Waste management and Public Cleansing Act

December 10, 2019

Ministry of the Environment
Environment Regeneration and Resource Recycling Bureau
Waster Proper Disposal Promotion Division
Kazuki Otsuka
1. Introduction
2. What is Waste?
3. What is Waste Treatment?
4. Present State of Waste Treatment and Recycling
5. Efforts to Promote a Recycling-Oriented Society
6. Treatment of Disaster Waste
1. Introduction
History of Waster Management Issues

**Hygiene Issues**
Ocean and land disposal of waste and night soil/vermination from disposal sites
- Necessity of hygiene management (from 1945)
- Public Cleansing Law (1954)
- Mass spawning of flies on Yumenoshima (1965)
  (Source: 100-year History of Public Cleaning Work in Tokyo)
- Battles in Tokyo over garbage (from 1971)
  (Source: 100-year History of Public Cleaning Work in Tokyo)
- Preventing waste from being brought into Koto Ward (1971)
  (Source: 100-year History of Public Cleaning Work in Tokyo)

**Pollution Issues**
Increase in the amount of waste accompanying high economic growth
- Necessity of waste treatment not only by municipalities but also by business operators, and establishment of incineration and landfill treatment sites (from 1955)
- Several recycling laws (from 1995)
- Basic Act on Establishing a Sound Material-cycle Society (2001)

**Environment and Resource Issues**
Growing concern about the proper treatment and use of waste as well as environmental issues
- Necessity of properly circulating resources by means such as recycling (from the beginning of the Heisei Period [1989])
- Work to reclaim land damaged by illegal dumping (1975-90) at Teshima Island
## History of Waste Management Policy in Japan

<table>
<thead>
<tr>
<th>Date</th>
<th>Contents</th>
<th>Enactment of laws</th>
</tr>
</thead>
</table>
| After the war until the 1950s | • Waste treatment as environment and hygiene measures  
• Maintenance of hygienic and comfortable living environments | • Public Cleansing Law (1954) |
| 1960s to 1970s | • Increase in the amount of industrial waste accompanying high economic growth and development of pollution issues  
• Waste Treatment as an environmental protection measure | • Act on Emergency Measures Concerning the Promotion of Community Facilities (1963)  
• Waste Management and Public Cleansing Act (1970)  
• Revision of the Waste Management and Public Cleansing Act (1976) |
| 1980s | • Promotion of waste treatment facilities  
• Environmental protection associated with waste treatment | • Act on Bay Area Marine and Environment Consolidation Centers (1981)  
• Private Sewerage System Act (1983) |
| 1990s | • Discharge control and recycling of waste  
• Establishment of several recycling systems  
• Measures against hazardous substances (including dioxins)  
• Introduction of proper treatment systems to cope with the diversification of the kinds and characteristics of waste | • Revision of the Waste Management and Public Cleansing Act (1991)  
• Act on Promotion of Development of Specified Facilities for the Disposal of Industrial Waste (1992)  
• Environmental Basic Act (1993)  
• Act on the Promotion of Sorted Collection and Recycling of Containers and Packaging (1995)  
• Revision of the Waste Management and Public Cleansing Act (1997)  
• Act on Recycling of Specified Kinds of Home Appliances (1998)  
• Act on Special Measures Concerning Countermeasures against Dioxins (1999) |
| 2000s onward | • Promotion of the 3Rs to realize a recycling-oriented society  
• Reinforcement of measures for industrial waste treatment  
• Reinforcement of measures against illegal waste disposal  
• Reinforcement of measures regarding disaster waste | • Basic Act on Establishing a Sound Material-Cycle Society (2000)  
• Construction Material Recycling Act (2000)  
• Act Concerning the Promotion of Utilization of Recyclable Food Waste (2000)  
• Act on Special Measures Concerning Promotion of Proper Treatment of PCB Waste (2001)  
• Act on Recycling, etc. of End-of-Life Vehicles (2002)  
• Act on Recycling of Specified Kinds of Small Home Appliances (2012)  
• Revision of the Waste Management and Public Cleansing Act and Disaster Countermeasures Basic Act (2015)  
2. What is Waste?
Fundamental Issues in Waste Management

