



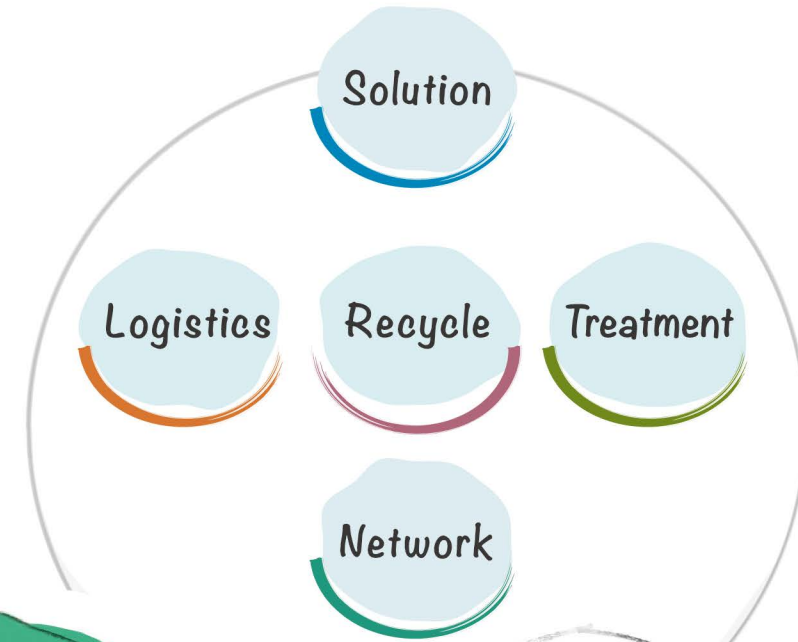
## J&T Recycling Corporation

### Kawasaki Head Office

580 Horikawa-cho, Saiwai-ku, Kawasaki-shi 212-0013  
Solid Square East Tower, 9F  
TEL. 044-330-9480 FAX. 044-511-1500

### Yokohama Head Office

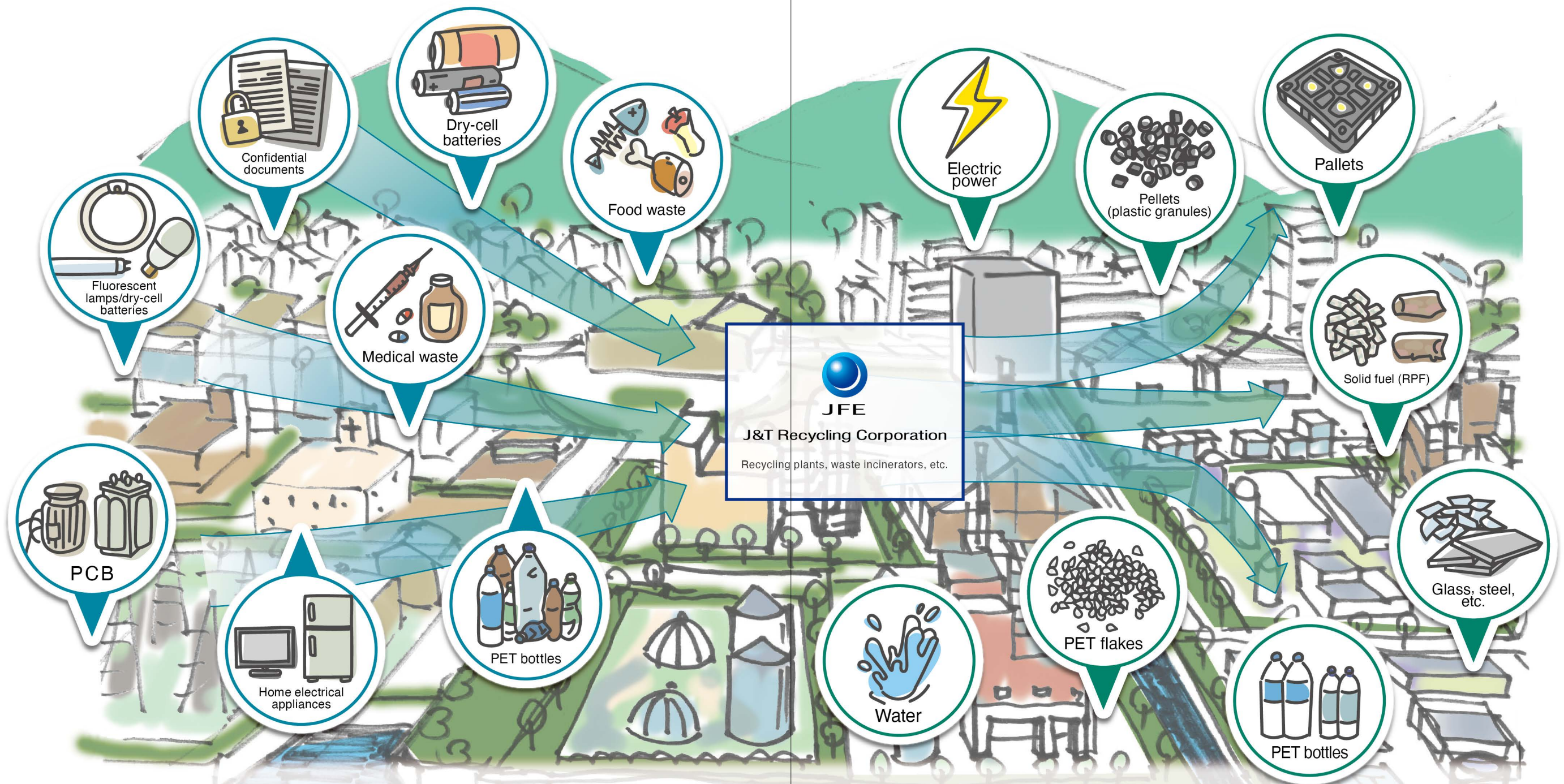
3-1 Benten-cho, Tsurumi-ku, Yokohama-shi 230-0044



