

Food Waste Recycling in Japan

Tokyo Metropolitan Government

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1 Food waste and Food Waste Recycling Law

International Initiative for sustainable resource use

Sustainable Development Goals: SDGs September, 2015

Goal 12: Ensure sustainable consumption and production patterns



TMG 5-year strategy : Sustainable Design Tokyo 2016

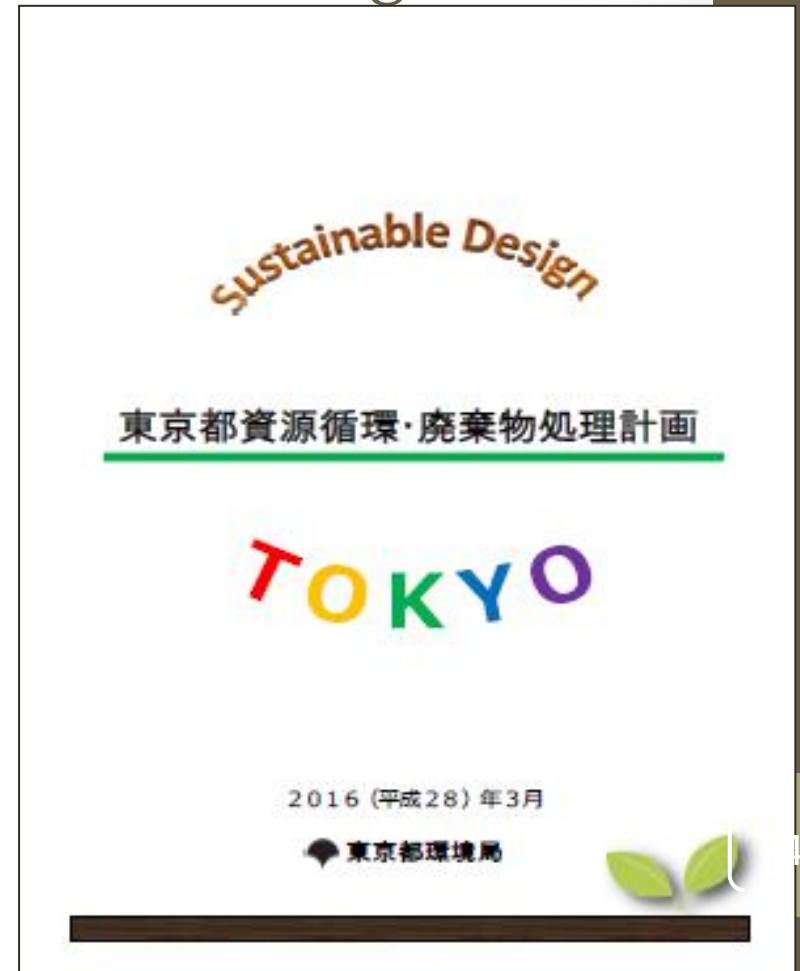
for Sustainable Resources use and Waste Management
optimization

【Concept】

- Transition to sustainable resources use
- Contribute for reduce global environmental load

【Measures and Policies】

- Resources Loss reduction
Food loss, Disposable Lifestyle (Plastic bags reduction)
- Promote Resources Recycling



Food Loss and Food Waste

- Food Loss in SDGs

FOOD LOSS
(Edible)

FOOD
WASTE

Food loss is defined as **“the decrease in quantity or quality of food”**.

Food waste is part of food loss and refers to discarding or alternative (non-food) use of food that is safe and nutritious for human consumption along the entire food supply chain, from primary production to end household consumer level.

Food waste is recognized as a distinct part of food loss because the drivers that generate it and the solutions to it are different from those of food losses. (FAO, 2014)

