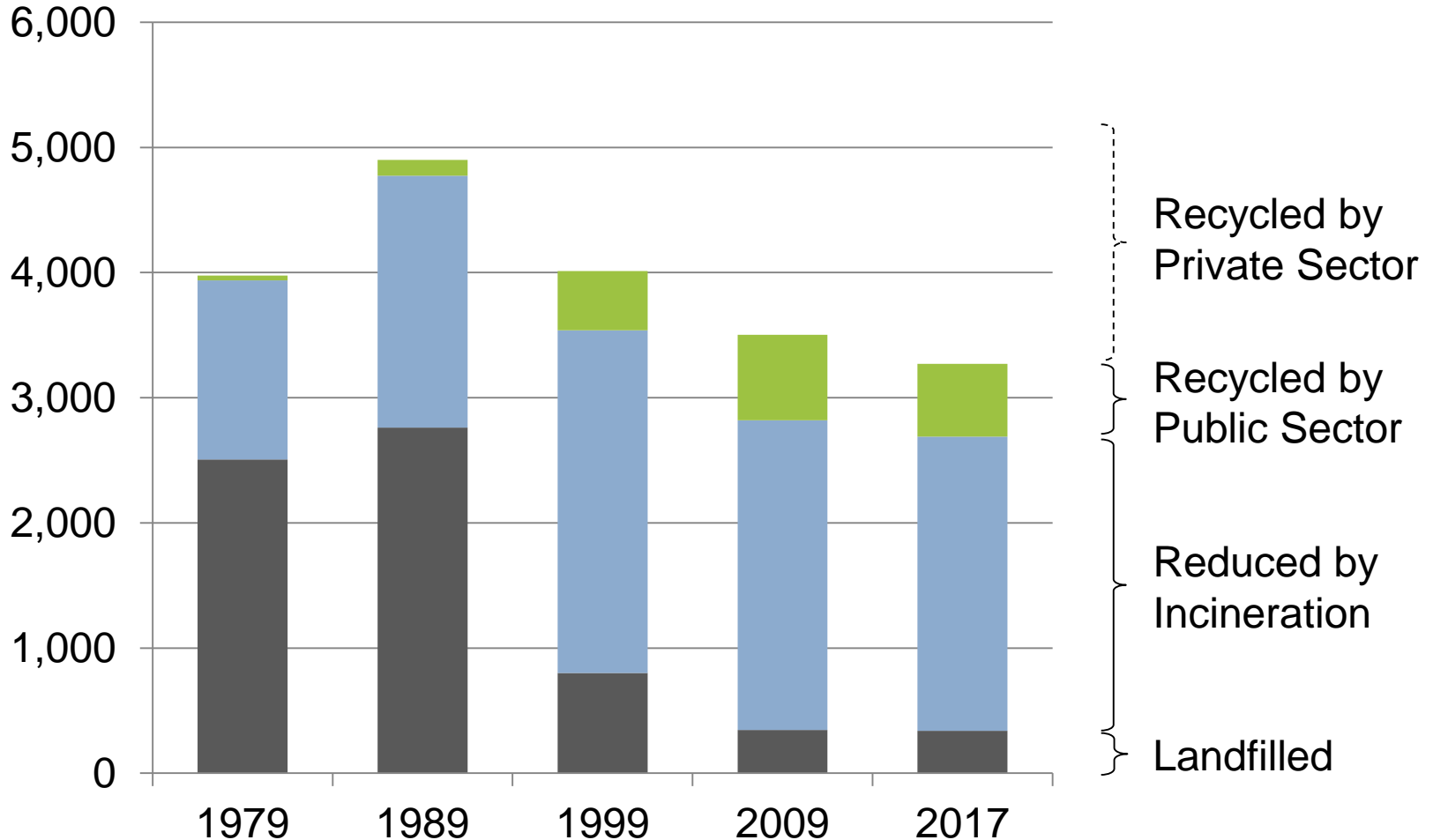
# Metropolitan Financial Mechanism

In Tokyo's 23-city area,



# Quantity of MSW in 23-city Area

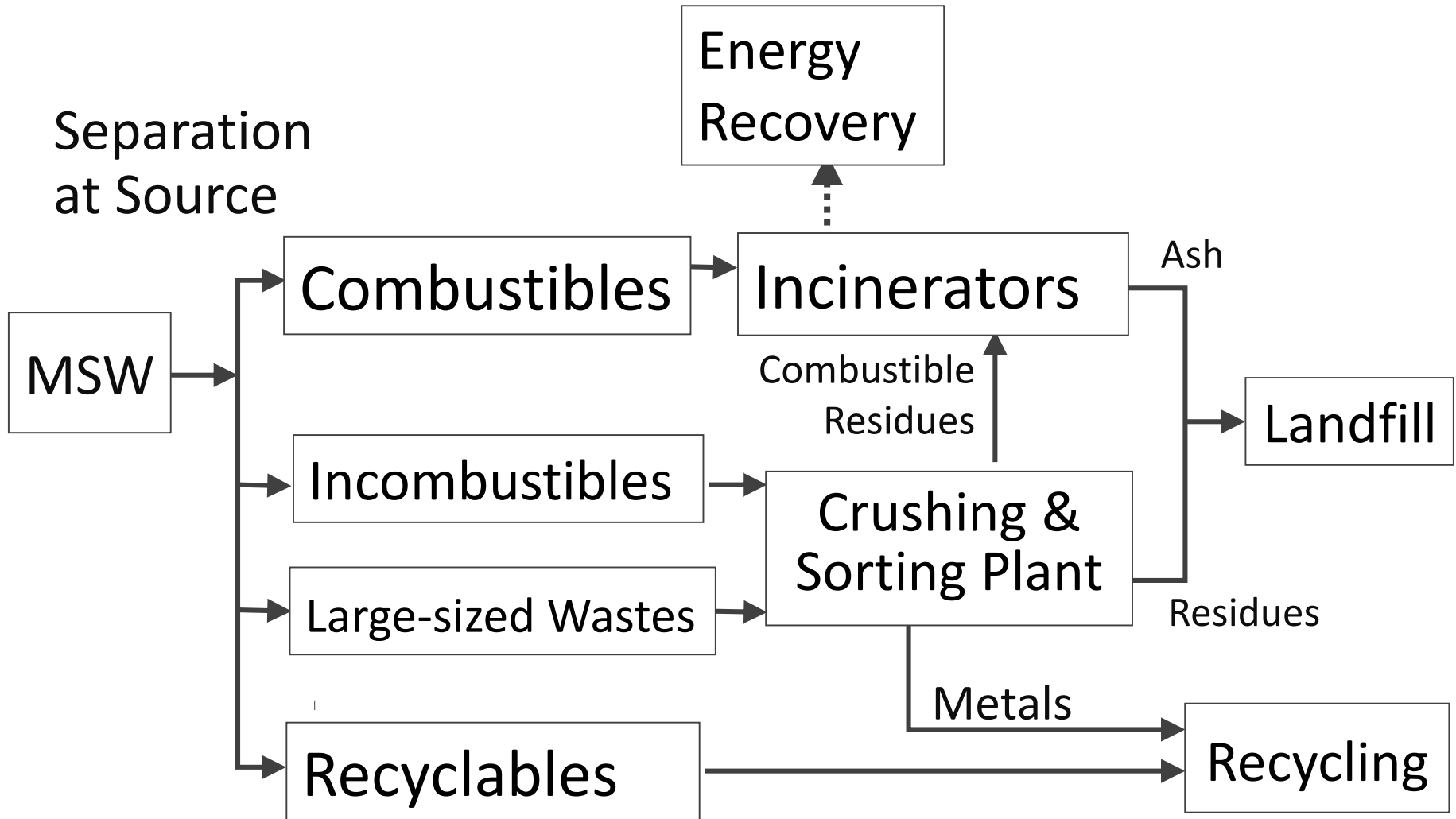
Thousand Tonnes





# MSW Flow in 23-City Area

Separation  
at Source