## J&T Recycling Corporation

CORPORATE PROFILE

<https://www.jt-kankyo.co.jp/>



## Management Policy

J&T Recycling Corporation will uphold the following four principles.

1. **SAFETY is our FIRST PRIORITY**  
Our highly law-abiding activities meet **regulatory compliance**, and build **trust with customers and local communities**.
2. **LEAD RECYCLING BUSINESS WITH LATEST TECHNOLOGY**  
Play a key role in improving the **social position of the waste treatment and recycling industry**.
3. **ACHIEVE A SUSTAINABLE SOCIETY**  
Expanding conversion waste to energy or resource of recycling materials, especially with plastic, food waste and heat recovery.
4. **AIM TO BE A GLOBAL LEADER**  
Especially in Southeast Asia where waste disposal emerges as social serious issue along with the economic growth.

## Environmental Policy

### Principle

Contribute to create a better global environment, using newest environmental recycling technology.

### Guideline

1. Contribute to realize recycling and low-carbonate society with our constant developing technology.
2. Reducing environmental stress and risk, and coexisting with local community and society.
3. Promoting environmental management company-wide.

**Aiming to be a Leading Company  
in the Waste Treatment and Recycling Industry**

**April 2019**

**Launch of J&T Recycling Corporation!**



Both JFE Kankyo and Tokyo Waterfront Recycle Power have been running waste disposal and recycling businesses from their primary bases in Tokyo's bay area. Each company has different advantages and strengths. We believe making bigger businesses if these two companies merge together with strong synergies. Based on this idea, a working group was launched in FY2017 to search for a path to collaboration. From April 2019, these two companies have finally been merged to form J&T Recycling Corporation, Tokyo metropolitan area's largest waste processing and recycling company.

J&T Recycling will strive to contribute to a sustainable society through a diverse range of recycling activities including food recycling, biogas power generation, various types of plastic recycling, including plastic bottles, and thermal recycling through incineration and power generation enhanced by the centralized management of four bases: Tokyo, Kawasaki, Yokohama, and Chiba. Our aim is to be a leading company in the waste treatment and recycling industry. We will work to expand our business under this **new organization**.