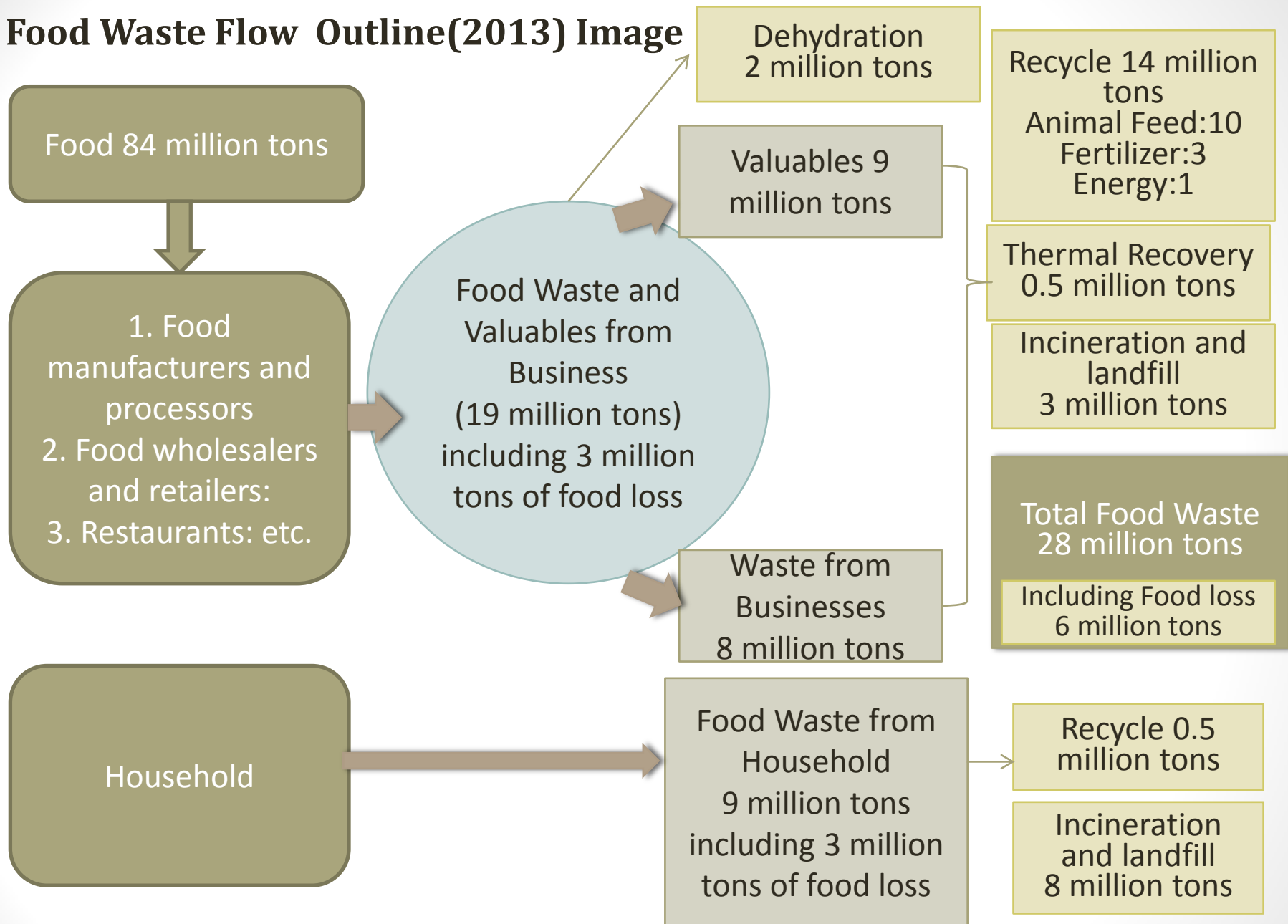
- Food loss in Japan

FOOD WASTE
+VALUABLES

FOOD
LOSS(Edible)

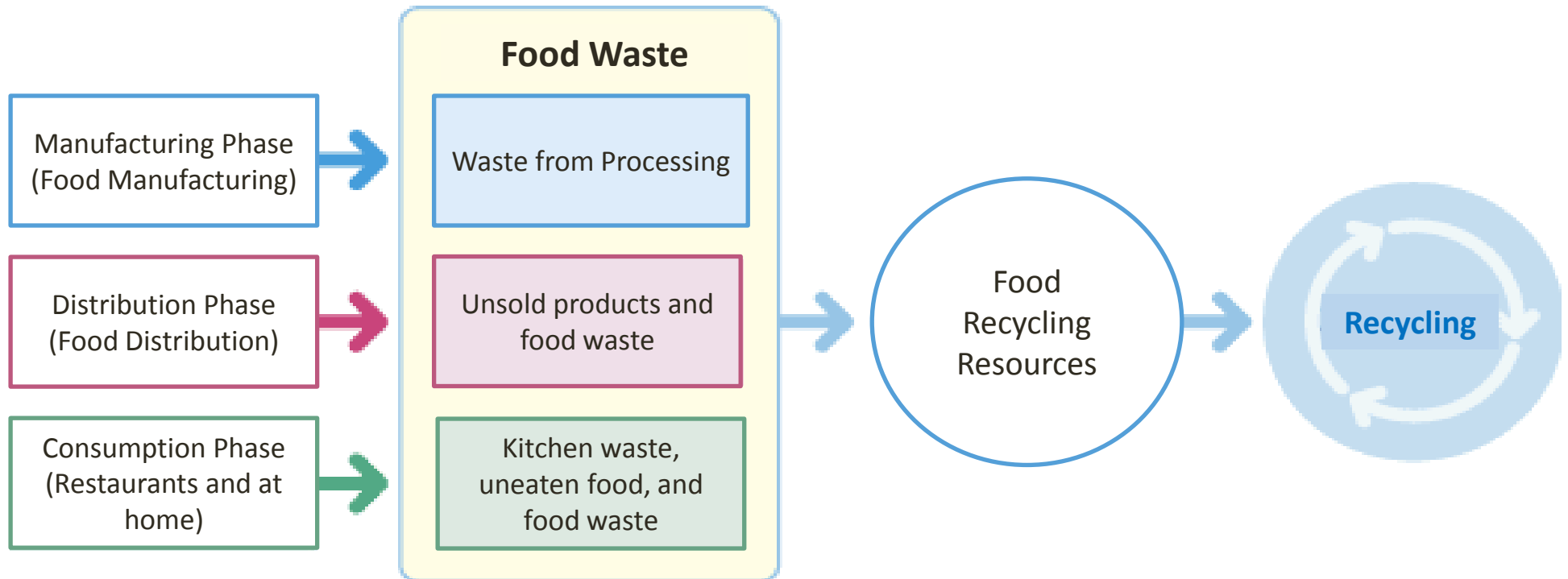
We define “food waste” as food disposed of generally and “food loss” is part of food waste that is disposed of, even though it is edible.