Valuable resources:
- Materials (valuable resources)
- Money (expenses)

Waste:
- Materials (waste)
- Money (treatment fees)

Financial burden for generators:
→ Need to dispose of them at low cost

Materials and money flow in the same direction for disposers:
→ Realize gains simply by collecting
Definition of Waste
(Waste Management and Public Cleansing Act)

Waste:
Trash, oversized trash, burnt materials, sludge, night soil, waste oil, waste acid, waste alkaline, animal carcasses, and other filthy or unwanted matter in solid or liquid form.
(1) Characteristics of materials
   - Satisfactory level of quality for the intended use

(2) Generation condition
   - Generation in a planned manner accompanying demand

(3) General use
   - Existence of a market for selling the product

(4) Market value
   - Transfer for value
   - No financial transactions equivalent to treatment fees

(5) Intention of appropriator
   - Intention to utilize appropriately or to transfer for value

Status as waste is comprehensively determined in consideration of (1) to (5).
General Waste and Industrial Waste

**General Waste:**
Types of waste other than industrial waste

**Industrial Waste:**
(1) Burnt materials, sludge, waste oil, waste acid, waste alkaline, waste plastic, and other types of waste designated by government ordinance from among the waste generated by business activities (20 kinds)

(2) Imported waste (excluding aviation and portable waste)
Hazardous Waste

General/Industrial Waste Subject to Special Control

General/industrial waste having explosive, toxic, infectious, or other properties which may harm human health or damage living environments as designated by government ordinance.
Kinds and Classifications of Waste

- Among waste from business operations, 20 kinds that can hardly be smoothly treated under municipalities’ responsibility due to problems such as characteristics, generation volume, and difficulty in treatment are classified as industrial waste and the other kinds are classified as general waste.

**Industrial waste (20 kinds)**

1. Burnt materials
2. Sludge
3. Waste oil
4. Waste acid
5. Waste alkaline
6. Waste plastic
7. Waste paper (from construction, pulp and paper manufacturing, and the newspaper industry)
8. Waste wood (from construction and wood/wood product manufacturing)
9. Waste fiber (from construction and the textile industry)
10. Animal and plant remains (from medicinal chemical manufacturing)
11. Solid animal remains (from slaughterhouses)
12. Waste rubber
13. Waste metal
14. Waste glass, waste concrete, and waste pottery
15. Slag
16. Rubble
17. Animal excrement
18. Animal carcasses (from animal husbandry)
19. Soot dust
20. Treated matter not corresponding to any of the above generated for the purposing of disposing of (1) to (19)
# Outline of the Waste Management and Public Cleansing Act (*After the revision is enforced*)

<table>
<thead>
<tr>
<th>Waste</th>
<th>Filthy or unwanted matter in solid or liquid form (excluding radioactive materials, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General waste</strong></td>
<td>Other waste than industrial waste (Garbage from households, etc.)</td>
</tr>
<tr>
<td><strong>Industrial waste</strong></td>
<td>Burnt materials, sludge, waste oil, waste plastic and other waste from business activities</td>
</tr>
<tr>
<td><strong>Hazardous used equipment</strong></td>
<td>Hazardous ones among used and collected equipment</td>
</tr>
</tbody>
</table>

## National government’s role
- Establishment of basic policy and waste treatment facility development plan
- Setting of treatment standards, facility standards, and contract treatment standards
- Technological development, information collection
- Waste export check and import approval, etc.