**Total environmental solutions**

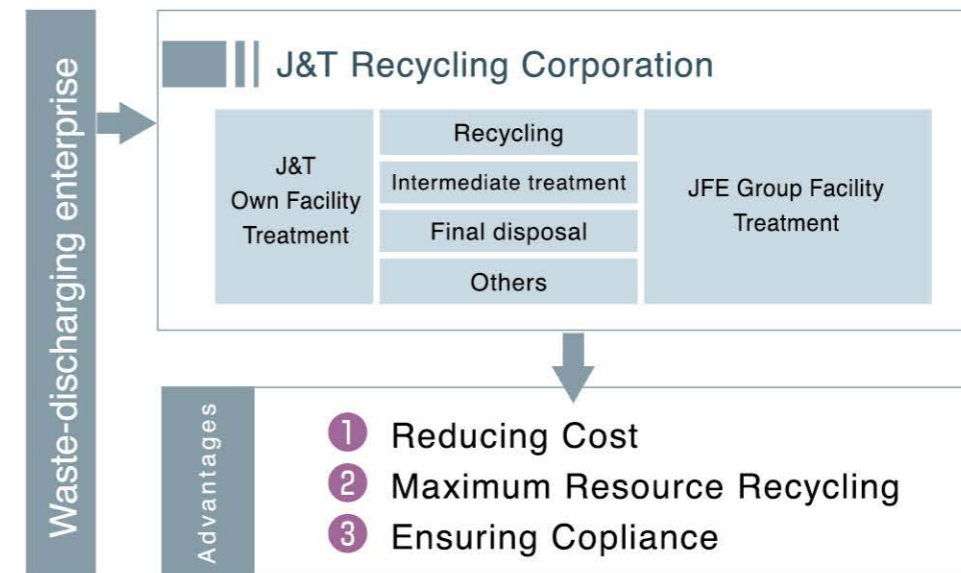
As a total recycling company that combines the technical capabilities of the JFE Group, J&T Recycling provides "one-stop service" for full range of needs, from environmental consulting to waste collection and transportation, intermediate treatment and recycling.



**Solutions Business**

One-stop management of waste recycling

Making full use of J&T Recycling and the J&T Group network, J&T Recycling Corporation provides total management and integrated disposal and recycling for wastes discharged by businesses.



**Environmental Consulting**

J&T Recycling propose the optimum solutions for each clients' environment.



- Environmental consulting
- Environmental surveys and analysis
- Measurement certification business

**MESSAGE**

Bringing together the technologies and experience of JFE Kankyo and Tokyo Waterfront Recycle Power, the new company aims to be industry's leading runner as experts in total environmental solutions. Our efforts aren't limited to growing our existing businesses. We are also actively taking on the challenge of solving social problems, beginning with disposal of marine plastics, which is now regarded as a global issue.



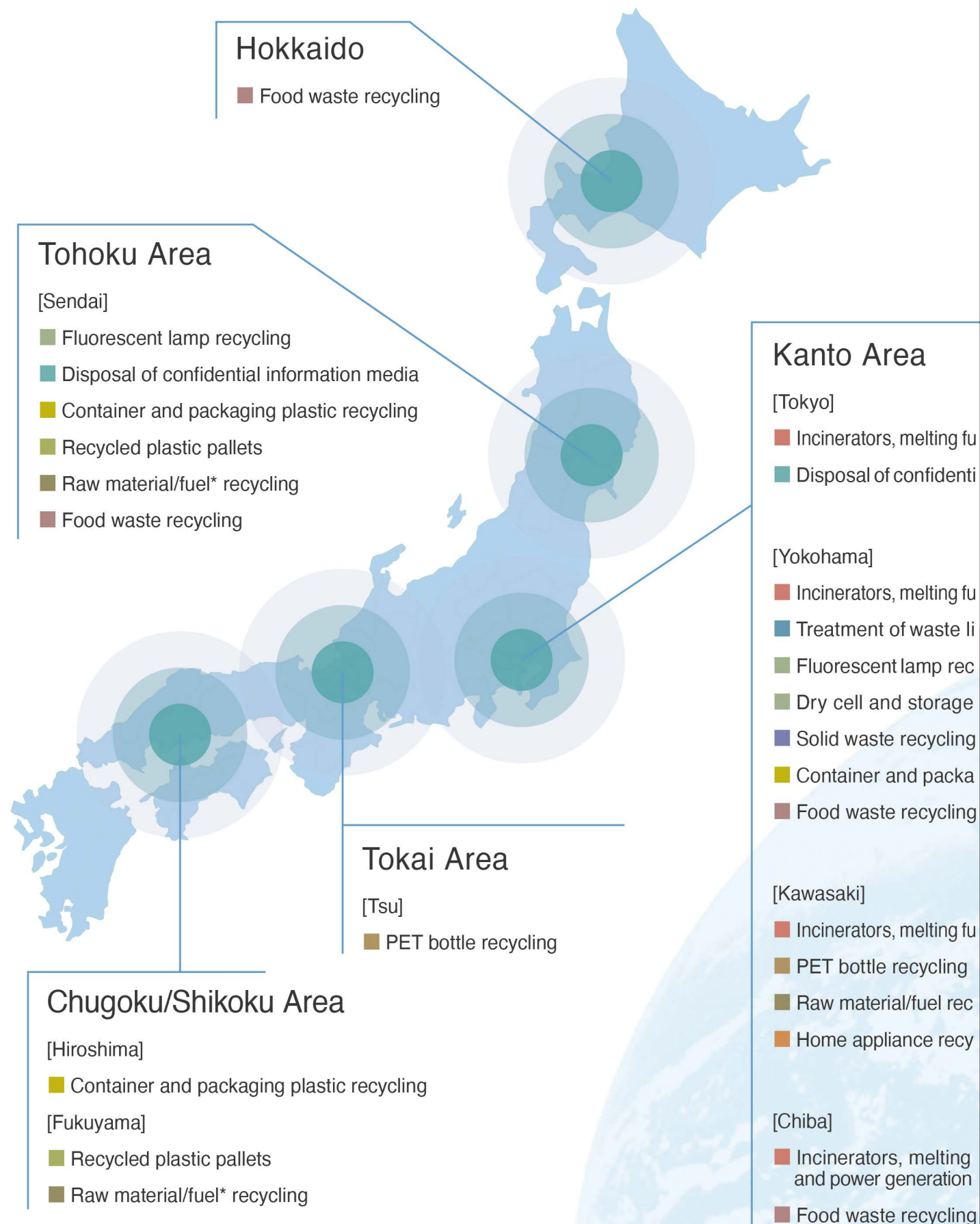
**Tetsuo Tsuyuguchi (left)**  
President