Food Waste Flow Outline(2013) Image



Source: Ministry of Agriculture, Forestry and Fisheries

Definition of "Food Waste" in Food Recycling Law



Food Recycling Law

◎ Establishment

May of 2001

◎ Purpose

To reduce the amount of food waste produced and promote recycling into feed and fertilizer

Outlines①

(1) Basic Policy to promote recycling systematically

① Setting goals for each business

– Food manufacturers and processors

– Food wholesalers and retailers:

Food wholesalers, supermarkets, convenience stores, etc.

– Restaurants: Cafeterias, restaurants, hotels, etc.

Food manufacturers	95%
Food wholesalers	75%
Food retailers	55%
Restaurants	50%

Outlines②

(2)Mandatory Reporting

Business in the food industry that produced at least 100 tons of food waste last fiscal year must report the amount of food waste being produced and the status of recycling activities every year .

*The determination of whether franchise chains are large producers is based on the total output of all stores in the chain.

(3) Legal Bindings

- Warnings
- Publicizing
- Legal orders
- Penalties

Outlines③

(4) Promoting Recycling

① Establishment of system to register businesses that produce feed and fertilizer

<Benefits of registration>

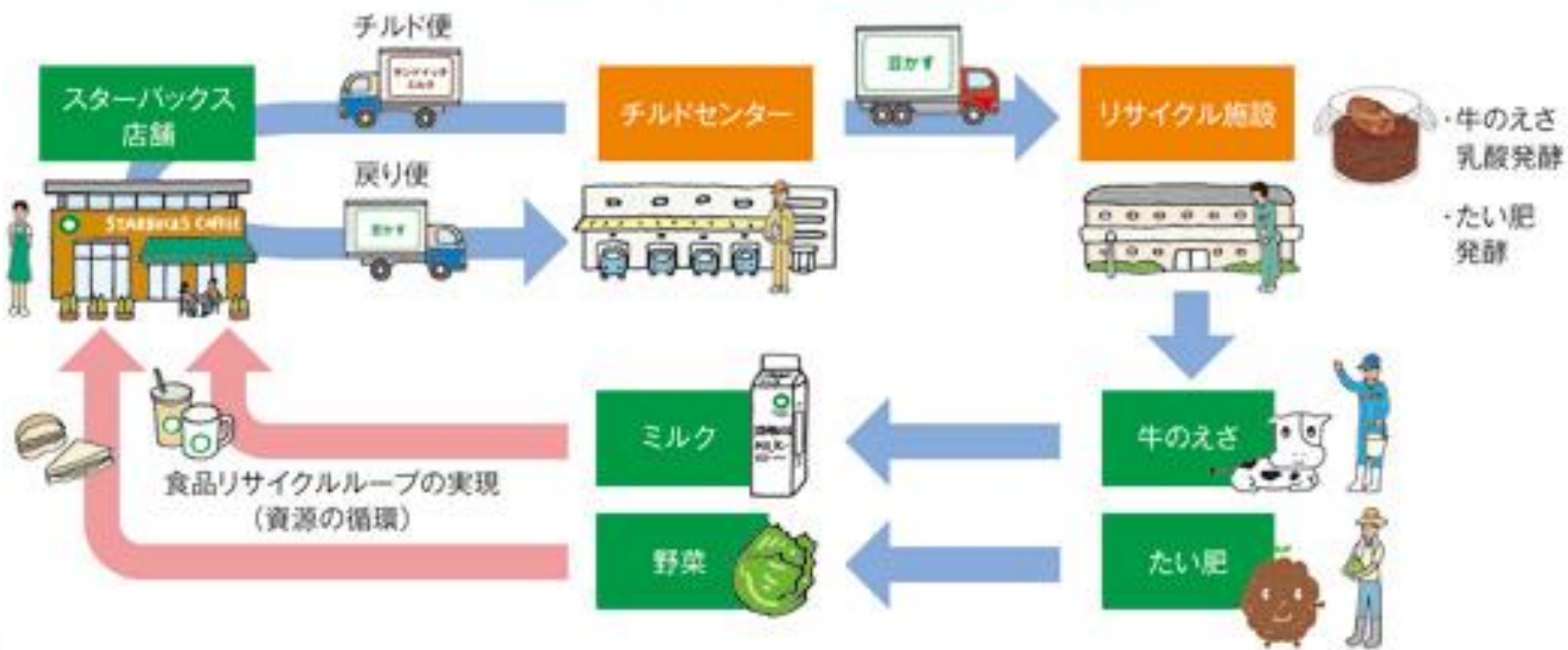
- Increased feed and fertilizer contracts
- Reduction of administrative proceedings through provisions of laws and regulations