## Major regulations related to waste treatment

### Municipalities
- Responsible for treatment
- Establishment of general waste management plan
- Must treat general waste before conservation of living environments is impaired
- Compliance with treatment standards
- Compliance with contract treatment standards

### General waste disposers
- Compliance with treatment standards
- Prohibition of subcontracting

### General waste treatment facility operators
- Compliance with maintenance standards
- Duty of reserving maintenance funds

### Industrial waste disposers
- Compliance with treatment standards
- Prohibition of subcontracting (in principle)
- Duty of referring and sending manifest
- Certification of excellent operators

### Industrial waste treatment facility operators
- Compliance with maintenance standards
- Duty of reserving maintenance funds

### Prefectural governors and mayors of government-designated cities
- Responsible for treatment

### Recycling certification system
- Minister of the Environment certifies operators who perform large-scale recycling.
  - Example: Waste meat-and-bone meal is used as cement material.

### Detoxifying certification system
- Minister of the Environment certifies operators who perform detoxifying treatment of asbestos and PCBs.

### Wide-area certification system
- Minister of the Environment certifies operators who perform wide-area treatment contributing to waste reduction, etc.
  - Example: Waste personal computer • Waste motorcycle • Waste fire extinguisher

### Thermal recovery facility installation operator certification system
- Prefectural governors certify operators who install facilities having a function of thermal recovery (waste power generation and residual heat utilization).

### Excellent operator certification system
- Prefectural governors certify excellent industrial waste treatment operators.

### Illegal dumping, illegal incineration, and unauthorized operation
- Imprisonment for up to five years, a fine of up to 10 million yen, or both

### Violation of contracting standards and improvement orders
- Imprisonment for up to three years, a fine of up to 3 million yen, or both
- *Fine of up to 300 million yen in the case of corporations*
3. What is Waste Treatment?
Waste Treatment in Japan

- **Generation**
- **Collection and transportation**
- **Intermediate treatment**
  - Crushing, incineration, etc.
- **Final disposal**
  - Landfill
Flow of Waste Treatment by Municipalities

Collection and transportation

Recycle center

Incineration facility

Electricity

Heat

Heated at a high temperature

Inherated ash

Fly ash

Rapid cooling of ash

Slag

Final disposal site
Collection and Transportation
Intermediary Treatment (Incineration, etc.)
Each layer of waste must be covered with soil.
Waste plastic, waste rubber, waste metal, waste glass, and concrete debris (which are nonputrefactive and cause no elution of hazardous substances)

Waste other than the above (waste wood, sludge, animal carcasses, burnt materials, etc.)

Soot dust and sludge causing elution of hazardous substances
Example: Illegal Treatment at an Intermediary Treatment Facility
Fire Started from Inappropriately Treated Waste
Inappropriate Treatment of Waste Tires
Illegal Dumping Sites
Iron Scrap Including Air Conditioners and Washing Machines
Improper Treatment of Exported Waste
Home Appliances
4. Present State of Waste Treatment and Recycling
The amount of industrial waste generated is 393 million tons, and the generation amount per person is 903 grams/person (FY 2015)

- The generation amount has been intermittently decreasing since fiscal year 2000, and is smoothly decreasing toward the target value (approximately 40 million tons) for fiscal year 2020 in the Waste Management and Public Cleansing Act Basic Policy, which was changed in January, 2016.

- The generation amount per person has been intermittently decreasing since fiscal year 2000.

The amount of industrial waste generated is 393 million tons (FY2014)

- The generation amount has remained at around approximately 400 million tons since the collapse of the bubble economy, and no significant change can be seen.

*1: Indicates the generation amount in fiscal year 1996 for "the target amount of waste reduction," regarding which the government set fiscal year 2010 as the target on the basis of the Dioxin Measures Basic Policy.

*2: Amounts from 1997 have been calculated on the basis of the same conditions as for *1
- Promotion of the proper preparation of recycling facilities such as stockyards and recycling plazas
- Promotion of recycling containers and packaging made of plastics/paper on the basis of the Act on the Promotion of Sorted Collection and Recycling of Containers and Packaging
- Increase in recycling through garbage utilization and incinerated ash melting
Trends in Final Disposal Amount

- The final disposal amount has been on a decreasing trend since fiscal year 2000.