# Source Separation by Residents

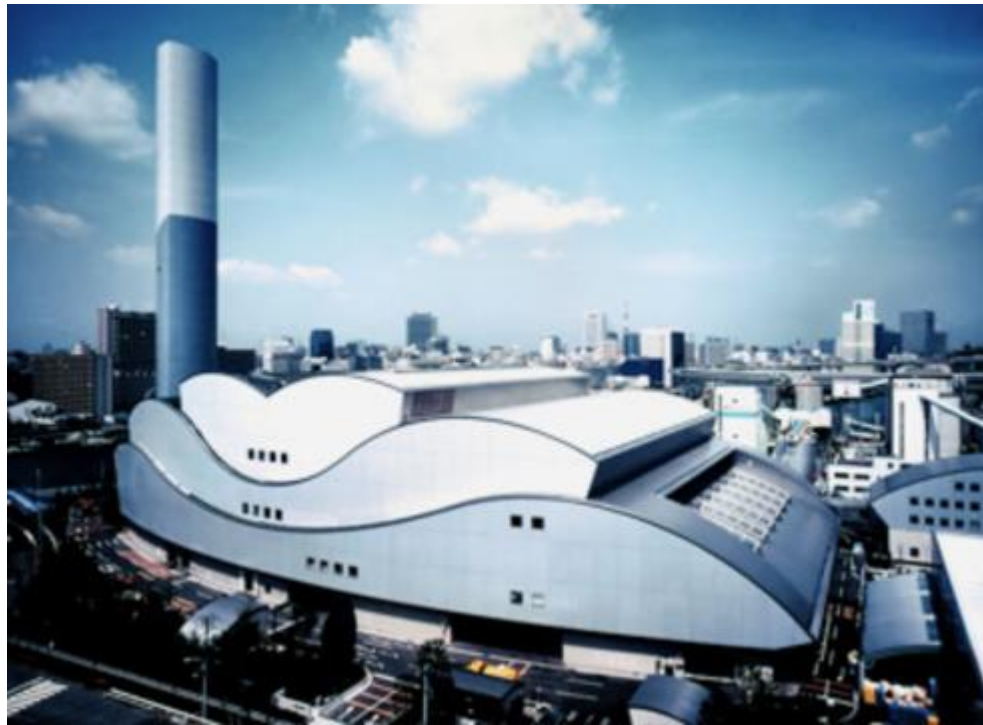


# Environmental Education



# Incineration Plants in 23-city Area

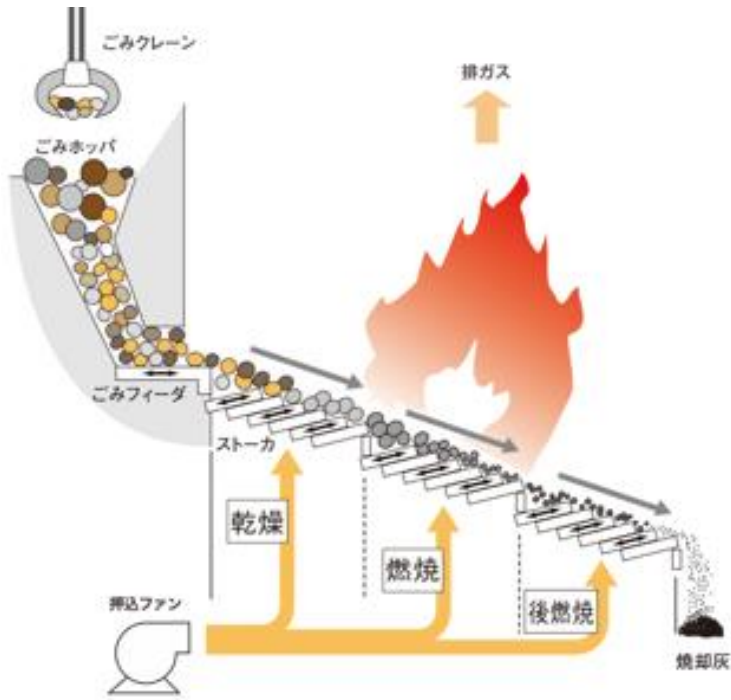
Shibuya Incineration Plant



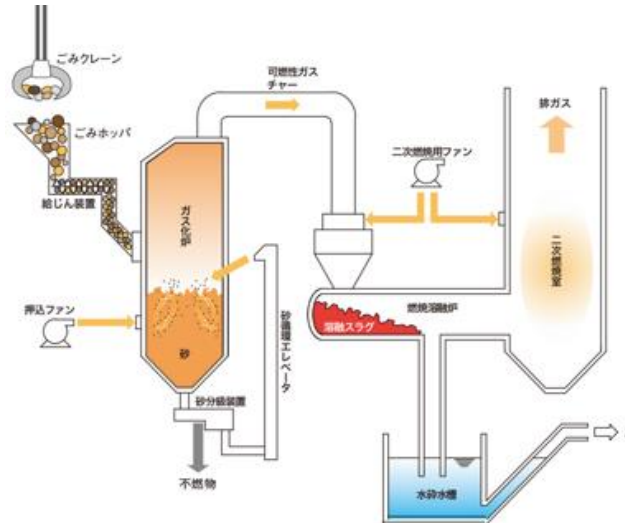
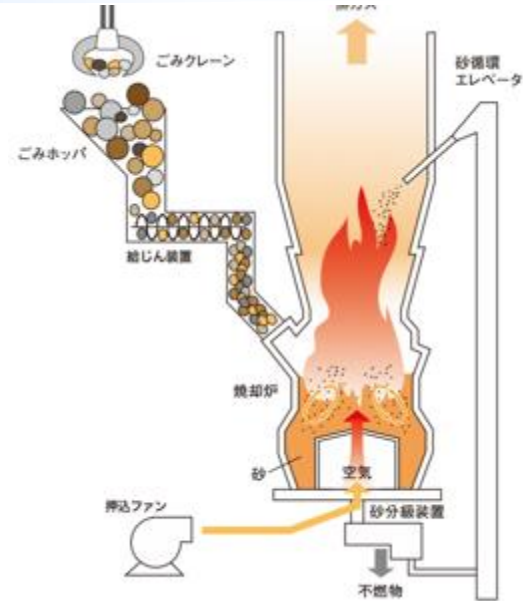
Minato Incineration Plant