② Establishment of system to certify the "Food Recycling Cycle"

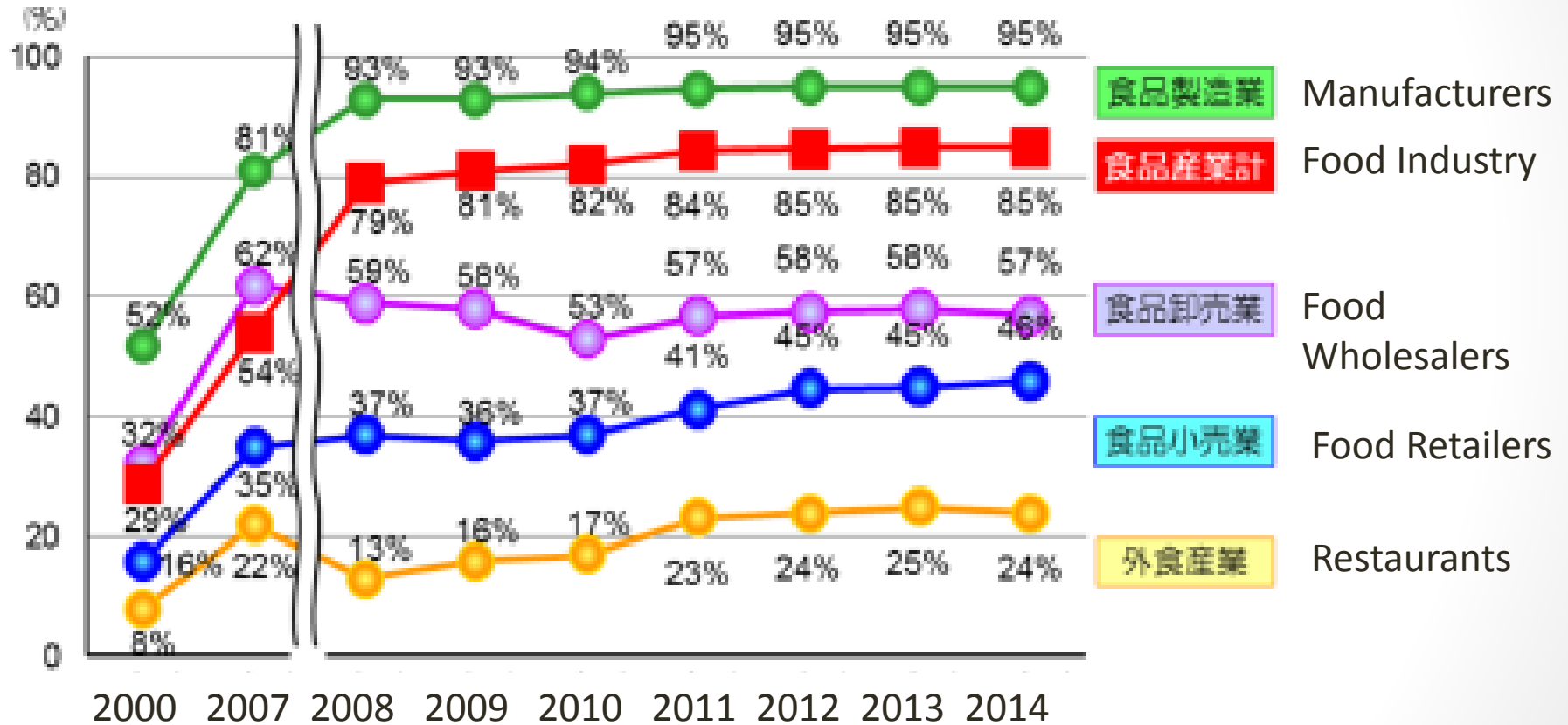
Food Recycling Circle

Coffee Bean cake Recycling



Current Trend

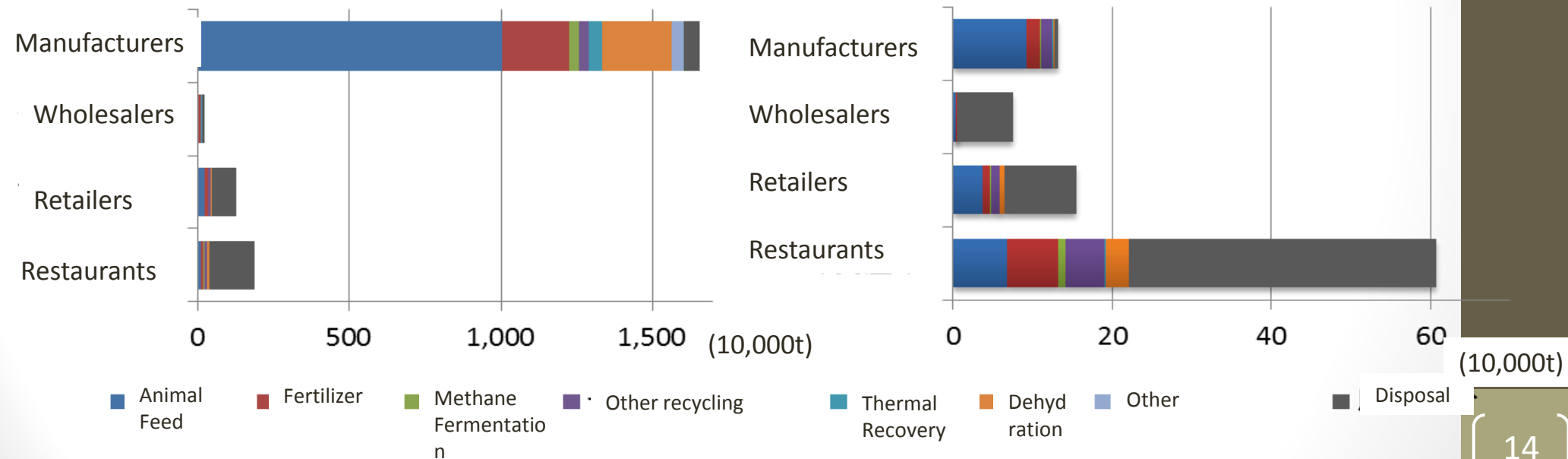
Recycling Rate



Food Waste Recycling(Businesses)

- Food recycling is still challenging for downstream companies, such as Retailers and Restaurants

Recycling (Left : Japan, right : Tokyo)



