Waste Management in Tokyo

Promotion of 3Rs

Waste Incineration Facilities in Urban Areas

Highly Efficient Energy Recovery

Recycling of Used Paper at Offices

Separate Collection

Recycling of Incinerated Ash

Recycling-related legislation in Japan

Fundamental Law for Establishing a Sound Material-Cycle Society

Law for the Promotion of Effective Utilization of Resources
- Provides the promotion by businesses of resource conservation and recycling

Container and Packaging Recycling Law
- Calls for sorted collection by municipal governments and recycling by companies

Home Appliance Recycling Law
- Provides collection by sales outlets and recycling by manufacturers

Construction Waste Recycling Law
- Provides Separate Demolition, and recycling of construction waste by contractors

Food Recycling Law
- Calls for recycling of food waste by food businesses

ELV Recycling Law
- Recycling of shredder dust, etc. by manufacturers

Recycling of Construction & Demolition Waste

Separate Collection

As a result of progress in the recycling of containers and packaging required by the law and recycling of used paper at offices, the amount of general waste was reduced from 6.13 million tons in 1989 at the highest to 4.45 million tons in 2005.

Since the enforcement of the Construction Waste Recycling Law in 2002, recycling of construction & demolition waste has been promoted. The rate of recycling of waste concrete is more than 99%.

In the 23-wards area, 21 waste incineration facilities are located in residential and waterfront areas.

Waste incineration facilities are located even in the downtown areas at urban centers (Shibuya Plant near Shibuya Station and Toshima Plant near Ikebukuro Station)

In the Tama district, an eco-cement facility is in operation to produce cement from incinerator ash.

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Waste power generation

Heat supplied to households in the complex

Recycling facilities in urban areas

- In the Chuo Ward, incineration facilities are located in residential and waterfront areas.
- In the Shinagawa Ward, incineration facilities are located even in the downtown areas at urban centers.
- Waste incineration facilities are located around the Sumida River.
- Waste incineration facilities are located around the Shinagawa River.

Highly efficient energy recovery

- All incineration plants in 23 wards generate power from waste and supply heat to nearby welfare facilities, etc.
- Latest facilities have achieved a power generation efficiency of more than 20%.
- There are three facilities that supply heat for district heating and cooling systems.

Recycling of incinerated ash

- Incinerator ash generated at incineration plants in the 23 wards is converted into slag at ash melting facilities. The slag is used as a construction material that is a substitute of sand.
- In the Tama district, an eco-cement facility is in operation to produce cement from incinerator ash.

Separate collection of recyclable waste

Collection of recyclable waste

- The 23 wards collect general waste separately by types of waste: combustible waste, non-combustible waste, bulky waste and recyclable waste.
- Plastic waste not suitable for recycling was classified as non-combustible waste. However, since 2008, plastics have been classified as combustible waste and used for energy recovery at waste incineration plants.
- In the case of used paper, glass bottles, cans, PET bottles, etc. (Collected once a week):
- Kitchen refuse, wood and grass, waste paper, etc. (Twice a week):
- Ceramics, plastics, etc. (Once a week):
- Furniture, futons, electronic waste* (Needs a reservation and there is a charge)

(Official data on recycling rate in Tokyo as of 2005)

- Concrete: 99%
- Asphalt: 99%
- Wood: 80%

(Note)

The concept of general waste in Japan is similar to that of municipal solid waste in the U.K. However, general waste does not include used paper and scrap metal that is to be recycled for value. Municipal governments, including the governments of the 23 wards, are responsible for the disposal of general waste.

In Japan, construction and demolition waste is classified as industrial waste. Generators of industrial waste are responsible for the disposal of the waste.

(Note)

The 23 wards collect general waste separately by types of waste: combustible waste, non-combustible waste, bulky waste and recyclable waste.

Plastic waste not suitable for recycling was classified as non-combustible waste. However, since 2008, plastics have been classified as combustible waste and used for energy recovery at waste incineration plants.

For recycling of used paper:

- Used paper, glass bottles, cans, PET bottles, etc. (Collected once a week)
- Kitchen refuse, wood and grass, waste paper, etc. (Twice a week)
- Ceramics, plastics, etc. (Once a week)
- Furniture, futons, electronic waste* (Needs a reservation and there is a charge)

* Excluding the items specified in the Home Appliance Recycling Law

Transition of Amount of General Waste

Waste Incineration Facilities in Urban Areas

Highly Efficient Energy Recovery

Recycling of Used Paper at Offices

Separate Collection
The Tokyo Metropolitan Government (TMG) has been propelling the Super Eco-Town project to achieve more efficient disposal of industrial waste within Tokyo and encourage the development of environment-related industries.

For this project, TMG invited private businesses to establish waste treatment and recycling facilities in the city’s waterfront area.

Thus far, eight waste treatment and recycling facilities have started their operation and another four facilities will be established.

* For details of this project, refer to the TMG’s website in English. http://www2.kankyo.metro.tokyo.jp/recycle/superecotown/outline.pdf

**Super Eco-Town Project**

- Construction and demolition waste recycling
  - (Takatoshi Corporation 928 t/day)
  - (Recycle Peer Co., Ltd. 961 t/day)

- E-waste recycling
  - (Re-Tem Corporation 300 t/day)
  - (Future Ecology Inc. 36 t/day)

- Animal feed from food waste
  - (Alto Co., Ltd. 140 t/day)

- Biogas power generation from food waste
  - Power generation capacity 1,000 kW

**Pyrolysis and Gasification Waste-to-Energy Plant**

- Treatment capacity
  - Pyrolysis and Gasification of plastic waste: 550 t/day
  - Incineration of infectious medical waste: 100 t/day
- Power generation capacity 23,000 kW

**PCB waste treatment**

- (Japan Environmental Safety Corporation)
- * The facility treats waste containing PCBs from Tokyo and the neighboring three prefectures.

**Final Disposal**

- General waste generated in Tokyo undergoes intermediate treatment such as incineration, and then 100% of the incinerator ash is disposed of in landfill sites within Tokyo. General waste generated in the 23-wards area is disposed of at the landfill site in Tokyo Bay managed by TMG. This landfill site also accepts industrial waste generated by small- and medium-sized companies in Tokyo.

- Industrial waste is treated by industrial waste disposal contractors in the private sector at sites located in other prefectures. 61% of the final disposal amount of industrial waste generated in Tokyo is disposed of outside Tokyo.

**Reduction of Final Disposal Amount**

- The Tokyo Metropolitan Waste Management Program formulated in 2006 aims to reduce the final disposal amount of general and industrial waste to 1.6 million tons by fiscal 2010 (a 35% reduction from fiscal 2004).

**Tracing of infectious waste using IC tags**

- TMG promotes wider use of an IC tag-based tracing system to prevent illegal dumping of infectious waste.

**Final Disposal Amount**

<table>
<thead>
<tr>
<th>Year</th>
<th>General waste (To be reduced by 35%)</th>
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<td>2004</td>
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<td>2010</td>
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**To waste gas treatment**

<Fluid bed gasification/melting furnace> (EBARA Corp.)

**Intermediate treatment facility**

**Waterfront Landfill Site along Tokyo Bay**

- Outer Central Breakwater Landfill Site: 199 ha
- Block B of the New Sea Surface Disposal Site: 72 ha
- Land disposal site in the Tama district (Futatsu-zuka disposal site)