Looking at firmly on the future of Japan and the world, we're grappling head-on with the problems of waste disposal and recycling, making the fullest possible use of the traditional strengths of both companies. Our employees will work together as one so that the next generation will inherit an environment where everyone can live and grow with peace of mind.

**Toshiro Sasaki (right)**  
Vice President

# Main Facilities

J&T Recycling facilities are not only in Tokyo Metropolitan Area, but also in Sapporo, Sendai and Fukuyama. We can meet customers' needs with a diverse recycling menu and complete network system.



# J&T Recycling Corporation

CORPORATE PROFILE

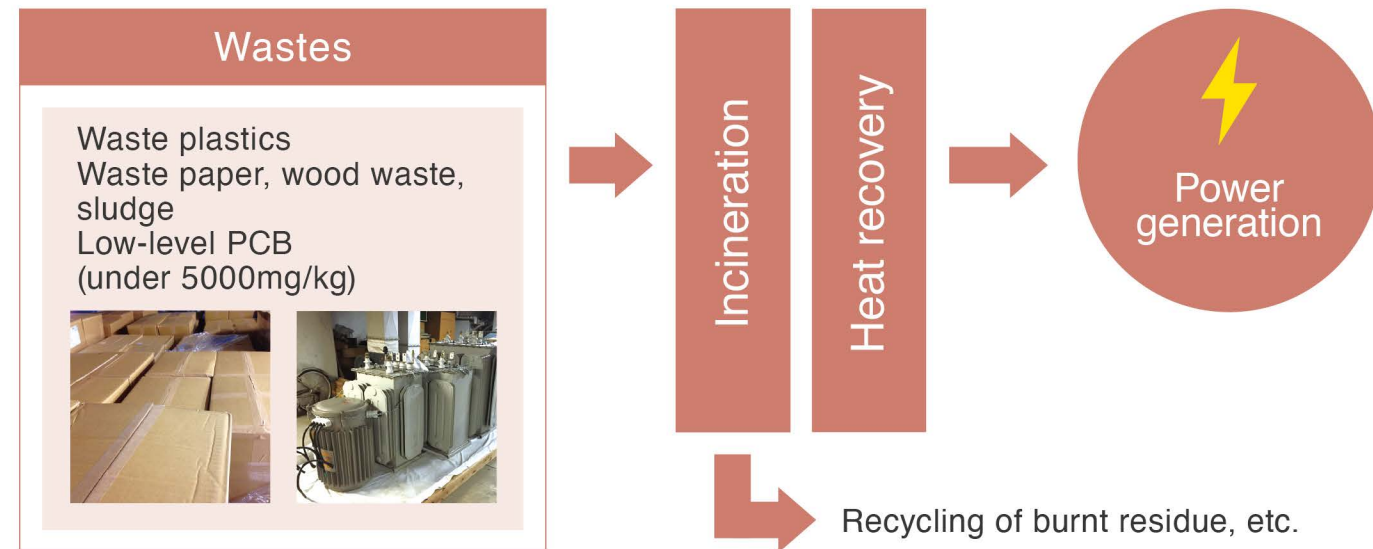
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# Incinerators, Melting Furnaces and Power Generation

