



TOKYO SUPER ECO TOWN

Super Eco Town Project Outline



東京都

Documentation from the Bureau
of Port and Harbor, Tokyo
Metropolitan Government,
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What is the Tokyo Super Eco Town Project?

Tokyo Metropolitan Government (TMG) has been proceeding with the development of waste treatment and recycling facilities utilizing TMG owned land in the city's waterfront area. As one of the central government's Urban Regeneration projects, this aims to propel Tokyo's transformation into a recycling based society by resolving the issue of waste in the Greater Tokyo Area and providing locations for environmental industries.

Facilities for PCB-containing waste treatment and waste fuel electric power generation are operating in the Inner Central Breakwater Landfill site, and in the Jonanjima Island district, facilities for the recycling of mixed construction waste, food waste, used IT and other electronic devices, and sludge and other industrial waste are in operation.

TMG will strive to resolve waste problems by promoting the development of advanced and highly reliable waste treatment and recycling facilities that will boost the percentage of treated waste and reduce the final volume of disposed waste in Tokyo.

Basic Concepts of the Super Eco Town Project

- TMG will secure the necessary metropolitan government owned land for locating the facilities, decide upon the type of facilities to be developed and which companies will operate them, and coordinate and promote the entire project.
- For the treatment of PCB-containing wastes, the Japan Environmental Safety Corporation (JESCO) will develop and operate a facility for regional treatment based upon various laws including the PCB Special Measures Law (Law Concerning Special Measures for Promotion of Proper Treatment of PCB Waste) and the Japan Environmental Safety Corporation Law.
- Businesses that have been selected based on their applications will acquire TMG land and be responsible for the development and operation of their respective facilities. The businesses will be responsible for procuring their own funds and ensuring business feasibility. They will also be responsible for undertaking any legal procedures for city planning decisions and obtaining facility permits, etc. required for the development and operation of the facilities. *

History of the Super Eco Town Project

March 2001 The Governor of Tokyo proposes to the central government the "Five-Year, 10 Trillion Yen Project for Urgent Revitalization of the Greater Tokyo Area" that includes the Tokyo Super Eco Town concept.

May 2001 The central government establishes the Urban Regeneration Headquarters headed by the Prime Minister.

July 2001 The Urban Regeneration Headquarters establishes the "Council for Zero Waste Emission" and commences studies on the development of waste treatment and recycling facilities in the Greater Tokyo Area.

April 2002 The TMG announces the guidelines for the Super Eco Town Project and begins accepting applications from the public. The Council for Zero Waste Emission officially announces its final report which includes concepts for facility development.

July 2002 Companies selected for the Super Eco Town Project are officially announced.

May 2006 The TMG announces the guidelines for the Super Eco Town Project and begins accepting the second round of applications.

July 2006 Companies selected for the Super Eco Town Project are officially announced.

Contributing to the Environment

- Sustainable recycling of resources within Super Eco Town and short-distance transport made possible by locating facilities near the city center where large amounts of waste are produced has contributed to the reduction of CO₂ emissions from transportation and processing.
- A high recycling ratio helps to keep dwindling final waste disposal sites in operation and contributes to the preservation of natural resources.

Super Eco Town Facilities

Jonanjima, Ota Ward

Mixed construction waste recycling facility	Mixed construction waste recycling facility
	
Takatoshi Corporation Ltd. Operating since Dec. 2004	Takeel Co., Ltd. Operating since April 2005

Inner Central Breakwater Landfill Site

PCB containing waste treatment facility	Waste fuel electric power generation facility
	
Japan Environmental Storage & Safety Corporation Operating since Nov. 2005	Tokyo Waterfront Recycle Power Co., Ltd. Operating since Aug. 2006

Recycling facility for IT and other electronic devices	Recycling facility for IT and other electronic devices	Facility to convert food waste into animal feed	Facility to generate biogas power from food waste	Industrial waste and sludge recycling facility
				