![Graph showing the trends in final disposal amount, with data points for each year from 2005 to 2015, indicating a decreasing trend in both final disposal amount and final disposal amount after treatment. The graph also includes the final disposal amount per person per day, with values decreasing from 157 tons in 2005 to 90 tons in 2015.]
5. Efforts to Promote a Recycling-Oriented Society
Realization of a society that grows sustainably and develops while promoting co-existence with nature and achieving a healthy circulation of materials, including carbon, within a human society in harmony with nature and global circulation.

Promotion of comprehensive efforts to achieve a recycling-oriented, low carbon society
- Complete heat recovery through the introduction of waste power generation
- Deliberation of measures to achieve sustainable waste power generation and enhance commercial utilization of medium- and low-temperature heat generated from industrial processes
- Effective utilization of renewable biomass energy
- Establishment of a venous distribution system with reduced environmental burden

Promotion of comprehensive efforts to achieve a recycling-oriented, symbiotic society
- Suppression of increased use of exhaustible resources
- Limiting of new natural resource extraction by fostering social momentum to use long-lasting housing
- Promotion of sustainable use of renewable resources taking into consideration biodiversity preservation
- Enhancement of environmentally friendly agriculture, forestry, and fisheries through reduced utilization of chemical fertilizers, etc.
Realization of a society where environmental burdens are reduced as much as possible by discouraging consumption of natural resources through reduction of waste generation and proper recycling as well as waste disposal (Article 2 of the Basic Act on Establishing a Sound Material-Cycle Society [published in June 2000 and fully enforced from January 2001]).
Legal Structure for Realizing a Recycling-Oriented Society

1. **Environmental Basic Act**
   - Enforcement from Aug. 1994
   - Securing of material circulation in society
   - Control of natural resource consumption
   - Reduction of environmental burdens

2. **Basic Environmental Plan**
   - Full-fledged revision and publication in Apr. 2012
   - Basic plan for promoting the creation of recycling-oriented society: basis for other national plans

3. **Basic Act on Establishing a Sound Material-Cycle Society (Basic Framework Act)**
   - Full enforcement in Jan. 2001
   - Enforcement from Jan. 2005
   - Full enforcement from May 2002
   - Full enforcement from Apr. 2013

4. **Waste Management and Public Cleansing Act**
   - Partial revision in May 2010
   - Regulations according to the characteristics of each material

5. **Act on the Promotion of Effective Utilization of Resources**
   - Full-fledged revision and publication in Apr. 2001
   - (1) Recycling of recyclable resources
   - (2) Design of structures and materials to facilitate recycling
   - (3) Indications for separate collection
   - (4) Enhancement of effective utilization of byproducts
     - Reduce
     - Recycle
     - Reuse
     - (3R)

6. **Act on Promoting Green Purchasing (government-led promotion of procurement of recycled products)**
   - Full enforcement from Apr. 2001

7. **Act Concerning the Promotion of Utilization of Recyclable Food Waste**
   - Full enforcement from Apr. 2000
   - Partial revision in Jun. 2006

8. **Act on Recycling of Specified Kinds of Home Appliances**
   - Full enforcement from Apr. 2000
   - Partial revision in Jun. 2006

9. **Act on Recycling, etc. of End-of-Life Vehicles**
   - Full enforcement from Jan. 2005

10. **Act on Recycling, etc. of End-of-Life Vehicles**
    - Full enforcement from Apr. 2013

11. **Act on Recycling of Small Home Appliances**
    - Full enforcement from Apr. 2013

12. **Act Concerning the Promotion of Utilization of Recyclable Food Waste**
    - Full enforcement from May 2001
    - Partial revision in Jun. 2007

13. **Construction Material Recycling Act**
    - Full enforcement from May 2001
    - Partial revision in Jun. 2007