# Technologies

## Fluidized Bed

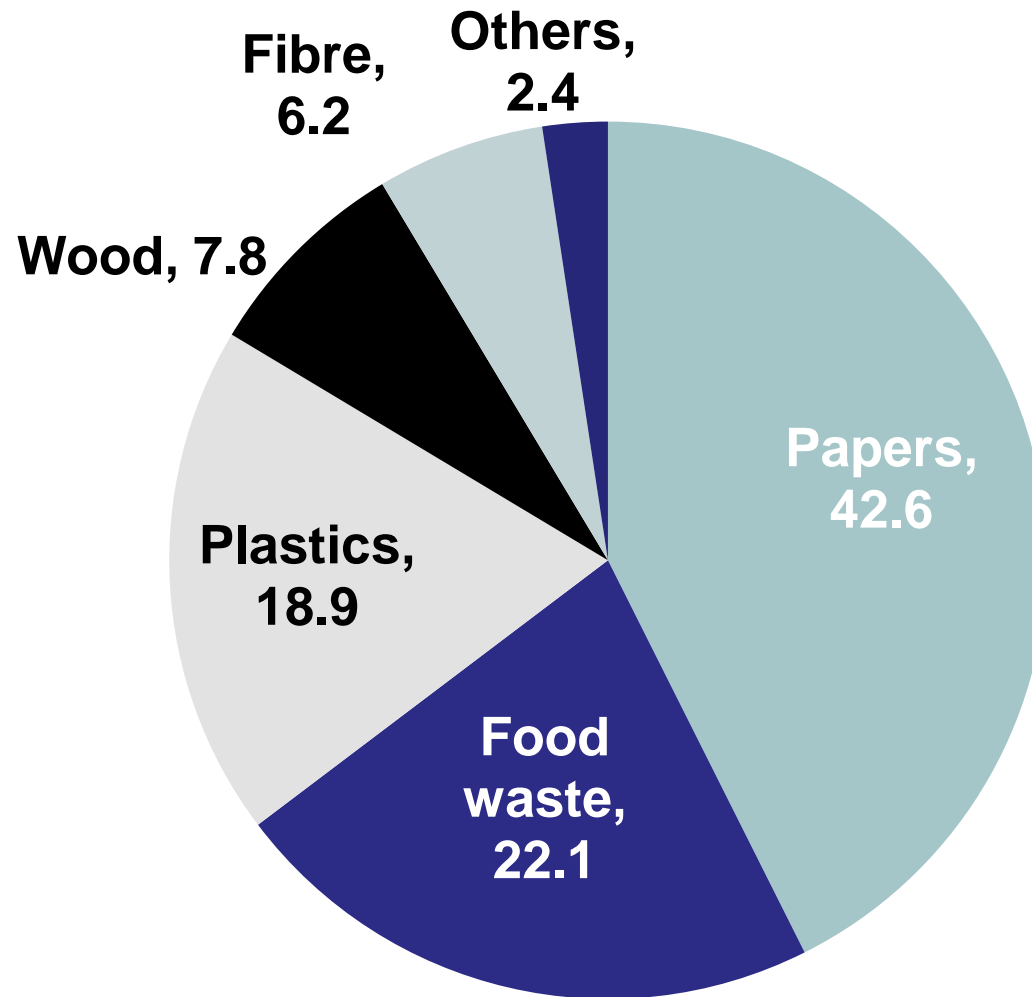


Mass-burn Unit

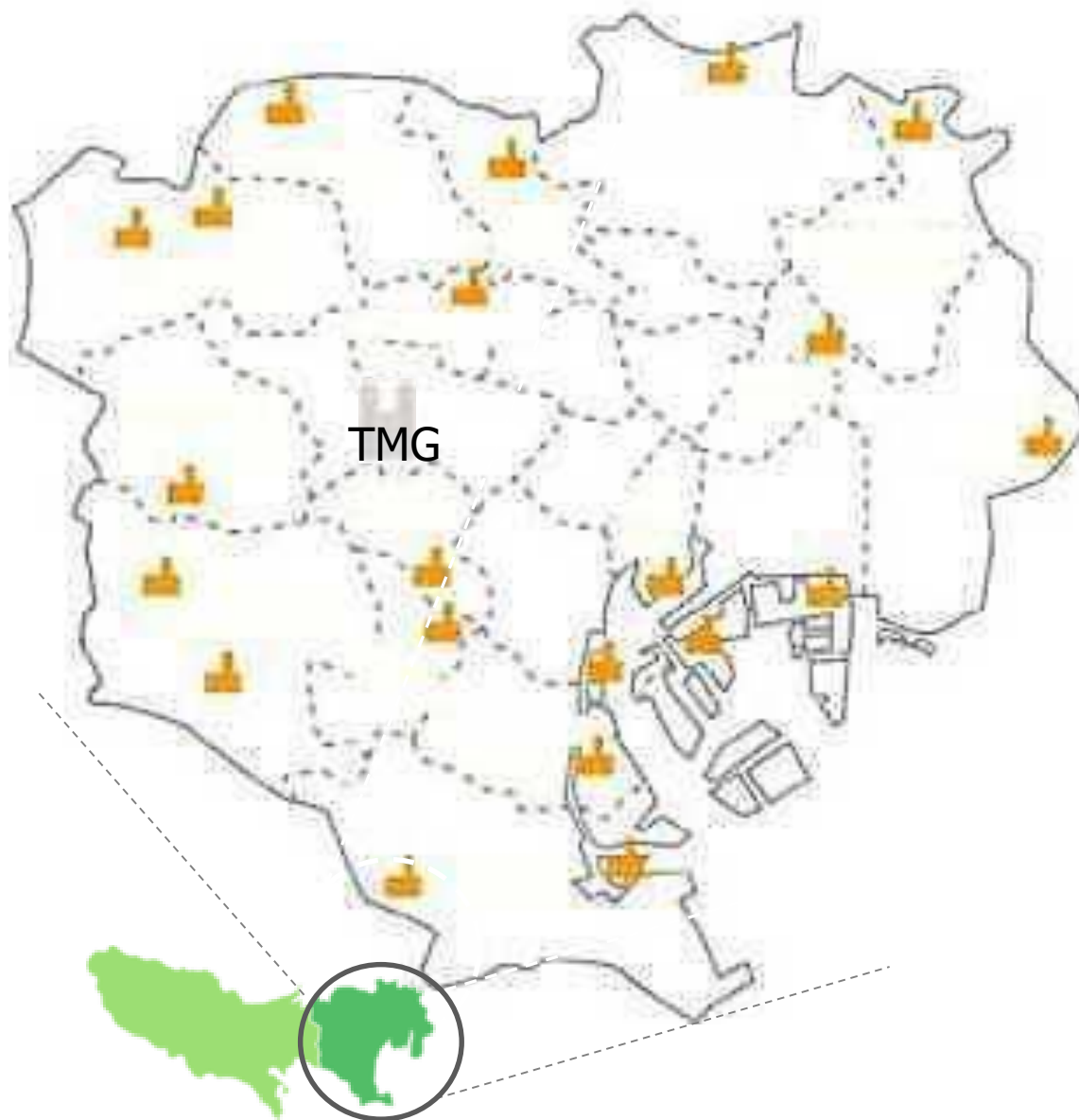


Gasification & Melting

# Composition of Combustible Waste



# 21 Incineration Plants in 23-city Area



# Landfill in Port of Tokyo

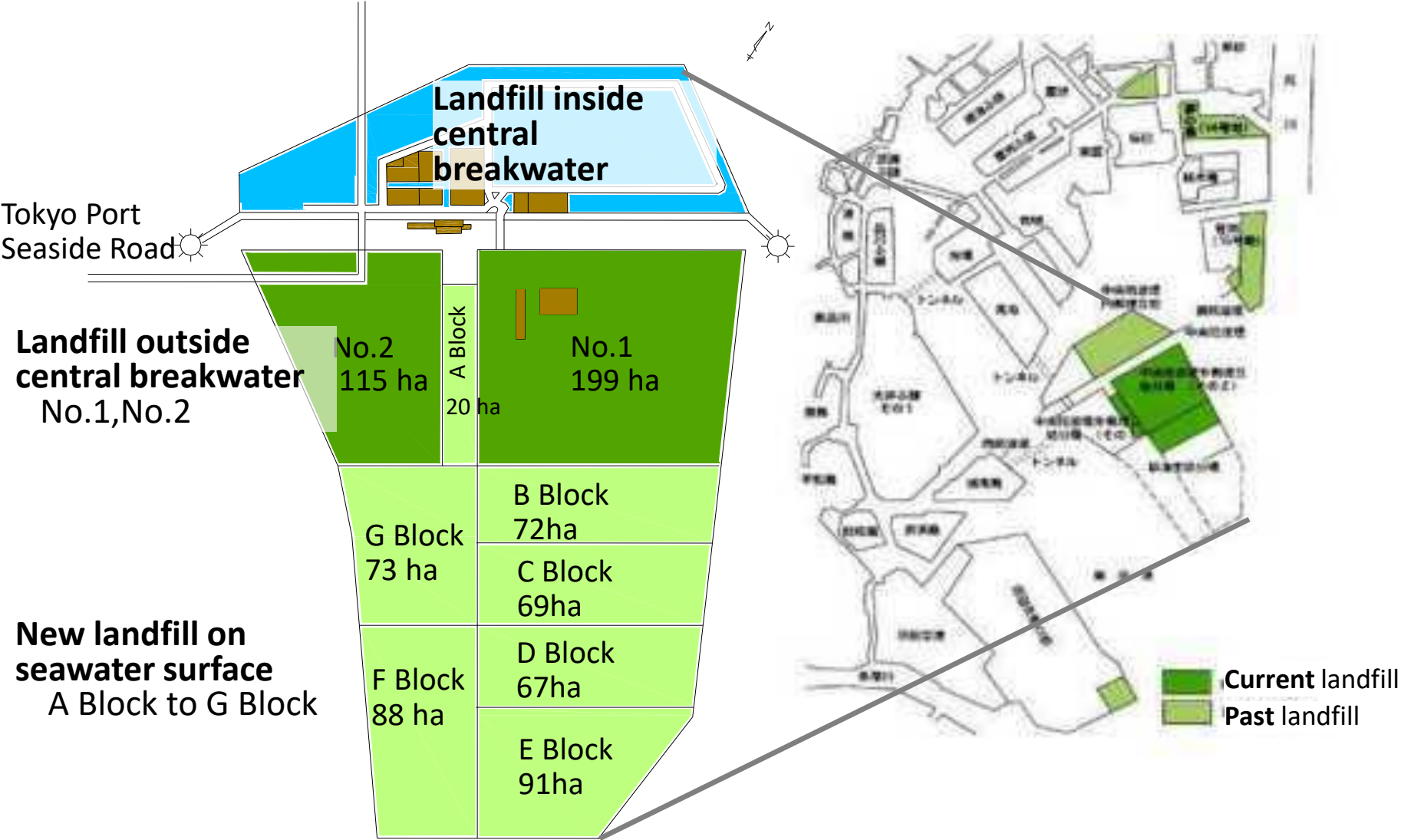


- ① 1927-1962
- ② 1957-1966
- ③ 1965-1974
- ④ 1973-1986
- ⑤ 1977-
- ⑥ 1984-1991
- ⑦ 1998-





