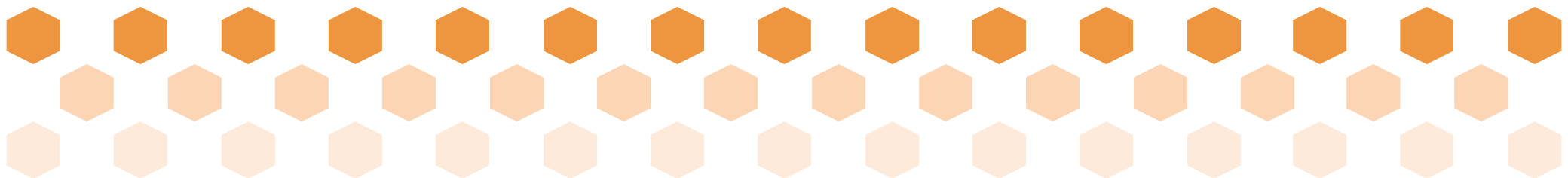


# Measures for Food Waste and Food Loss by the Ministry of the Environment, Japan



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# Outline of Law for Promotion of Recycling and Related Activities for the Treatment of Cyclical Food Resources (Food Waste Recycling Law)

(Enacted in 2000〔Revised in 2007〕)

## ○ Purpose

- Promotion of (1) prevention and reduction, (2) utilization as animal feeds and fertilizers and recycling including thermal recycling of food waste including unsold and leftover food, kitchen waste from manufacturing/processing/cooking.

## ○ Basic Principles adopted by the Responsible Minister include:

- Basic direction of promoting recycling of food resources
- Targets on the amount of food resources to be recycled

## ○ Promotion of measures including Recycling

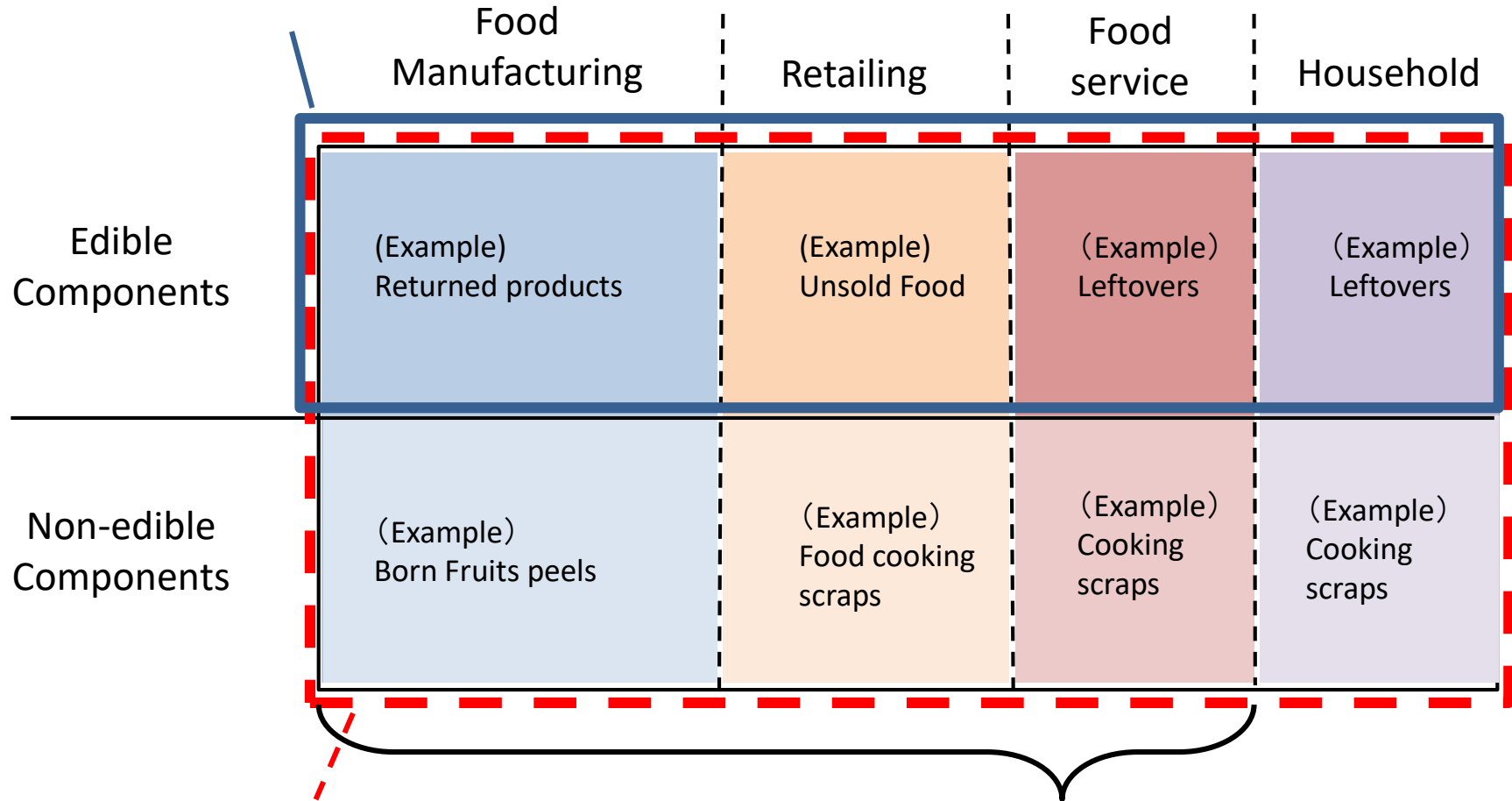
- Indication of decision criteria by the Responsible Minister (Ministerial Audinance) including
  - Standards for recycling
  - Setting action targets for individual business entities
  - **Setting prevention targets** ..etc
- Periodical reporting obligation to the responsible minister on the amount of food waste generation (for those generate more than 100 tons)
- Facilitation of recycling by business entities
  - Nurturing and securing recycling operators through “Designated Recyclers System”
  - Development of Good Practices (on Food Recycling Loop) through “Recycling Business Plan Certification System”