14. **Act on Recycling, etc. of End-of-Life Vehicles**
    - Full enforcement from Apr. 2000
    - Partial revision in Jun. 2006

15. **Act on Promoting Green Purchasing (government-led promotion of procurement of recycled products)**
    - Full enforcement from Apr. 2001
6. Treatment of Disaster Waste
Transportation of disaster waste to a temporary storing site

Example of transportation of disaster waste to a temporary storing site:

In use (Photo taken on May 21, 2011)
After end of use (Photo taken on March 15, 2013)
Before demolition (Photo taken on May 30, 2012)
After demolition (Photo taken on January 21, 2013)

Example of termination of use of a temporary storing site after completion of treatment:
Primary temporary storing site at Akasaki Elementary School of Ofunato City of Iwate Prefecture

Example of demolition of a public building: An elementary school in Ofunato City of Iwate Prefecture

Treatment of disaster waste in afflicted areas

Finely sorting disaster waste by hand (Higashimatsushima City)
Temporary incinerator in Minamisanriku treatment area in Miyagi Prefecture (Full-scale operation started in December 2012)
Temporary incineration in Miyako City of Iwate Prefecture (Full-scale operation started in March 2012)
On the basis of the lessons learned and knowledge gained from recent disasters such as the Great East Japan Earthquake, laws were developed in order to implement and strengthen continuous disaster measures from preparedness in normal times to response in the event of the occurrence of a large-scale disaster, in order to dispose of waste generated as a result of a disaster smoothly and quickly, having ensured proper treatment and recycling.

### Development of relevant regulations for the strengthening of preparedness in normal times

- **Partial Revision of the Waste Management and Cleansing Act**
  - **Partial Revision of the Disaster Countermeasures Basic Act**

  - Clarify the basic principles pertaining to the treatment of waste generated as a result of a disaster
  - Clarify the responsibilities regarding coordination/cooperation between the parties concerned, such as the national government, local government and business operators
  - Carry out expansion, etc. of the provisions in the basic policies stipulated by the government and the basic plans stipulated by prefectures, etc.

  **Revision of Government Ordinance on the Waste Management and Public Cleansing Act (Government Ordinance No. 275 of 2015)**

  - Revision of standards for contracting (standards for **re-contracting**) in cases where persons who have been contracted to collect, convey, dispose of or recycle general waste by municipalities in the event of an emergency or disaster carry out collection, conveyance, disposal or recycling on contract

### Development of special measures pertaining to the new establishment and use of waste treatment facilities in the event of disaster

- **Partial Revision of the Waste Management and Cleansing Act**
  - **Partial Revision of the Disaster Countermeasures Basic Act**

  - Simplify the procedures for the establishment of general waste treatment facilities established by municipalities or persons who have been contracted by municipalities to dispose of waste generated as a result of a disaster
  - Notification when disposing of general waste of a similar nature in industrial waste treatment facilities may be made post-hoc.

### Establishment of guidelines regarding the treatment of waste generated from a large-scale disaster

- **Partial Revision of the Waste Management and Cleansing Act**
  - **Partial Revision of the Disaster Countermeasures Basic Act**

  - In order to strengthen the measures for large-scale disasters, the Minister of the Environment shall stipulate guidelines on the basic direction, etc. regarding the treatment of waste generated as a result of disasters designated by government ordinance.

### Development of measures for treatment with the Minister of the Environment acting as agent, in preparation for a large-scale disaster

- **Partial Revision of the Disaster Countermeasures Basic Act**

  - In order to carry out treatment on the basis of requests from municipalities for which it will be difficult to carry out smooth and quick treatment even in accordance even with the relaxed standards, the Minister of the Environment may carry out treatment on the basis of requests from them.