# Landfill in Port of Tokyo

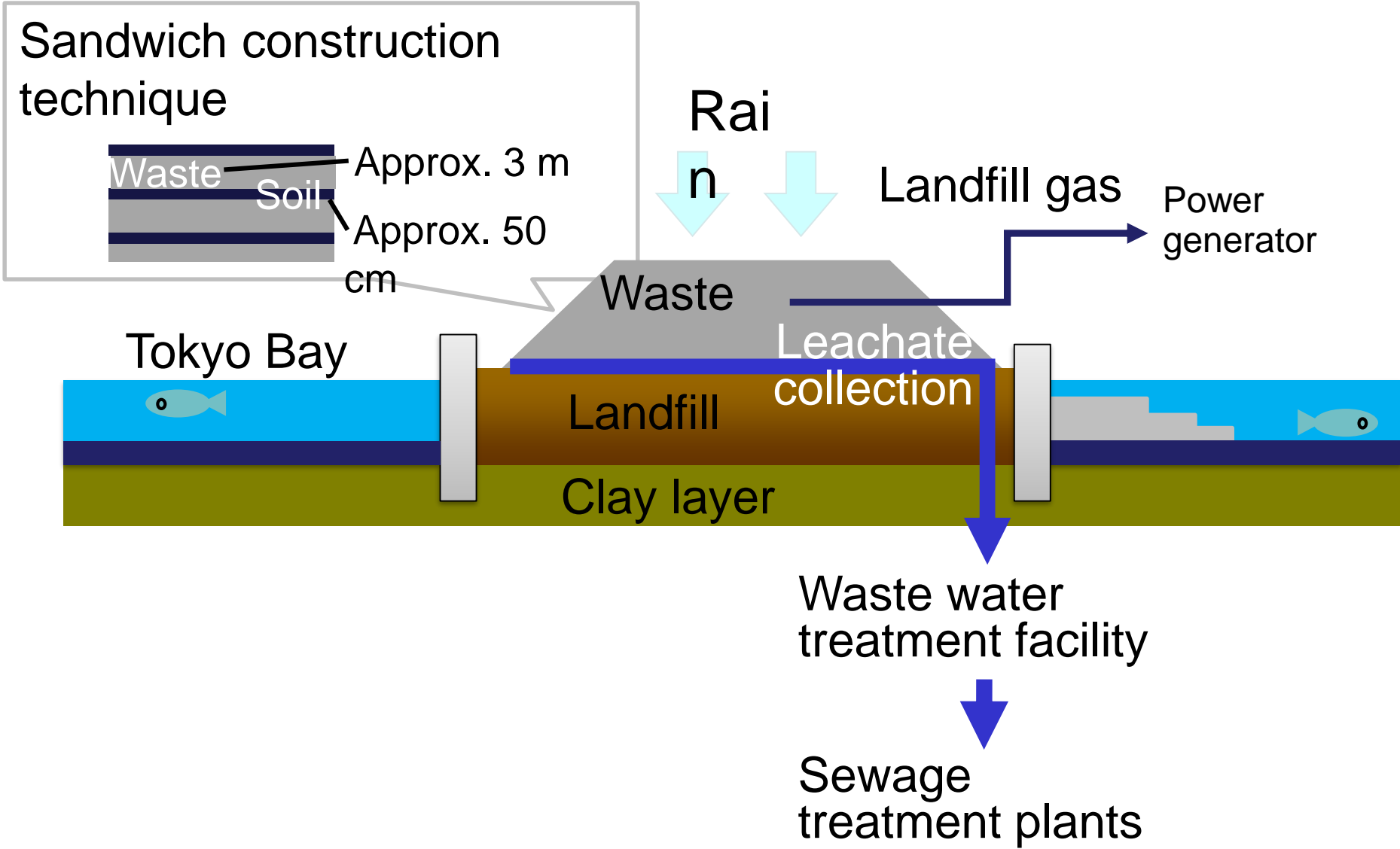


# Landfill in Port of Tokyo

Photo: Bureau of Environment, TMG



# Structure of Landfill



# Opposition against Incinerator 1950's



# Outbreak of Flies (1965)



# War on Garbage 1970's

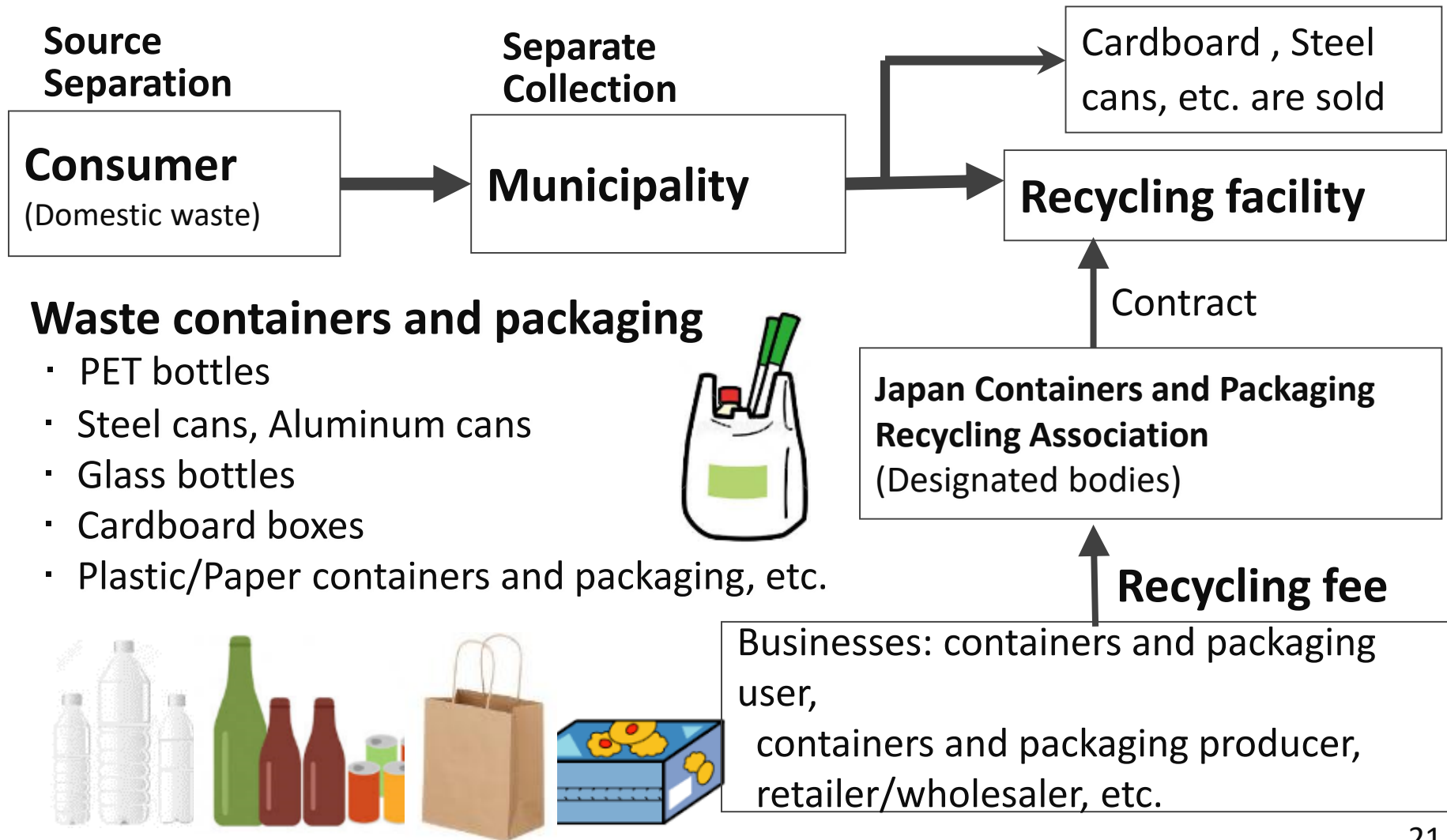


# Peak of Waste Generation (1989)



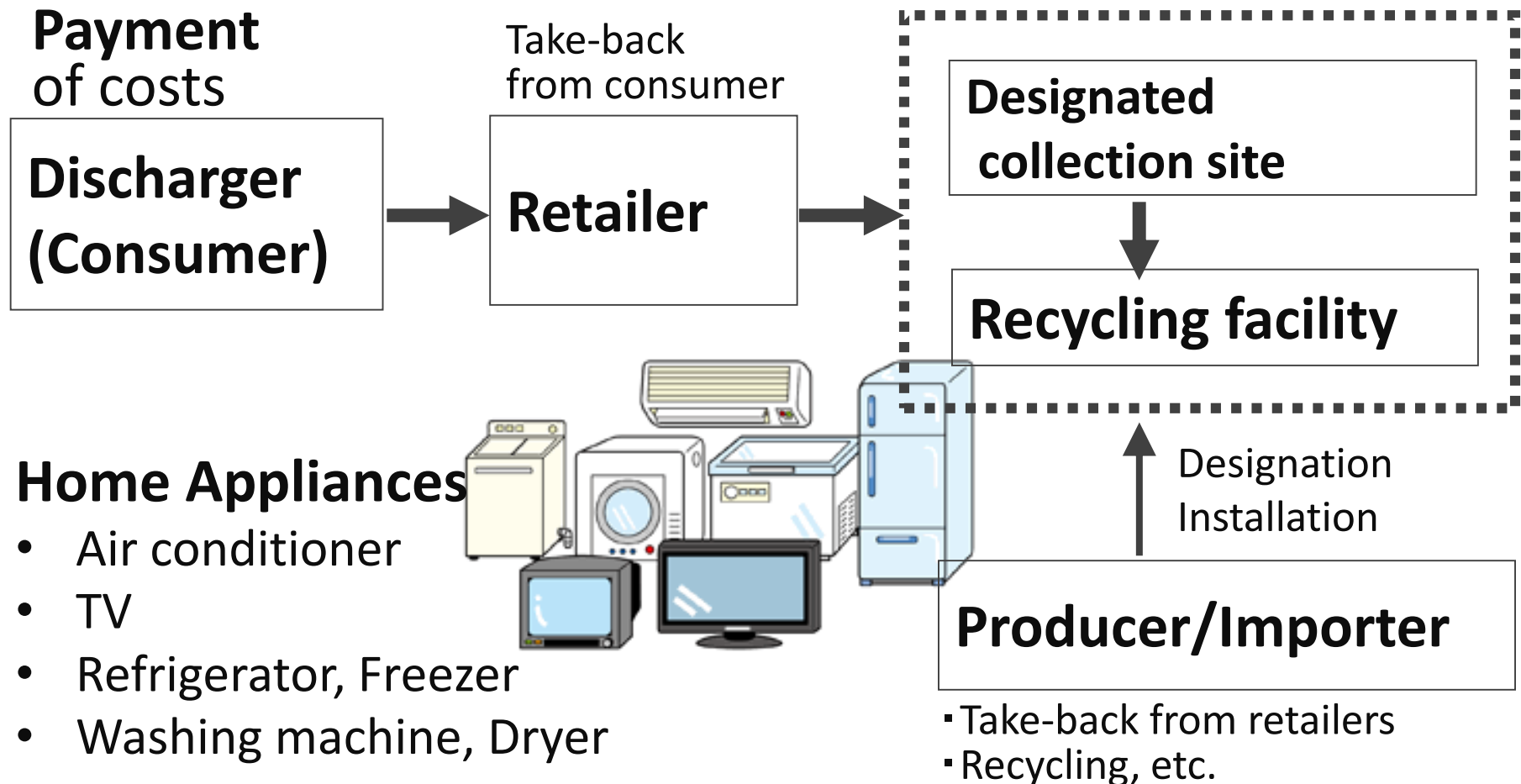
# Containers and Packaging Recycling Act

- Purpose: Definition on the roles of consumer, municipality and businesses for Waste prevention and Recycling of C&P waste from household



# Home Appliance Recycling Act

- Purpose: Definition on the roles of consumer, municipality and businesses for Waste prevention and Recycling of household waste