## ○ Measures including instruction and recommendation

- Instruction and advice to all food related business entities
  - Recommendation, publication of names, order and penalty to those generated more than 100 tons in the previous year (if actions are inadequate)

# Shift from Recycling to Food Loss Reduction

Target of Food Loss Reduction  
(Edible parts only)

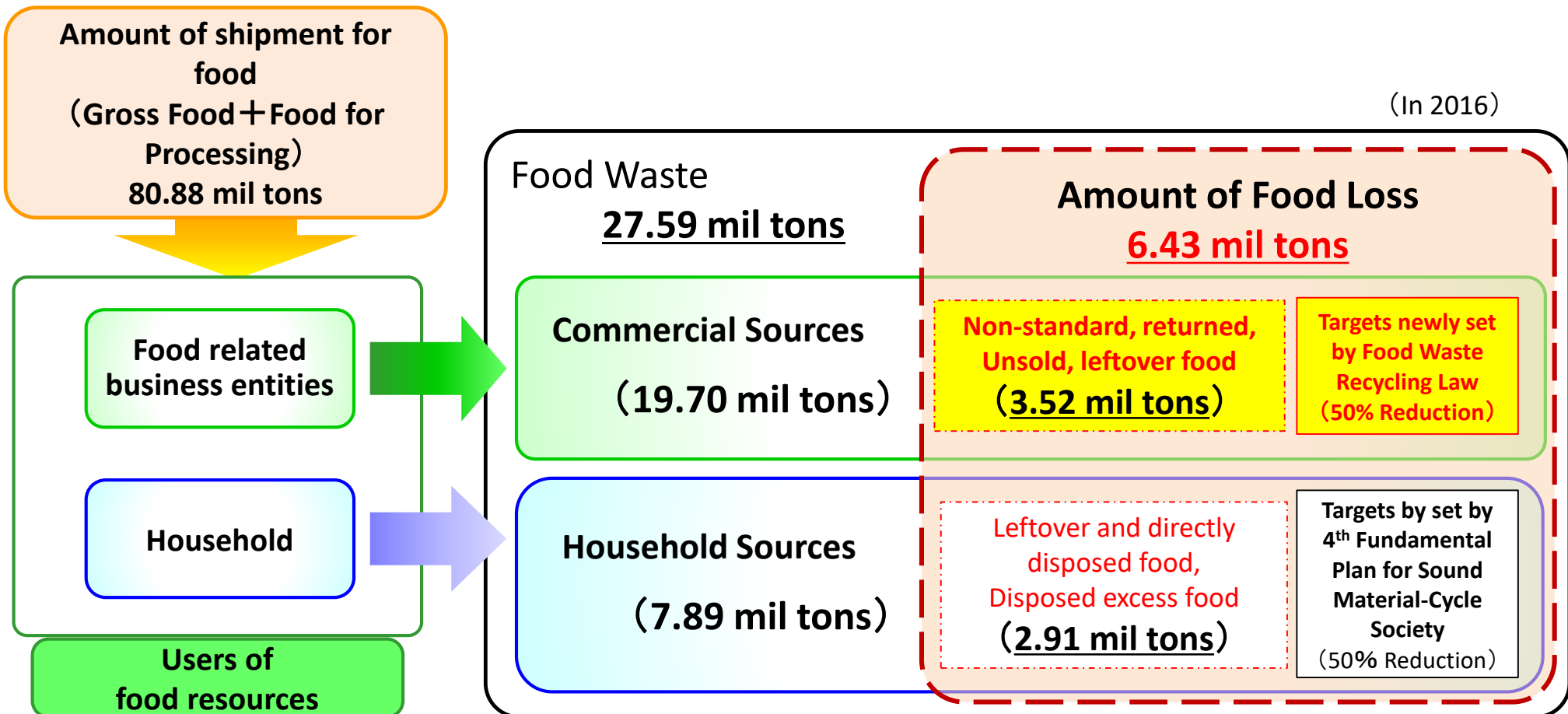


**Target of Recycling**  
**(edible and non-edible components)**

Implementation rate of measures  
including recycling: 85%

# Targets for Reduction of Food Loss from Commercial Sources

- “Food Loss” = Edible but wasted food
- Japan generates food loss of **27.59 mil tons/year**, of which **6.43 mil tons** is food loss.



# State of Utilization of Food Waste (2016) <Outline>

Amount of Food Supply  
80.88 mil tons

Gross Food + Food for Processing

Reduction under Food Waste Recycling Law: 1.75 mil tons

Food Waste subject to Food Waste Recycling Law

Recycling under Food Waste Recycling Law: 13.98 mil tons

Conversion to:

- Animal Feeding: 10.27 mil tons
- Fertilizer: 2.51 mil tons
- Energy: 1.20 mil tons

Thermal recycle under Food Waste Recycling Law: 0.54 mil tons

Incineration / Landfill: 3.34 mil tons

Users of Food Resources

① Food related business entities

- Food manufacturing
- Food wholesale
- Food retailing
- Food service

Food Waste from Commercial Sources + Valuables  