TMG's Initiative: Super Eco Town(SET)

- Food recycling facilities
 - Feed production, electricity Generation from Bio-gass facilities
 - Another facility will be open by next summer

What's super eco town ?

TMG attracted recyclers with cutting edge technologies to TMG owned land.

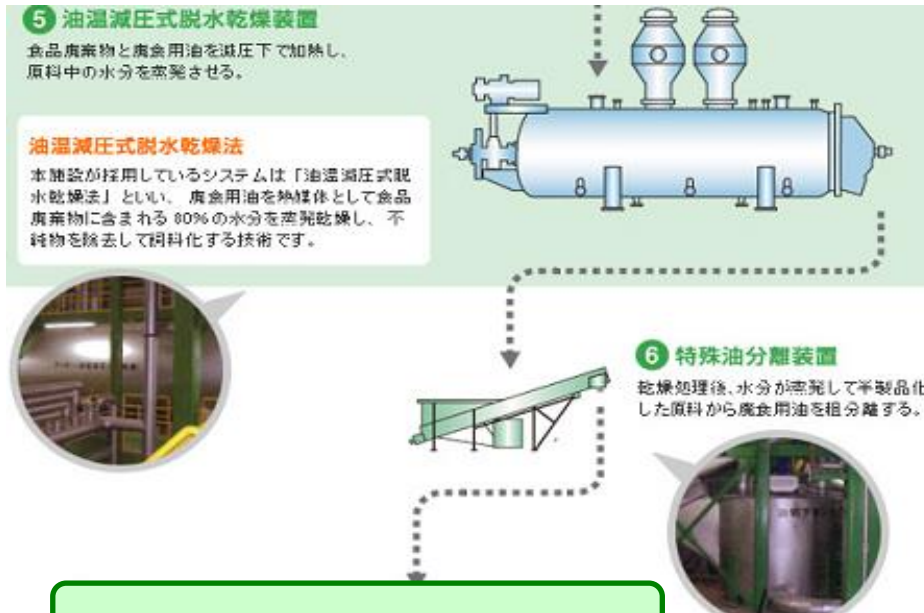
There are 10 facilities now.



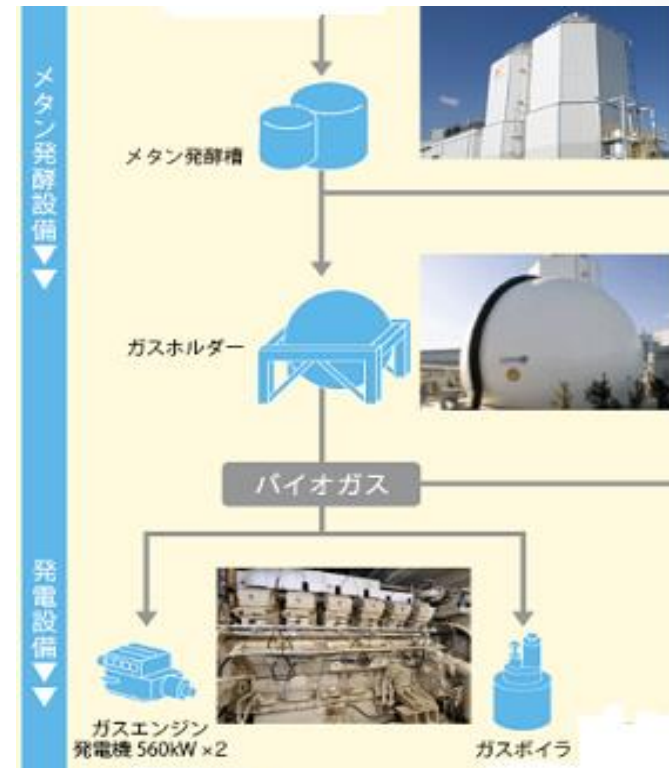
Three Food recycling facilities located in SET