## ■ Treatment Process

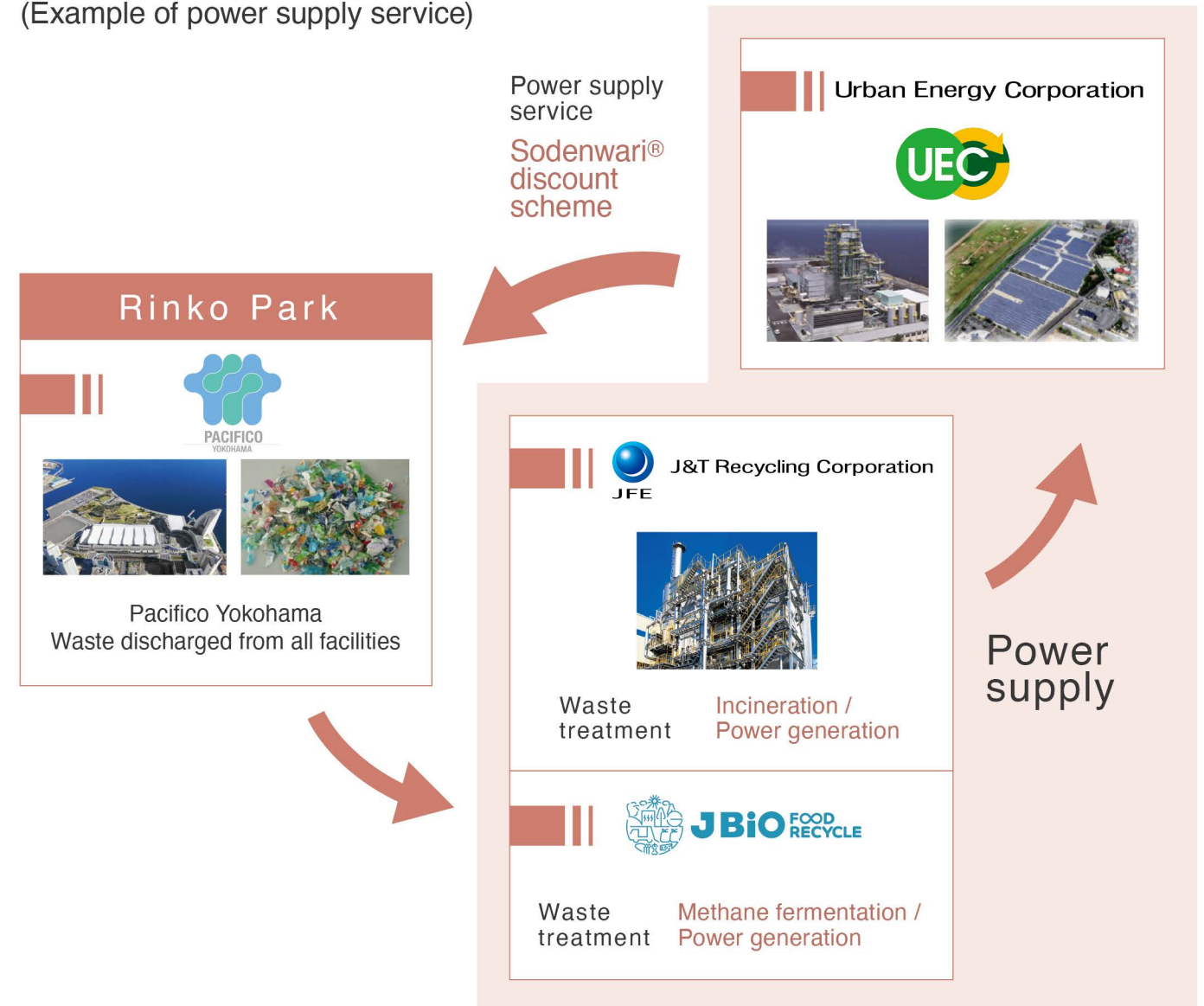


## Treatment Facilities in Tokyo Metropolitan area

Yokohama/ Kawasaki	440 t/d
Tokyo	650 t/d
Chiba	300 t/d
<b>Total</b>	<b>1,390 t/d</b>