19.7 mil tons

Valuables  
Soy bean meals  
Wheat bran  
10.23 mil tons

Portion Considered Edible

Non-standard, returned, unsold, leftover food  
3.52 mil tons

Commercial Waste  
7.72 mil tons

Waste resulting from food  
27.56 mil tons

Portion Considered Edible  
6.43 mil tons  
So called "Food Loss"

② Household

Commercial Waste  
7.89 mil tons

Portion Considered Edible  
Non-standard, returned, unsold, leftover food  
2.91 mil tons

Recycling: 0.56 mil tons  
(Conversion to fertilizer / methane)

Incineration / Landfill : 7.33 mil tons

Food Waste subject to Waste Disposal and Public Cleansing Law



# Environment-Conscious Biomass Utilization Model Project

(A collaborative project with Ministry of Land, Infrastructure and Transport)

## Purpose / Outline

### Background / Purpose

- Expectations are rising on extended introduction of renewable energy based on local recourses towards CO<sub>2</sub> reduction. Livestock excreta and food waste are diverted for generating methane for biomass power generation.
- Liquid fertilizer from such biomass power generation has previously been applied to pastures / farms, while there are cases of potential ground water contaminations identified.
- The project aims to pilot / develop a new model of biomass utilization which can present solutions to the problem, while achieving CO<sub>2</sub> saving.