Future Ecology Inc. Operating since April 2004	Re-Tem Corporation Operating since July 2005	Alfo Co., Ltd. Operating since April 2006	Bioenergy Co., Ltd. Operating since April 2006	Seiyu Kogyo Co., Ltd. Operating since July 2009

PCB-containing waste treatment facility

Japan Environmental Safety Corporation

Tokyo PCB processing facility
Aomi 2-chome, Koto Ward (Inner Central Breakwater Landfill Site)

<http://www.jesconet.co.jp>

TEL 03-3599-6023
FAX 03-3599-6077

Business Overview/Features

Under the leadership of the national government, the Japan Environmental Safety Corporation promotes the regional treatment of PCB containing wastes through five centers located throughout Japan (Kitakyushu, Osaka, Toyota, Tokyo, Muroran).

This facility was established for the chemical treatment and detoxification of PCB containing wastes (high-voltage transformers, high-voltage capacitors, ballasts, etc.) from Tokyo and the three neighboring prefectures ;Saitama, Chiba, and Kanagawa. Treatment operations started up in November 2005 and will conclude by 2014.

This facility treats highly concentrated PCBs by hydrothermal decomposition and low concentrated PCBs by dechlorination decomposition.



▲ PCB decomposition reactor

Business Contents

Treated Waste	Quantity Treated (Volume PCB decomposed)	Waste Generating Areas
Highly concentrated PCB waste	2t /day	PCB waste (high-voltage Transformers, capacitors, etc. in Tokyo, Saitama, Chiba, Kanagawa)



Waste fuel electric power generation

Tokyo Waterfront Recycle Power Co., Ltd.

Super Eco Plant Aomi 3-chome, Koto Ward (Inner Central Breakwater Landfill Site)

<http://www.tgn.or.jp/tokyorp/>

TEL 03-6327-3190
FAX 03-5500-1088

Business Overview/Features

In this facility, industrial waste such as plastics and crushed/separated residue of construction waste is received for gasification. Ash is melted under high temperatures into slug to be recycled as construction material. In addition, 23,000kW of power is generated by recovering both the heat generated through this process and the waste heat of medical waste treatment.

Metals such as iron, copper and aluminum are sold as valuable materials. Infectious medical wastes from medical institutions are incinerated in exclusive furnaces, and the waste heat is used for power generation. This facility is one of the largest of its kind in Japan. We aim for 100% recycling by combining material recycling and thermal recycling.

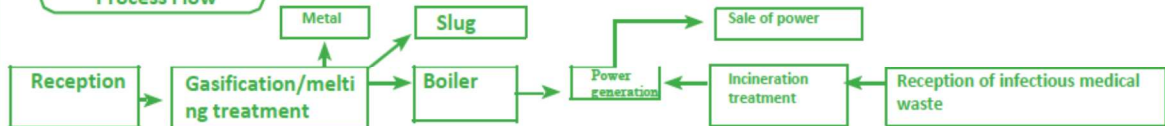


▲ Power generator

Business Contents

	Item	Quantity Treated/Produced	Waste Generator/Produced
Type of Treated Waste	Plastic wastes, etc.	550t/day	Various businesses/intermediate treatment facilities
	Infectious medical wastes	100t/day	Medical institutions (hospitals, clinics, etc.)
Recycled products and their applications	Electrical power	23,000kW	Used partially within the plant, also sold to the power company
	Slug	Approx. 50t/day	Sold as construction material

Process Flow



Industrial waste and sludge recycling facility

Seiyu Kogyo Co., Ltd.

Jonanjima Plant 3-3-3 Jonanjima, Ota Ward

<http://www.seiyukogyo.co.jp>

TEL 03-3799-7000
FAX 03-3799-7008

Business Overview/Features

Industrial waste and sludge produced from construction sites can be used not only to create recycled roadbed materials, but also to create class H recycled aggregate for concrete (JIS A 5021) through the country's first industrialized heat separation processing facility. Sludge can be recycled into high quality improved soil via a dehydration and granulation process. With this and the use of cement powder produced by the heat separation process as a solidifier used to knead sludge, we strive toward 100% recycling of this kind of waste.