## Incineration/power generation (Example of power supply service)



J&T Recycling create “Waste to Power recycling system” in Rinko Park area;

- 1) Collecting waste from Rinko Park,
- 2) Generating electricity using HEAT Recovery system of J&T incinerators and biogas from JBio,
- 3) Supplying power to Rinko Park through Urban Energy Corporation\*

\* Urban Energy Corporation is a PPS (Power Producer and Supplier)

Urban Energy Corp. offers a power rate discount service called “Sodenwari®” corresponding to the amount of waste discharged by the customer.

Sodenwari® = Electricity Creation Returning®

# Incinerators, Melting Furnaces and Power Generation



[Yokohama Area]

## Yokohama Eco Clean

(Kiln/stoker type furnace)

Incineration and power generation facility with high operation rate

Low-level PCB waste treatment facility

Treatment capacity : 219.9t/d  
 Generating capacity : 1,889kW  
 Target : Sludge, acid, alkali, plastics, glass, concrete, ceramics, rubber, paper, wood, textiles, animal/plant residue, burnt residue, soot and dust, metal scrap, Low-level PCB oil, Low-level PCB contaminants/treatment products



[Tokyo Area]

## Tokyo Waterfront Eco Clean

(Fluidized bed gasification & melting furnace/vertical furnace)

J&T Recycling's largest generating capacity

Treatment capacity : Industrial waste 550 t/d  
 Infectious medical waste 100 t/d  
 Generating capacity : 23,000kW  
 Target : Burnt residue, sludge, acid, alkali, plastics, paper, wood, fabric, animal/plant residue, rubber, metal scrap, glass, concrete, ceramics, slag, soot and dust, infectious medical waste



[Kawasaki Area]

## Kawasaki Eco Clean

(Kiln/stoker type furnace)

Treatment capacity : 219.9 t/d  
 Generating capacity : 1,500 kW  
 Target : Sludge, oil, acid, alkali, plastics, glass, rubber, paper, wood, fabric, animal/plant residue, metal scrap, infectious industrial waste, medical waste



[Chiba Area]

## Chiba Recycling Center

(Thermoselect-type gasification & melting furnace)

Recovery generated fuel gas, slag, metals, etc. as resources

Treatment capacity : 300 t/d (150 t/d x 2 units)  
 Target : Burnt residue, sludge, acid, alkali, plastics, paper, wood, fabrics, animal/plant residue, rubber, metal scrap, glass, concrete, ceramics, slag, rubble, soot and dust, food waste

# Treatment of Waste Liquids and Sludge



## Chemical Process

[Yokohama Area]

(Treatment of waste acid, waste alkali and sludge)

Treatment of high-level COD waste liquids and hazardous waste liquids and sludge containing heavy metals utilizing highly experienced technology

Treatment capacity : 168,000 t/y

Target : Acid, alkali, sludge, strong acids and alkalis, mercury, cadmium, lead, arsenic, selenium, hexavalent chromium