### Project Scheme

Consigning entities: municipalities, private operators  
Project period: 2016 - 2018

### Project Outline

The project aims... (1) to conserve regional environment by employing wastewater treatment facilities for processing liquid fertilizer generated from biomass power generation based on locally generated animal excreta and food waste, and (2) to conserve CO<sub>2</sub> generation by supplying the power and heat generated from such facilities to wastewater treatment facility, and (3) by doing so, develop a model of treating liquid fertilizer that achieve a Low-Carbon Society and a Sound Material-Cycle Society.

### Expected Benefit

A CO<sub>2</sub>-conserving and low-environmental-load model will be developed for utilization of animal excreta and food waste through collaboration with wastewater treatment facilities. By presenting the model of solving problem of underground water contamination from liquid fertilizer, a spill-over effect is expected benefiting all the municipalities with the same potential challenge.

### Image

Animal excreta and food waste



Bio-methanation and biomass power generation

Generation of liquid fertilizer

Application to farm land

Biomass power generation based on animal excreta and food waste can potentially result in **underground water contamination.**



Power Generated

Heat Supply

Appropriate Treatment through Collaboration with Wastewater Treatment Facilities

Wastewater



Wastewater Treatment Facility

- ❑ Utilizing animal excreta and food waste by **biomass power generation.**
- ❑ **Thoroughly De-carbonizing** wastewater facilities and liquid fertilizer treatment facilities by supplying **power and heat** generated by power generation process.
- ❑ Reducing environmental load by promoting **appropriate treatment of liquid fertilizer**

**Establish a CO<sub>2</sub>-conserving and low-environmental load model of biomass utilization, and contribute to achieving both Low-Carbon Society and Sound Material-Cycle Society**

# Law on Promotion of Reduction of Food Loss (Outline)

- <Food Loss Issue>**
- Large quantity of edible food are still being disposed in Japan.
  - Also referred to by 2030 Agenda for Sustainable Development (Sep. 2015 UNGA Resolution)

- Preamble**
- Clarifies that food loss is an issue requires serious action, particularly by Japan which rely largely on imported food, given many people in the world are under-nourished.
  - Clarifies the basic positions for reducing food loss that: (1) Japanese nationals of all strata should address the issue proactively, and as an entirety as a society, towards nurturing and having the mindset of reducing food loss rooted in society. (2) edible food should not be disposed of and instead be utilized to the fullest extent.



**Declares to institute the law to promote food loss reduction as a national movement through collaboration of various stakeholders.**

## Definition of Food Loss Reduction ( Art. 2)

Social actions for preventing edible food from being disposed of.

## Duty (Art. 3~7)

Duty of the government, municipalities, and business entities, role of consumers, and collaboration and cooperation among stakeholders

## Promotion of Food Loss Reduction on Actions related to Prevention of Food Waste (Art. 8)

Promote food loss reduction in acknowledgement of the law when implementing food waste prevention under the Food Waste Recycling Law.

## Food Loss Reduction Month (Art. 9)

Institute Food Loss Reduction Month (October) for the purpose of promoting understanding and interests on food loss reduction.

## Basic Principles (Art.11~13)

- Government shall set basic principles on the promotion of food loss reduction (Cabinet Decision)
- Local governments shall formulate food loss reduction promotion plan in acknowledgement of the basic principles.

## Basic Actions (Art.14~19)

- ① Promotion of education, dissemination of knowledge and awareness raising targeting consumers and business entities.
  - ※ Including awareness raising activities for advancing understanding on the importance of food waste loss through collaboration between consumers and business entities, such as selling/purchasing of food by the quantity demanded, and preventing wastage of sold/purchased food
- ② Support for actions by food related business entities
- ③ Award for those with achievements on food loss reduction
- ④ Research on the state of food loss and effective reduction methods
- ⑤ Collection and provision of information on advanced actions on food loss reduction
- ⑥ Support for activities by food bank, and conduct survey/evaluation of responsibilities arising from provision of food by food bank

## Conference on Promotion of Food Loss Reduction (Art.20~25)

Institute Conference on Promotion of Food Loss Reduction in the Cabinet Office which would be constitute of relevant ministers and experts and formulate drafts of basic principles and the like.  
(Chair : Minister of State for Consumers and Food Safety)