Alfo (Feed production)

Bio-energy
(Biogas electricity generation)



Dried with cooking oil
(Tempura-method)



Biogas produced through
methane fermentation

Alfo, Bioenergy

2 Food loss reduction

(1) Current status

Food Loss in Japan

The amount of Japan's Food Loss (6.3 million tons) is twice as much as Global Food Aid

Japan's Food Loss
6.3 million tons

Business Use

The amount of food disposed of even though edible
3.3 million tons

Household Use

The amount of food disposed of even though edible
3 million tons



Global Food Aid 2014
3.2 million tons



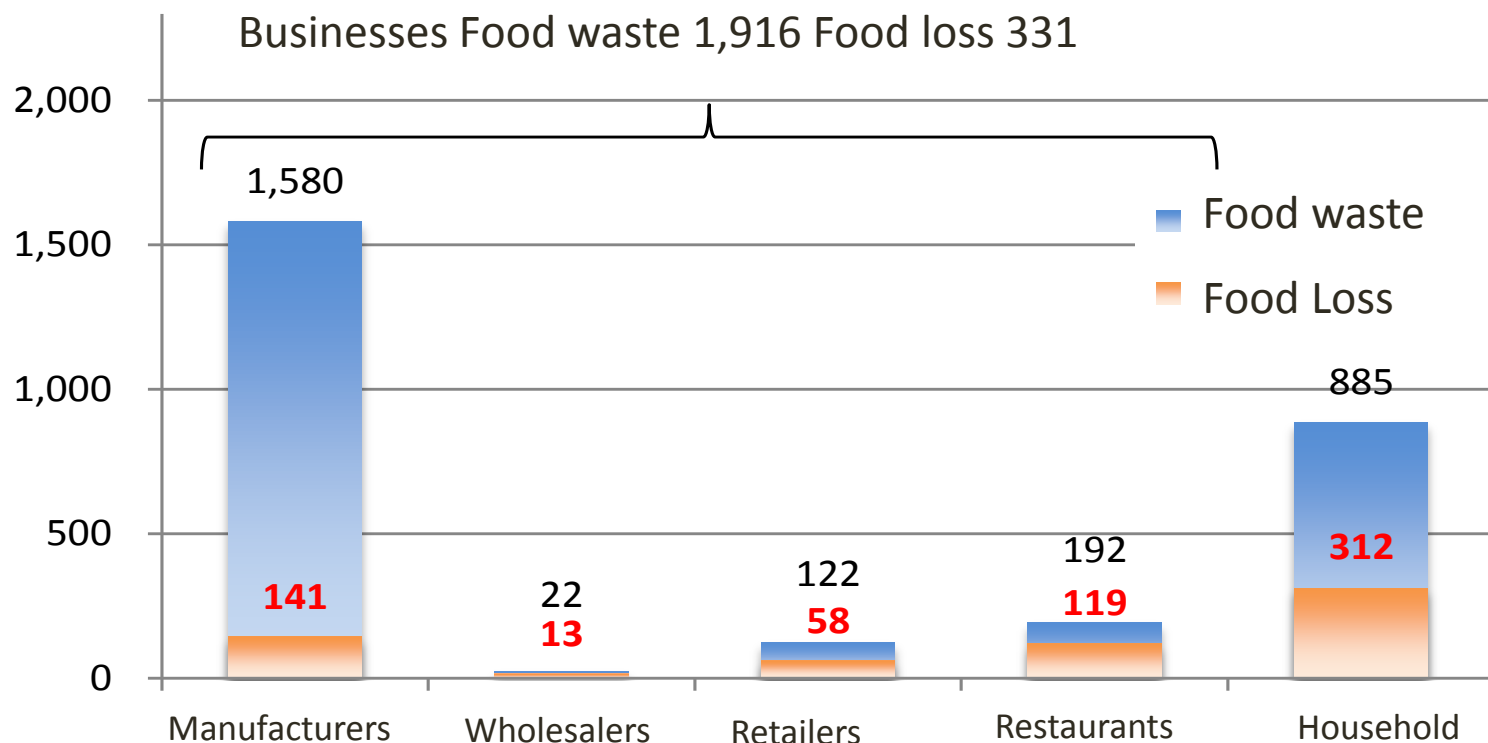
Food loss per person a day approx. 136g

資料：WFP, 総務省人口推計(25年度)

Amount of Food loss/waste in Japan

◆ Amount of Food loss/Food waste in Japan (2012)

(10,000 tons)



TMG based on the research by MAFF and MoE.