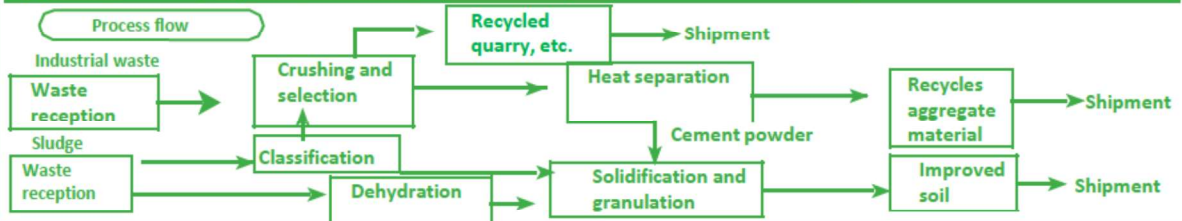


▲ Heat separator line

Business contents

	Item	Quantity Treated/Produced	Generator/Waste Applications
Type of Treated Waste	Industrial wastes, glass, concrete, and pottery chips	1300t/day	Civil engineering and construction demolition, etc.
	Sludge	700t/day	
Recycled products and their applications	Class H recycled aggregate (JIS A 5021)	Approx. 537t/day	Reused as raw material for cement
	Recycled sand, improved soil, and recycled crushed stone	Approx. 1274t/day	Reused as roadbed material, etc.

Process flow



Takatoshi Corporation Ltd.

Tokyo Waterfront Eco Plant 3-2-15 Jonanjima, Ota Ward

<http://www.takatoshi.co.jp>

TEL 03-5755-8011

Business Overview/Features

FAX 03-5755-8010

Construction and demolition waste that is difficult to be recycled is received at this facility. Using a recycling system with high-precision separation made possible by state-of-the-art technology, a recycling rate of over 90% has been achieved. This facility takes the basic position that "wastes are products" and aims for the boundless recycling of precious waste resources. Greater recycling efficiency will be sought through advancements in separation technology while also promoting a balance between people and machines. Environment-conscious operations are also conducted such as construction of a 10 meter high windbreak wall to care for the surrounding environment and equipping the facility with a high performance dust filter to protect the health of the staff.



▲ Thorough pre-treatment is undertaken before automated treatment

Business contents

	Item	Quantity Treated/Produced	Generator/Waste Applications
Type of Treated Waste	Industrial wastes (construction and demolition waste, etc.)	928t/day	New construction/refurbishing/demolition etc. of buildings
	General waste (Plastic waste, etc.)		Wastes generated from moving, etc.
Recycled products and their applications	Recycled sand	Approx. 80t/day	Reused as roadbed material, raw material for cement
	Other items	Approx. 783t/day	Reused as fuel for cement, reducers for blast furnaces, etc.

Process flow



Takeei Co., Ltd.

Tokyo Eco Town Plant 3-4-3 Jonanjima, Ota Ward <http://www.takeei.co.jp>

TEL 03-5755-8811

Business Overview/Features

FAX 03-5755-8815

Construction and demolition waste is received at this facility and 94% is recycled. Three advanced technologies were introduced to achieve this high rate of recycling. Due to this, this facility was accredited as a nationally subsidized facility, the first private construction-related industrial waste treatment facility to receive this qualification.

- (1) Achieved automated rough selection of waste by introducing a "roll screen unit"
- (2) Achieved high utilization of earth and sand by introducing a "grinding and washer treatment unit" (separation by difference in specific gravity)
- (3) Achieved utilization of coarse particles, etc. as a secondary raw material for steel manufacturing (Eco-Form)



▲ Automated waste separation line

Business Contents

	Item	Quantity Treated/Produced	Waste Generator/Waste Applications
Type of Treated Waste	Construction and demolition waste	Approx. 961t/day	New construction/refurbishing/demolition of buildings, etc.
	Business-related industrial waste		Industrial waste generated from manufacturing and distribution, etc.
Recycled products and their applications	Recycled sand	Approx. 300t/day	Roadbed material, specific gravity modifier, etc.
	Eco-Form	Approx. 30t/day	Utilized at steel plant
	Carpet materials	Approx. 16t/day	Utilized at carpet manufacturers