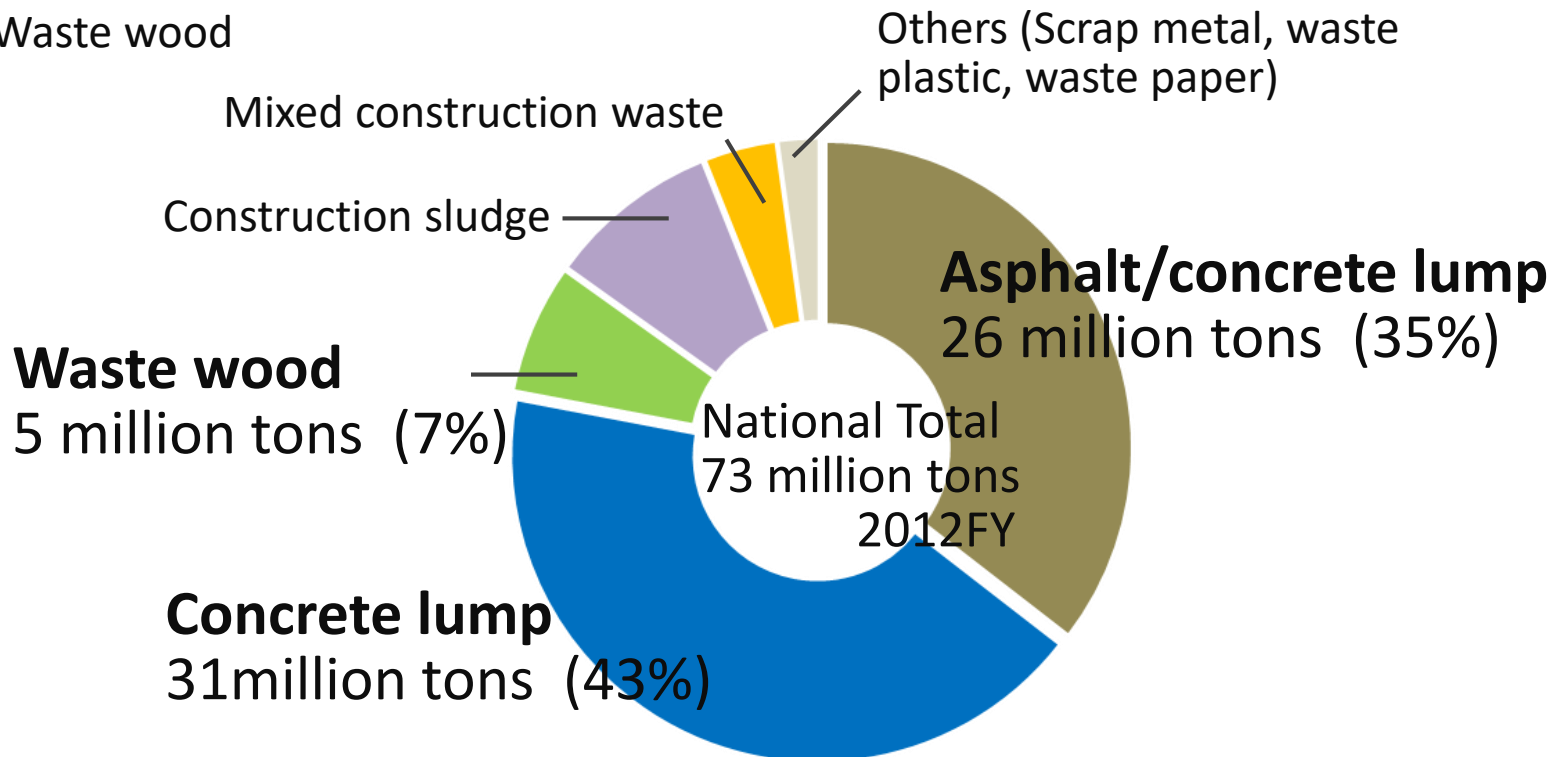


# Construction & Demolition Waste Recycling Act

- Purpose : To promote sorting and recycling of C&D waste
- Contents : Demolition, segregation and recycling conducted by the prime contractor
- Procedure of the contract between the owner and the prime contractor etc.

## Items to be recycled

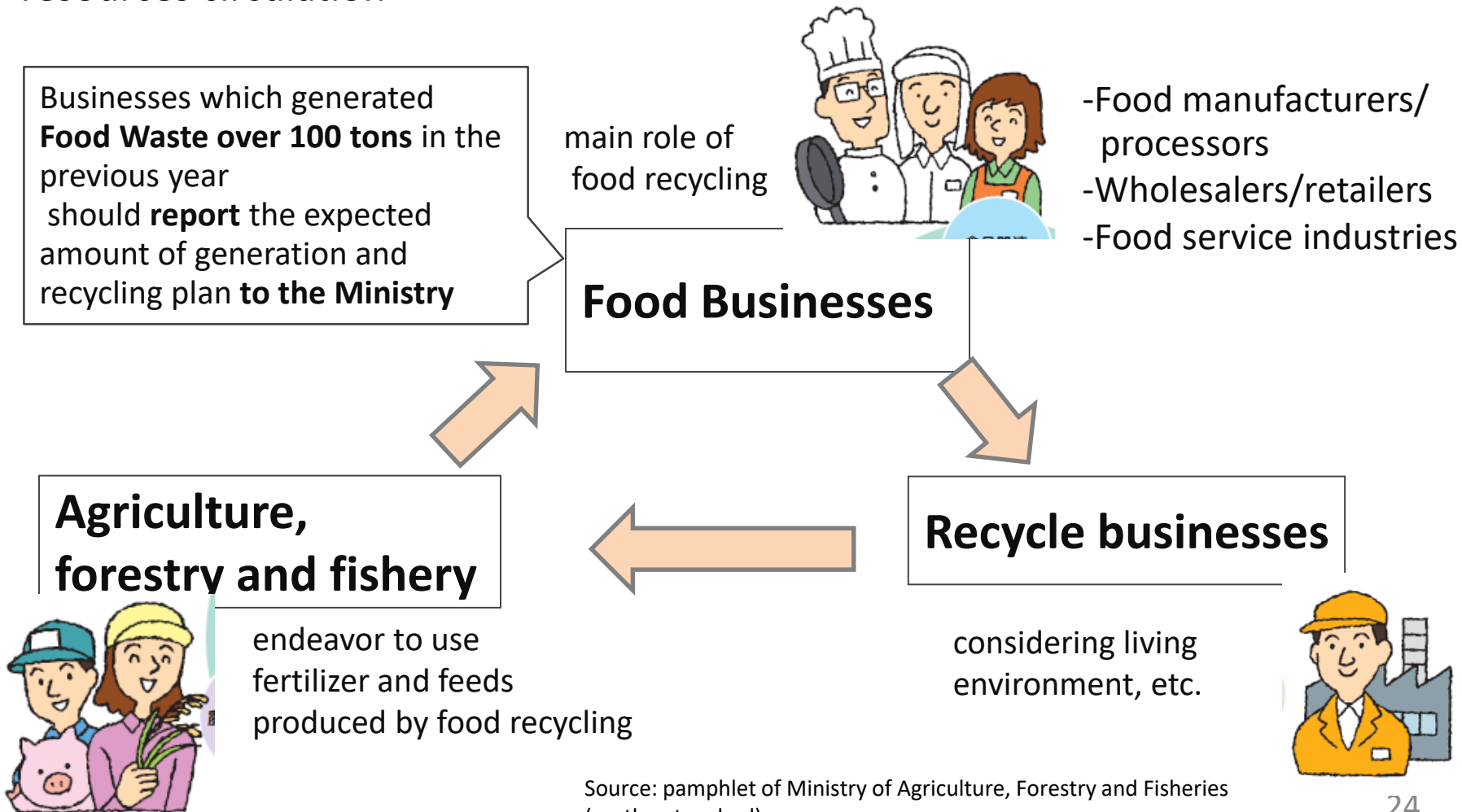
- Asphalt/concrete lump
- Concrete lump
- Waste wood



Construction & Demolition Waste

# Food Waste Recycling Act

- Purpose: Waste prevention and Reduction of volume on food waste by food businesses to reduce final disposal volume  
Promotion of Composting and producing animal feed by food waste for food resources circulation



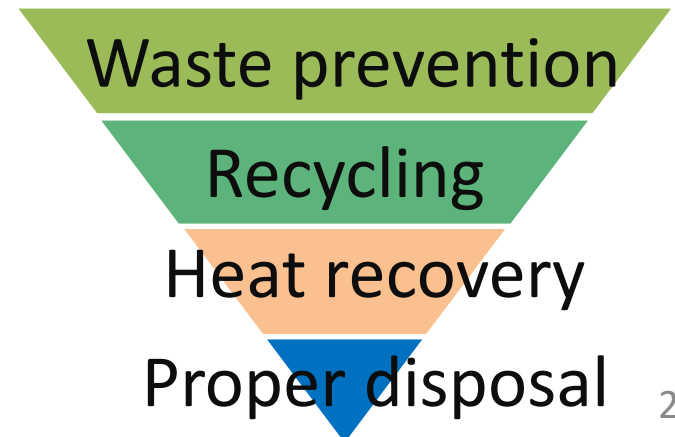
Source: pamphlet of Ministry of Agriculture, Forestry and Fisheries (partly retouched)



# Food Waste Recycling Act

	Amount of generation (k tons:FY2016)	Rate of recycling etc.(%) FY2016	Target rate of recycling etc.(%) by FY2019
<b>Total of Food industries</b>	19,700	85	-
<b>Manufactures/ Processors</b>	16,170	95	95
<b>Wholesales</b>	270	65	70
<b>Retailers</b>	1,270	49	55
<b>Food service industries</b>	1,990	23	50