NH3 adsorption tower

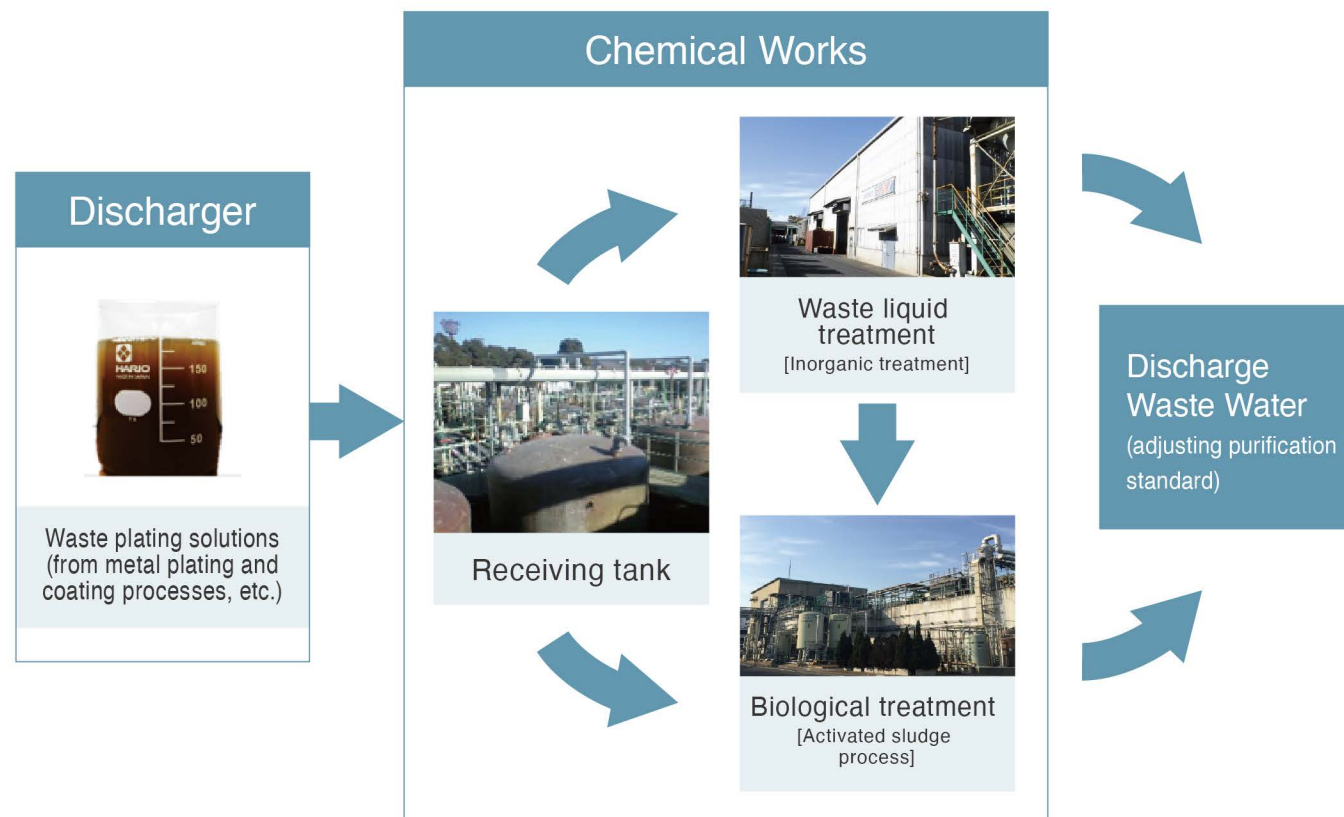


Filter press



Beverage containers  
Bottles crushing equipment

### Treatment Process



# Fluorescent Lamp Recycling



## Tsurumi Fluorescent Lamp Recycling Plant

[Yokohama Area]