Process Flow



Re-Tem Corporation

Tokyo Plant 3-2-9 Jonanjima Ota Ward
<http://www.re-tem.com>

TEL 03-3790-2100
 FAX 03-3799-8500



▲ Heavy equipment operations before shredding

Business Overview/Features

This facility receives waste such as used iron metal matrix composites as well as electric/electronic equipment and information communication equipment from businesses, as well as small electric appliances from municipalities. The products are disassembled, separated, and treated properly after an accurate assessment of the composites. This leads to an extremely pure recovery of materials. All items that have been treated are shipped out as raw materials for the industry, consequently achieving zero emission of waste (zero landfills).

Business Contents

	Item	Quantity Treated/Produced	Generator/Waste Applications
Type of Treated Waste	Metal waste, plastic waste, glass, etc.	300t/day	Machines, ATMs, electrical appliances, etc. from manufacturers, banks, leasing firms and offices
Recycled products and their applications	Ferrous metals	Approx. 200t/day	Sold to electric furnace manufacturers and steel works
	Non-ferrous metal	Approx. 40t/day	Sold to non-ferrous refineries, etc.

Process flow



Future Ecology Inc.

Tokyo Office 3-2-14 Jonanjima, Ota Ward
<http://www.f-eco.co.jp>

TEL 03-3799-7153
 FAX 03-3799-0539



▲ Data removal and confirmation of PC operation

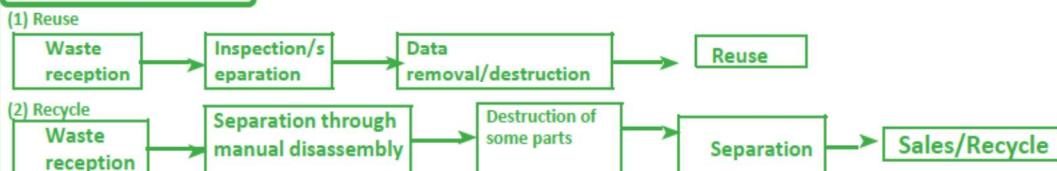
Business Overview/Features

This facility undertakes the reuse and recycling of used personal computers and other electric, electronic, and information related equipment. For information related equipment in particular, data is removed or destroyed under strict security procedures for their safe reuse and recycling.

Business Contents

	Item	Quantity Treated/Produced	Waste Generator/Waste Applications
Type of Treated Waste	Used electrical household appliances, OA machinery and electronic parts, etc.	36t/day	General businesses, leasing firms, etc.
Reused products and their applications	Electric/ electronic/ and information related equipment	12t/day	Reused after repair following removal or destruction of data
Recycled products and their applications	Electric/ electronic/ and information related equipment	24t/day	Recycled after data destruction, etc.

Process Flow



Animal Feed from Food Waste

Alfo Co., Ltd.

Jonanjima Feed Conversion Center 3-3-2 Jonanjima, Ota Ward

TEL 03-5755-8841

FAX 03-5755-8842

<http://www.tokyoclear.co.jp>

Business Overview/Features

This facility receives and dries food waste (food scraps) to manufacture ingredients used in formula animal feed for the pork and poultry industries. The advanced technology of the "low temperature vacuum drying equipment" is based on the principle of "water evaporation by deep oil frying" to manufacture feed. Feed can be manufactured in approx. 90 minutes per treatment cycle (10 tons), allowing large volumes to be treated in a shorter period of time than other compost or feed production methods.