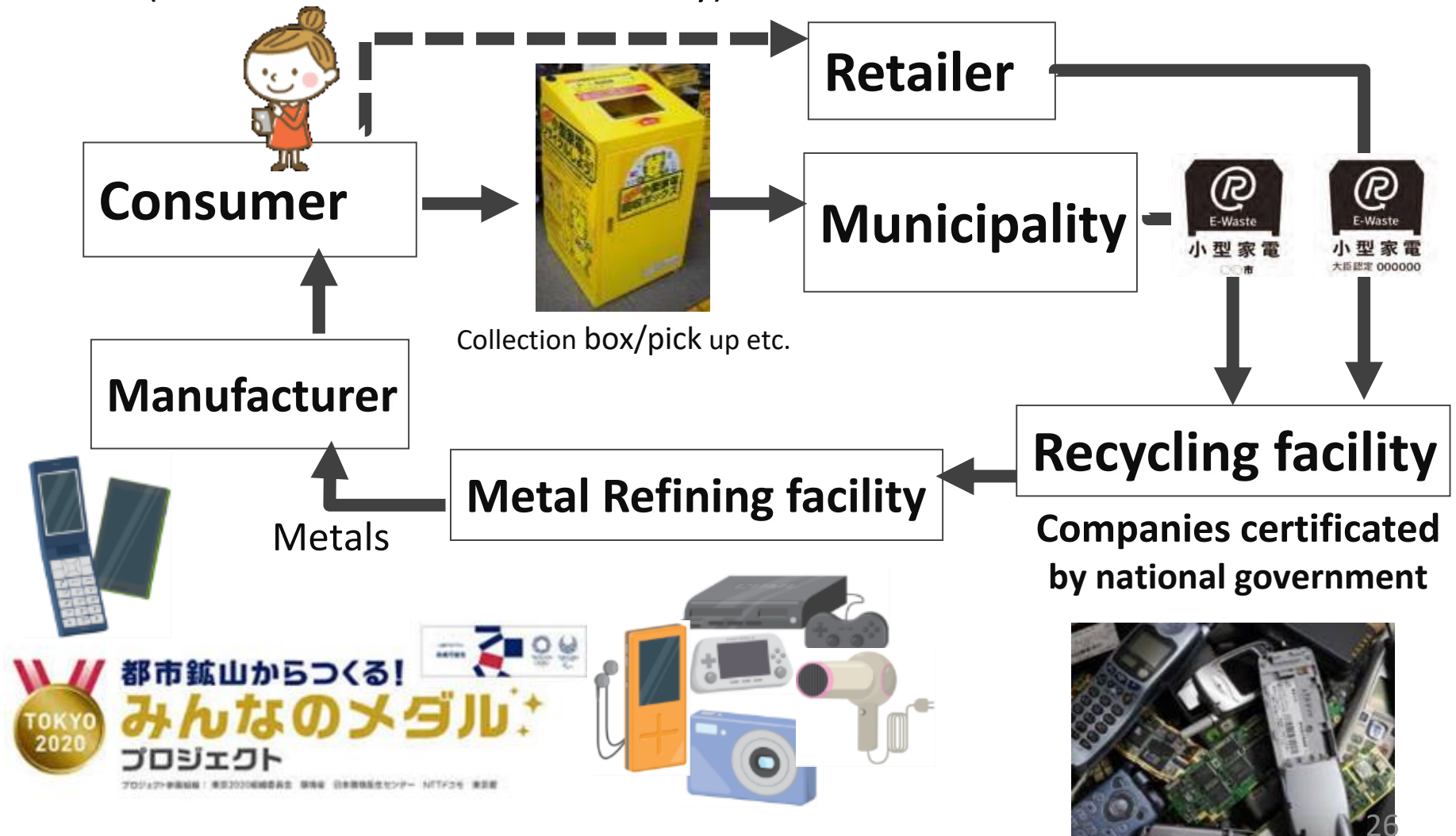
Food waste  
 -Processing residue  
 -unsold  
 -Cooking scraps, uneaten



# Small WEEEs Recycling act

From April 2013

- Purpose: To promote recycling of precious metals used in small electronic devices (but its scheme is not mandatory)



## 2. TOKYO 2020 Sustainability Plan and SDG-12

# Tokyo 2020 Sustainability Plan ver.2

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## ➤ Table of Contents (draft)

### Introduction

#### **1 Basic Concepts**

- ✓ Our Values and SDGs
- ✓ Main Themes
- ✓ Stakeholders
- ✓ Scope
- ✓ Governing Principles

#### **2 Goals and Targets**

- ✓ Climate change
- ✓ Sustainable resource use
- ✓ Air, Water, Greenery and biodiversity
- ✓ Human rights, labor and fair business practices
- ✓ Involvement, cooperation, and communications