Amount of Food loss/waste in Tokyo

- Amount of Food loss/Food waste in Tokyo (2012)

Waste Generation(10,000t)



TMG based on the research by municipalities

(2) Food Loss Factors

Processing

Food manufacturers and processors
Food wholesalers and retailers

- Expiration date
- Customary Rule
- introduction of new models
- Customers' Preference for freshness
- Seasonal Items
- Mistakes in Printing packages

Logistics

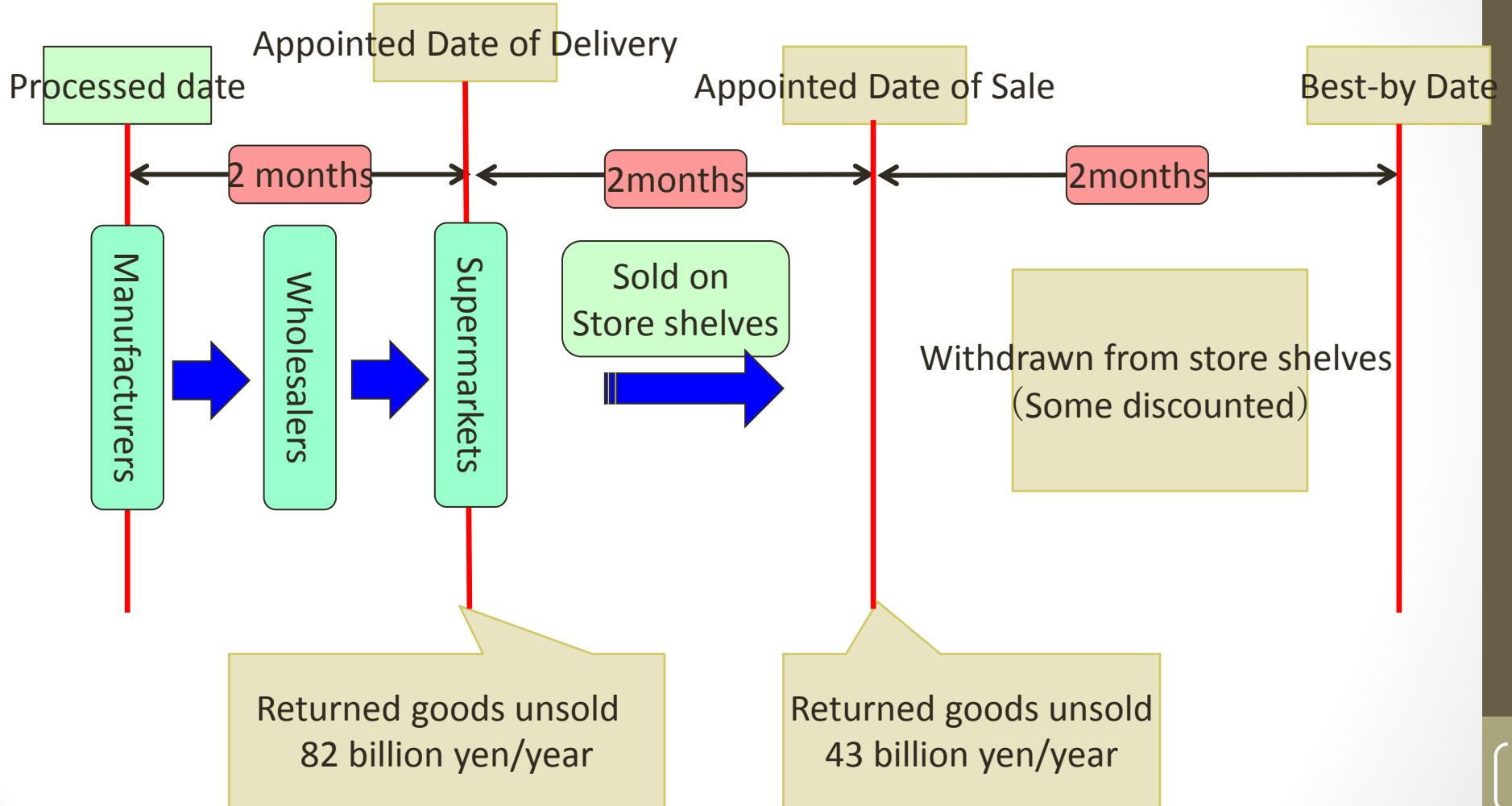
Household, Restaurants, Hotels

- Customers' Preference for freshness
- Purchasing more than those consumed
- Misunderstanding of 'best before' date labels
- Leftovers

Consumption

① Retailers'