▲ An ingredient for formula feed

Business Contents

	Item	Quantity Treated/Produced	Waste Generator/Waste Applications
Type of Treated Waste	Business related general waste (food scraps)	140t/day	Kitchen scraps and leftovers (food scraps) from hotels, restaurants, supermarkets, etc.
	Industrial waste (animal and plant scraps)		Animal and plant scraps generated during the manufacturing, processing or cooking of food
Recycled products and their applications	Ingredient for formula feed	Approx. 25t/day	Formula feed for poultry and pork industries

Process Flow



Biogas Power Generation from Food Waste

Bioenergy Co., Ltd.

Jonanjima Food Recycling Facility 3-4-4 Jonanjima, Ota Ward

TEL 03-5492-1461

FAX 03-5492-1467

<http://www.bio-energy.co.jp>

Business Overview/Features

This facility accepts food waste that has been incinerated rather than recycled because it has been difficult to separate. Using a methane fermentation system, methane gas is generated as fuel for gas engines. Approximately 24,000kWh of power (equivalent to the amount of electricity for about 2,400 households) is generated per day. It has been certificated as green/natural energy. Also, it produces natural gas from the biogas. Producing electricity and natural gas from food waste contributes for reducing carbon dioxide emissions by an annual 6,360 tons.

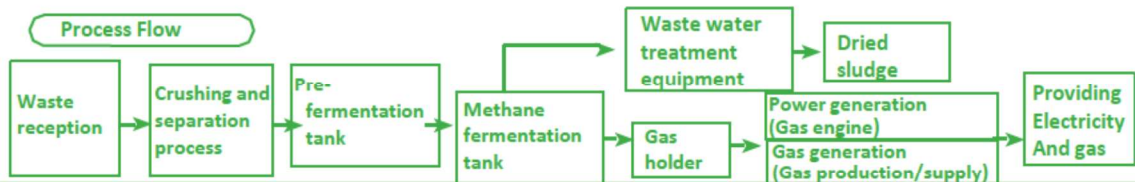


▲ Methane Fermentation Facility

Business Contents

	Item	Quantity treated/Produced	Waste Generator/Waste Applications
Type of Treated Waste	Business-related general wastes	Food wastes 130t/day	Food manufactures/processors, restaurants, department stores, convenience stores, hotels, food service facilities, etc.
	Industrial wastes		
Recycled products and their applications	Electrical power	24,000kWh (2,400 households equivalent)	All sold to the power company
	Natural Gas	2,400 cubic meter (2,000 households equivalent)	All sold to the gas company

Process Flow



Access to Super Eco Town



Inner Central Breakwater Landfill Site
Public Transportation System
 20 minutes by bus from Tokyo Teleport Station/Tokyo Waterfront Area Rapid Transit
 15 minutes by bus from Telecom Center Station/Yurikamome In either case, use the Toei bus (wave 01) to Environmental Central Government Office Complex (Marked by (A) below)
 ① PCB-containing waste treatment facility

① PCB-containing waste treatment facility	Japan Environmental Safety Corporation
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② Waste fuel electric power generation facility	Tokyo Waterfront Recycle Power Co., Ltd
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Jonanjima Area

Public Transportation System

- 30 minutes by bus from Omori Station/JR Keihin Tohoku Line
- 25 minutes by bus from Heiwajima Station/Keikyū
- 20 minutes by bus from Ryutsu Center/Tokyo Monorail In any case, use the Keikyū bus (Mori 32) Jonanjima Route to Jonanjima 4-chome (marked as (B) below) or to Animal Welfare Center (marked as (C) below)

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|--|----------------------------|
| ① Mixed construction waste recycling facility | Takatoshi Corporation Ltd. |
| ② Mixed construction waste recycling facility | Takeei Co., Ltd. |
| ③ Recycling facility for IT and other electronic devices | Re-Tem Corporation |
| ④ Recycling facility for IT and other electronic devices | Future Ecology Inc. |
| ⑤ Facility to convert food waste into animal feed | Alfo Co., Ltd. |
| ⑥ Facility to generate biogas power from food waste | Bioenergy Co., Ltd. |
| ⑦ Industrial waste and sludge recycling facility | Seiyu Kogyo Co., Ltd. |

Super Eco Town Point of Contact

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