#### **3 Action Plan**

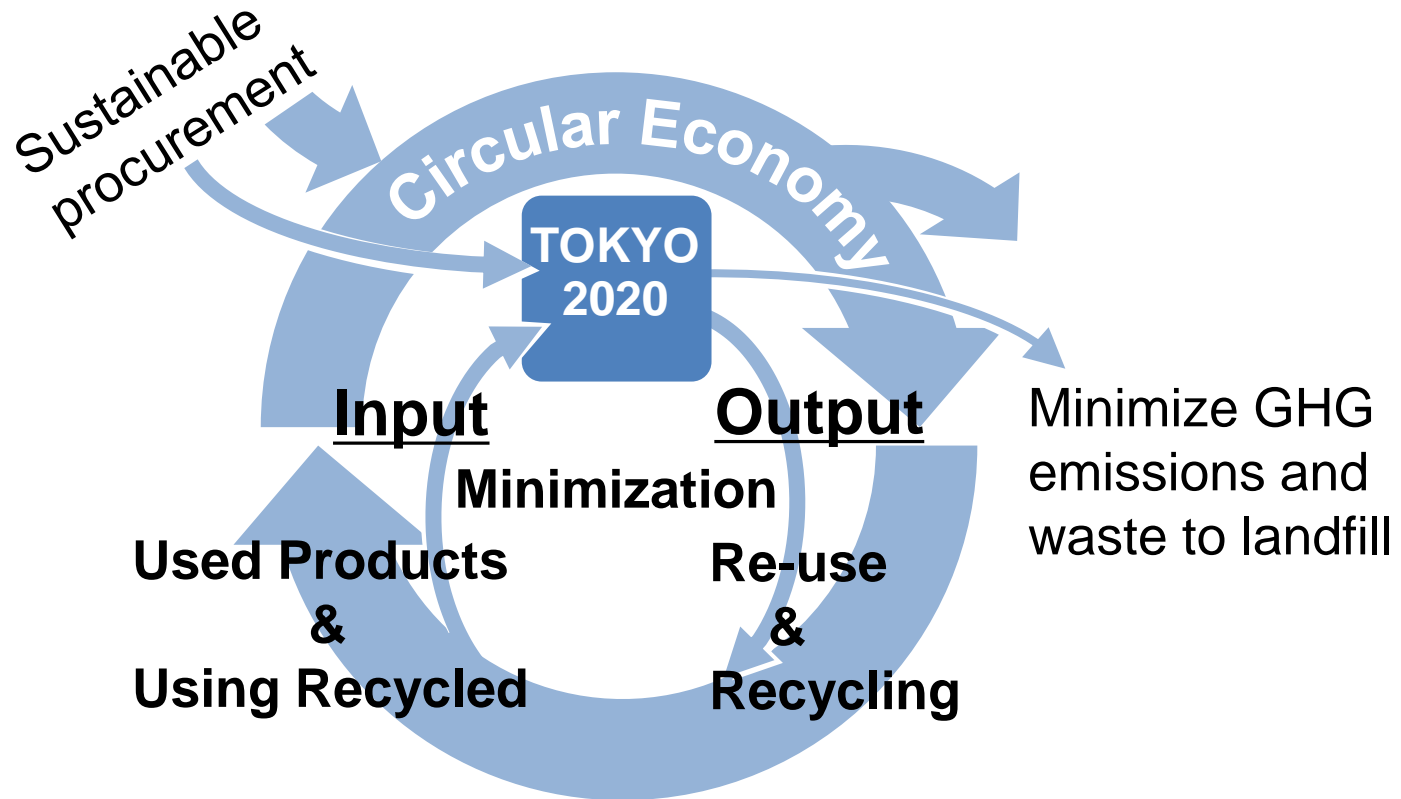
- ✓ By FAs
- ✓ By Venues

#### **4 Management System & Tools**

- ✓ ISO 20121
- ✓ Monitoring
- ✓ Expert Groups, etc.
- ✓ Sourcing Code
- ✓ EIA

# How to achieve “Zero Wasting” ?

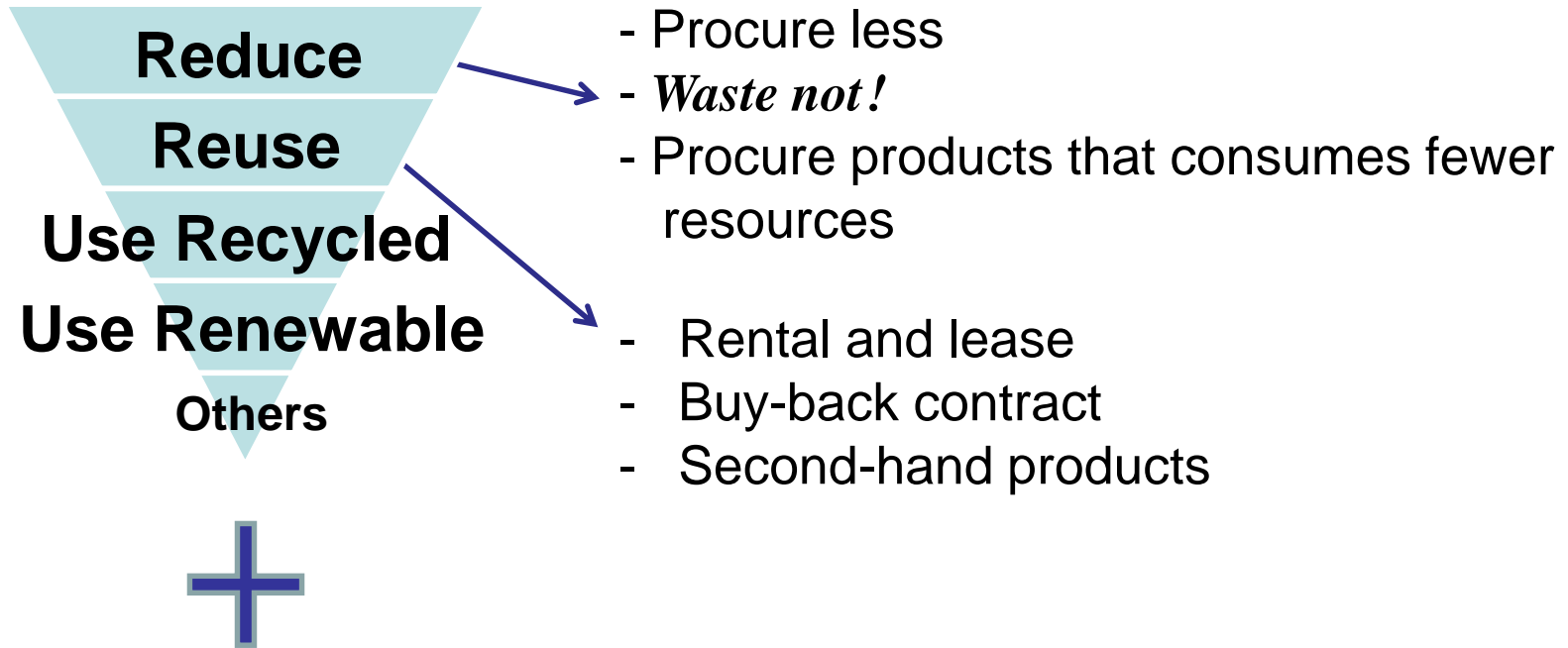
## Input & Output Approach



## A Blueprint for Circular Economy

# Priority on the Input-side

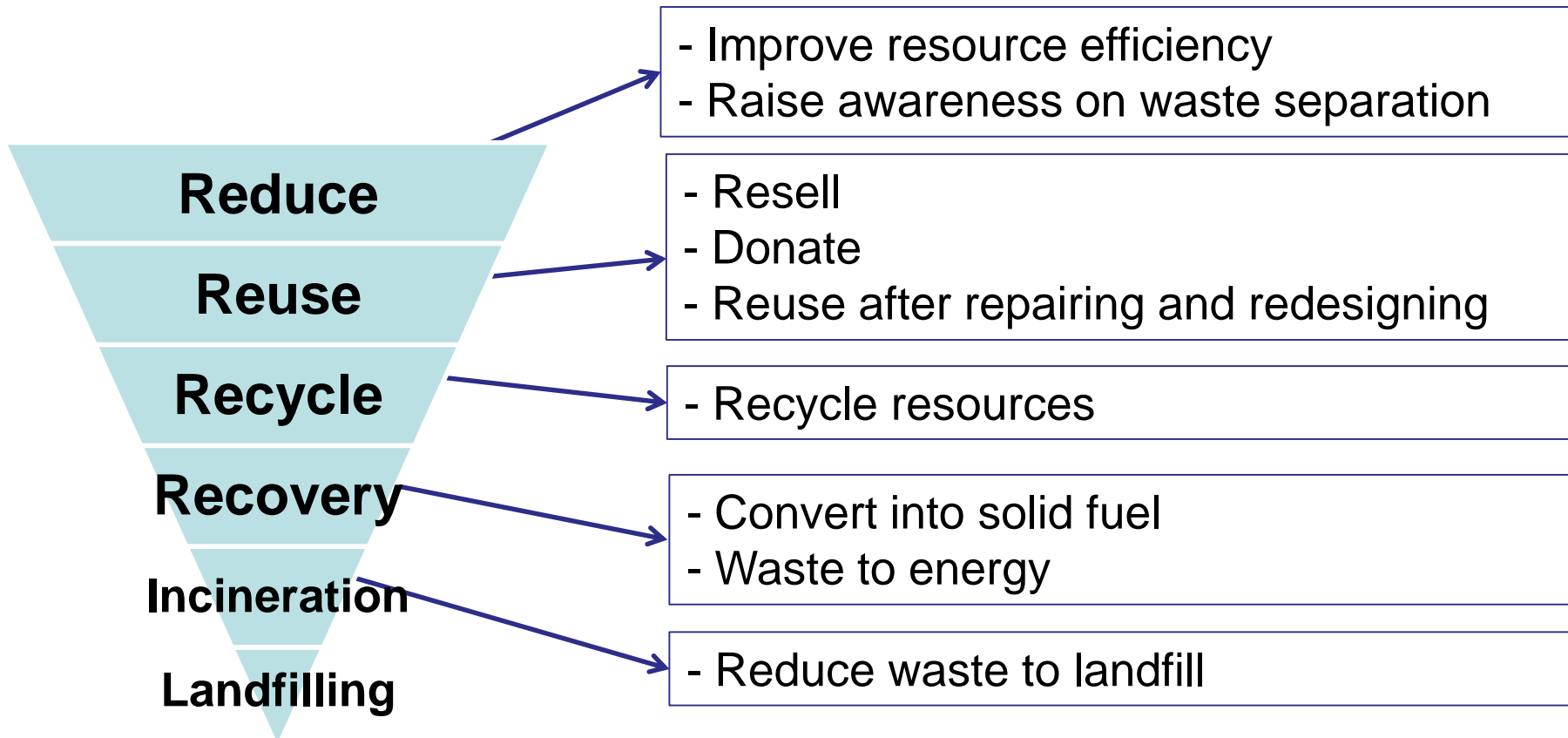
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Procure products which are:

- **Reusable;**
- **Recyclable;**
- **For long-term usage.**

# Priority on the Output-side



# Ten Objectives for Zero Wasting

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1. Avoid **food loss**
2. Reduce **packaging**
3. Reuse **products**
4. Use **recycled materials**
5. Produce **medals from recycled metals/e-waste**
6. Reuse/recycle **operational waste**
7. Recycle **food waste**
8. Reuse/recycle **construction waste**
9. Use the **recyclable materials**
10. Reduce **GHG emissions** and **waste to landfill**



# Tokyo 2020

## Mobiles to Medals Project in Paris

2018.10.31～11.7 :

With the cooperation of the City of Paris, collection boxes are planned to be installed around Paris to promote this project.



\* Outline of the project:

The Organizing Committee will **manufacture approximately 5,000 gold, silver and bronze medals** for the Olympic and Paralympic Games from consumer electronics such as used mobile phones.



# 3. Plastic Waste and Marine litter

# Litter in Tokyo

## Washes into Pacific Ocean Ending Up as Marine Litter

Litter on the streets in town is blown by wind and/or rain into rivers or waterways, then carried into the ocean, floating as marine litter.

Why Not Start Reducing Marine Litter?