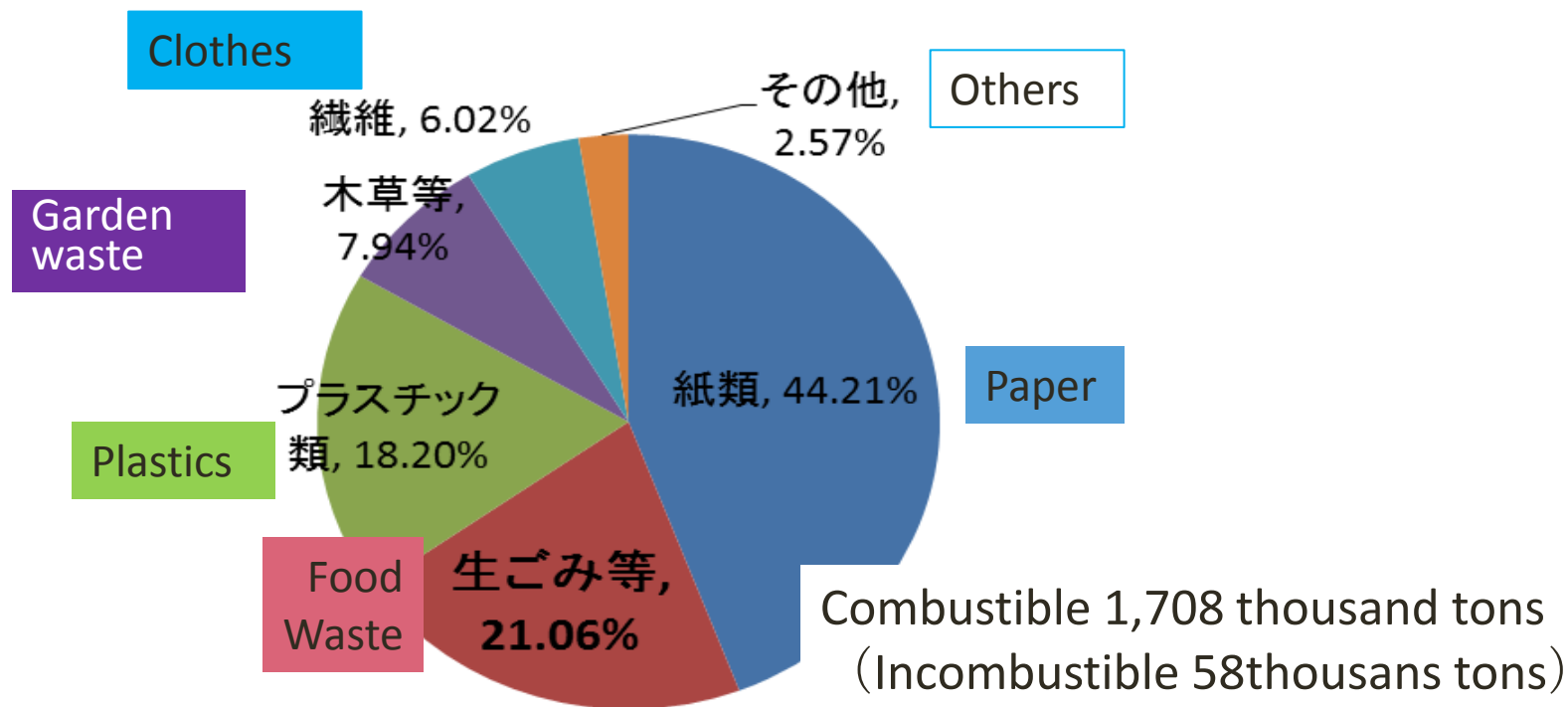
Customary Rule(1/3 Rule)



②Household

Waste components in incineration plants (23 wards)

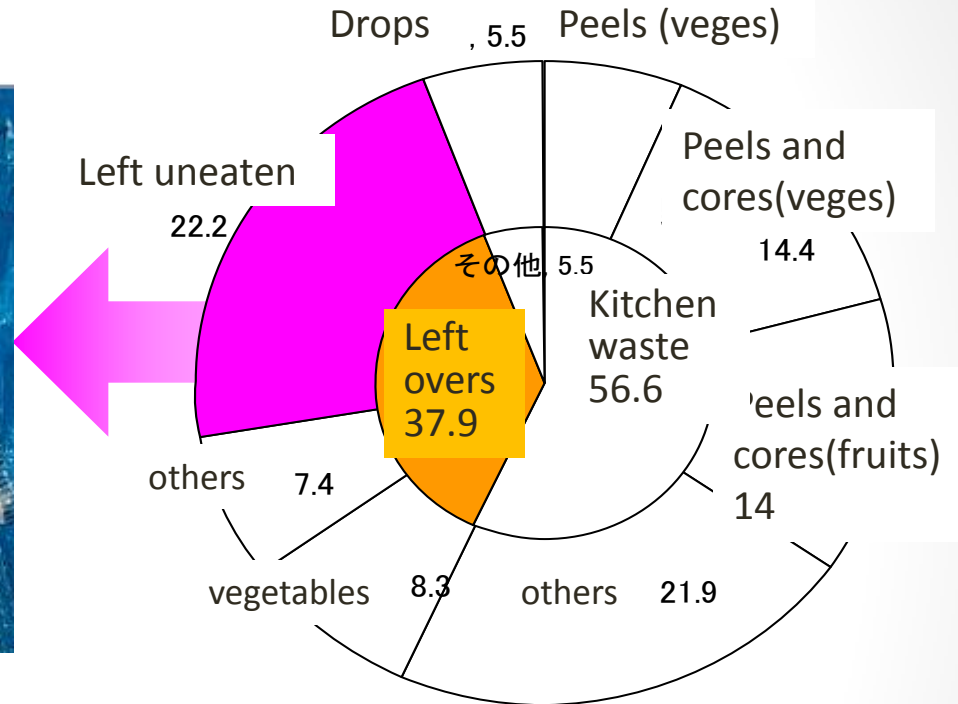
- ◆ Food waste in combustible waste



Household Food Waste



exemplar



A research in Kyoto-city 2007

- 1/4 of “Left uneaten” was before the expiration date

Toward 2020 and more

- Food recycling promotion

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Thank you for your attention!