---

**Overview of Revision of the Waste Management and Public Cleansing Act and Disaster Countermeasures Basic Act (Enforced on August 6, 2015)**

- Act No. 58 of 2015
- Revision of Government Ordinance on the Waste Management and Public Cleansing Act (Government Ordinance No. 275 of 2015)
- Partial Revision of the Waste Management and Cleansing Act
- Partial Revision of the Disaster Countermeasures Basic Act

---

**Act No. 58 of 2015**

- **Revision of Government Ordinance on the Waste Management and Public Cleansing Act**
  - Revision of standards for contracting (standards for **re-contracting**) in cases where persons who have been contracted to collect, convey, dispose of or recycle general waste by municipalities in the event of an emergency or disaster carry out collection, conveyance, disposal or recycling on contract

---

**Revision of Government Ordinance on the Waste Management and Public Cleansing Act (Government Ordinance No. 275 of 2015)**

- Revision of standards for contracting (standards for **re-contracting**) in cases where persons who have been contracted to collect, convey, dispose of or recycle general waste by municipalities in the event of an emergency or disaster carry out collection, conveyance, disposal or recycling on contract
Establishment of treatment guidelines on the basis of the Disaster Countermeasures Basic Act and application of special standards

Contracting out of administrative work from municipalities to prefectures on the basis of the Local Autonomy Act

Ways of thinking with regard to the scale of disasters and the measures to apply, in relation to disaster waste measures

Preparedness in normal times on the basis of the Waste Management and Public Cleansing Act

Use of special measures on the basis of the Waste Management and Public Cleansing Act

With regard to recent disasters...

- Applied with regard to the Kumamoto earthquake of 2016
- Applied with regard to the Tokyo Inland Earthquake

Scale of disaster

- Large
  - Great East Japan Earthquake
  - Magnitude 9.0
  - Seismic intensity 7
  - Amount of disaster waste generated: Approximately 31 million tons

- Small
  - Great Hanshin-Awaji Earthquake
  - Magnitude 7.3
  - Seismic intensity 7
  - Amount of disaster waste generated: Approximately 15 million tons

- Small scale that do not cause much damage

Disasters that are relatively large but may normally occur

Decision by local government

Great Hanshin-Awaji Earthquake

 Magnitude 7.3
 Seismic intensity 7
 Amount of disaster waste generated: Approximately 15 million tons

Tokyo Inland Earthquake

 Estimated amount of disaster waste generated: Approximately 31 million tons to 350 million tons

Nankai Trough Major Earthquake

 Estimated amount of disaster waste generated: Approximately 290 million tons to 350 million tons

* Source: Grand Design for Disaster Waste Management Measures in the Event of a Major Earthquake (Ministry of the Environment, March 2014)

Implementation of action on behalf by the Minister of the Environment on the basis of the Disaster Countermeasures Basic Act (requests from municipalities affected by the disaster + certain requirements)

System for carrying out treatment over a wide area and necessity of treatment over a wide area

Decision by local government

Related to Clause 5, Article 86 of the Disaster Countermeasures Basic Act

* Applied with regard to recent disasters...

- Applied with regard to the Kumamoto earthquake of 2016
- Applied with regard to the Kumamoto earthquake of 2016

With regard to recent disasters...

- Applied with regard to the Kumamoto earthquake of 2016
- Applied with regard to the Kumamoto earthquake of 2016

Kanto-Tokyo heavy rainfall in 2015 (Joso City)

Applied with regard to the Kumamoto earthquake of 2016

Tokyo Inland Earthquake

Estimated amount of disaster waste generated: Approximately 65 million tons to 110 million tons

* Applied with regard to the Kumamoto earthquake of 2016

With regard to recent disasters...

- Applied with regard to the Kumamoto earthquake of 2016
- Applied with regard to the Kumamoto earthquake of 2016

Tokyo Inland Earthquake

Estimated amount of disaster waste generated: Approximately 65 million tons to 110 million tons

* Source: Grand Design for Disaster Waste Management Measures in the Event of a Major Earthquake (Ministry of the Environment, March 2014)
Thank you for listening.