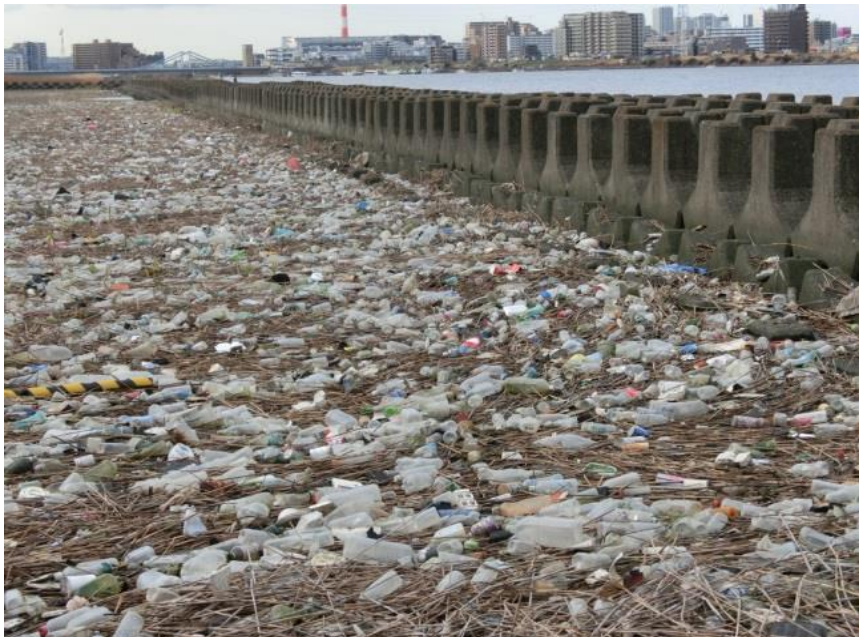
floating litter



beach litter

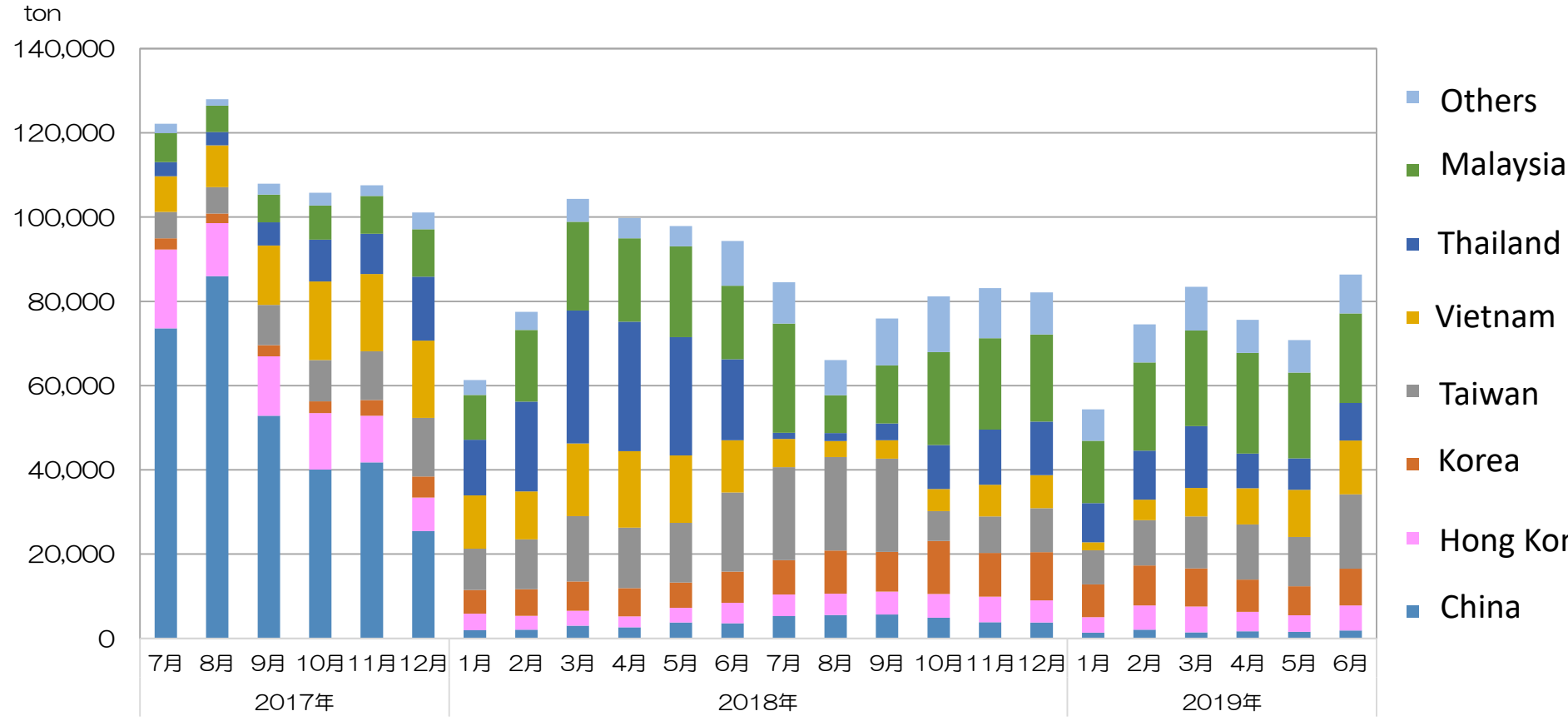


# Situation at Arakawa River



Cited from Arakawa Clean-aid Forum

# Export volume of plastic waste from Japan



出典：貿易統計

□ China's import ban, plastic waste from Japan goes to Southeast Asia.

# Establishment of “Team Mottainai”

In August 2018, TMG created a Team Mottainai in partnership with businesses, NGOs and other organizations.

This team aims to raise people’s awareness of “mottainai” and to encourage people to change their behavior to contribute to the **saving of food, materials, and energy.**

The Japanese word “mottainai” has the sense that something is too precious to waste and also expresses respect for the Earth’s resources.



Team Mottainai kick-off event



# U20 Summit May 21<sup>st</sup>, 2019

Governor of Tokyo declared that it will seek to achieve the 1.5 degree goal and by 2050, become a **'Zero Emission Tokyo'** that contributes to the world's net-zero carbon emissions.

As part of it, TMG will work to reduce and recycle plastic waste from households and large-scale office buildings, with the aim of reducing plastic waste incineration by 40% by 2030.



# Environmental Education



Short Educational Film :  
Message from Kids in Tokyo &  
New York City



Special Class at elementary school by Governor Koike 40



# Creating New Business Models

TMG selected 2 cutting-edge projects after public offering.

## 1. Loop Project (Reusable containers)

(By LOOP Global Holdings LLC, TerraCycle Japan)

It is planned to be launched in Tokyo in May, 2020.



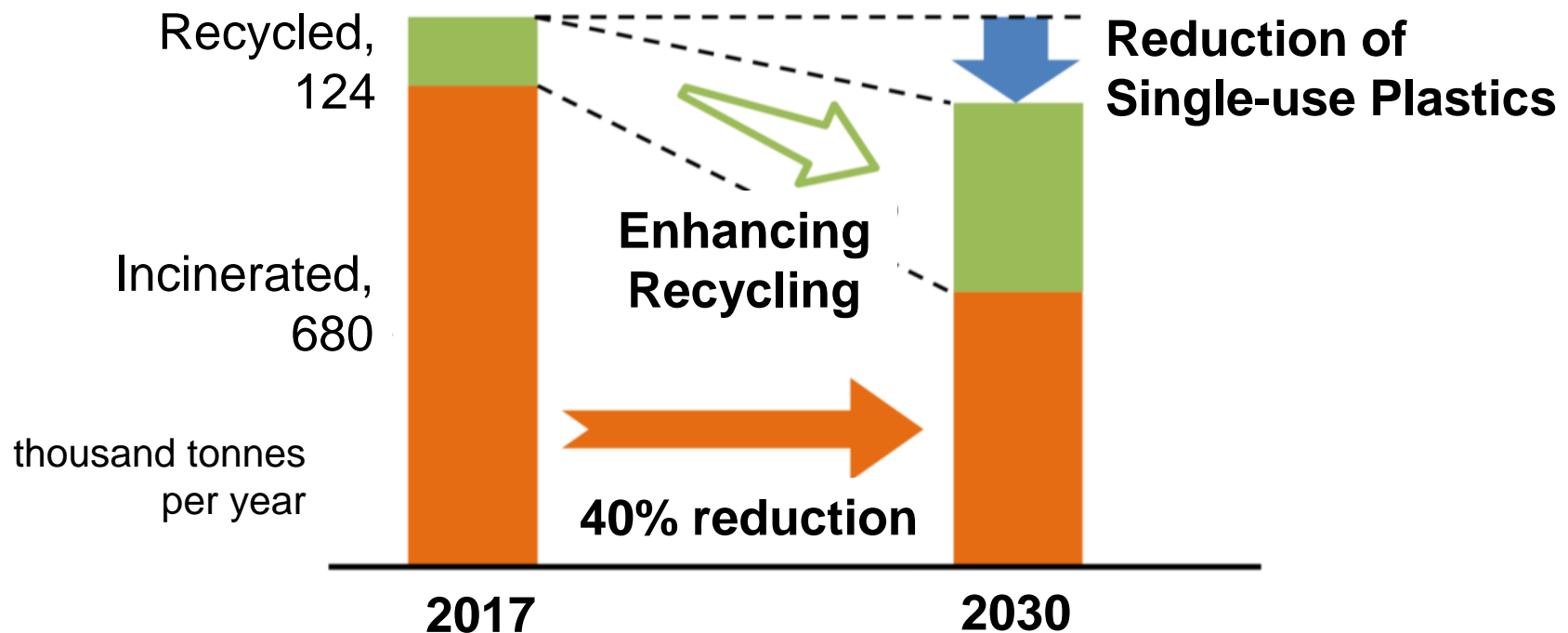
## 2. Recycling of Used Paper Cups

(By ITOCHU Pulp & Paper Corporation)

From 21st October to 20th November, trial is underway at seven shops in Tokyo.

# Our Target

- In addition to the national target, reducing single-use plastics by 25% by 2030, etc.,
- TMG aims to reduce the amount of plastic waste incinerated by 40% by 2030 in Tokyo.



# TMG's Plastic Reduction Policy

- ◆ To achieve Zero Emission Tokyo by 2050, it is necessary to reduce emissions associated with plastics to net zero.
- ◆ We must strengthen even further our commitments to reduce single-use plastics at TMG, where many resources are consumed, in order to act as a model for Tokyo citizens and business operators.

## Basic principles

- Reduce the use of single-use; promote the use of own bags, bottles, etc
- When the use of plastics is unavoidable, consider using the following:
  - (1) recycled plastics (2) sustainably sourced biomass plastics
- When plastic waste is generated, separate them properly and recycle them in the following manners :
  - (1) mechanical recycling (2) chemical recycling

- Ban the use of pet bottles and plastic straws at conferences held at TMG office as well as promote the use of recycled plastics at events and in our business operations.
- The immediate goal is not to use the single-use plastic cups at the official events from 2020.



Thank you for your attention !