Cutting-edge technologies of fluorescent and mercury lamps

Treatment capacity : 20,000 t/y



## Sendai Fluorescent Lamp Recycling Facility

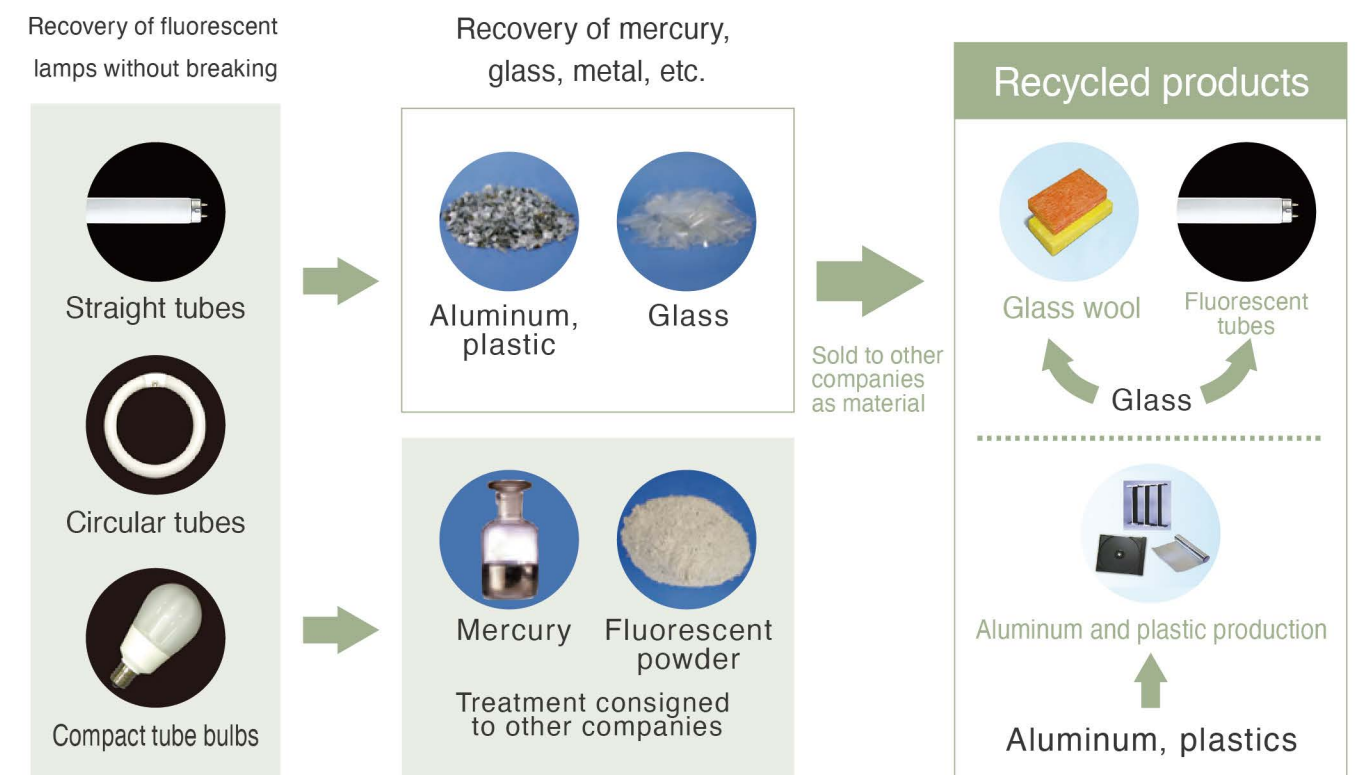
[Sendai Area]

Cutting-edge technologies of recycle fluorescent and mercury lamps

Treatment capacity : 1,400 t/y



### Treatment Process



# Dry Cell and Storage Battery Recycling



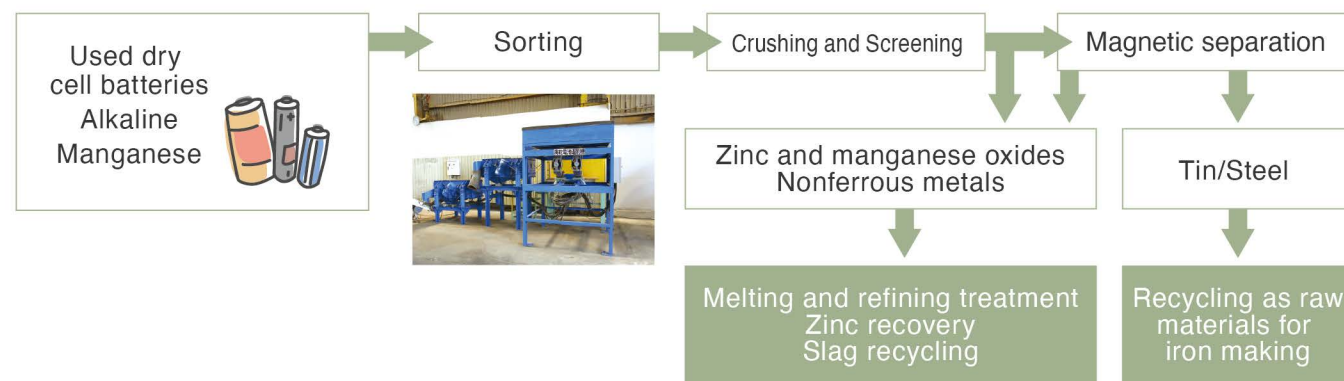
## Dry Cell Recycling Facility [Yokohama Area]

Recover Steels as raw materials (Iron and Zinc)

Used dry cell battery treatment equipment  
Treatment capacity : 5,500 t/y



### Treatment Process



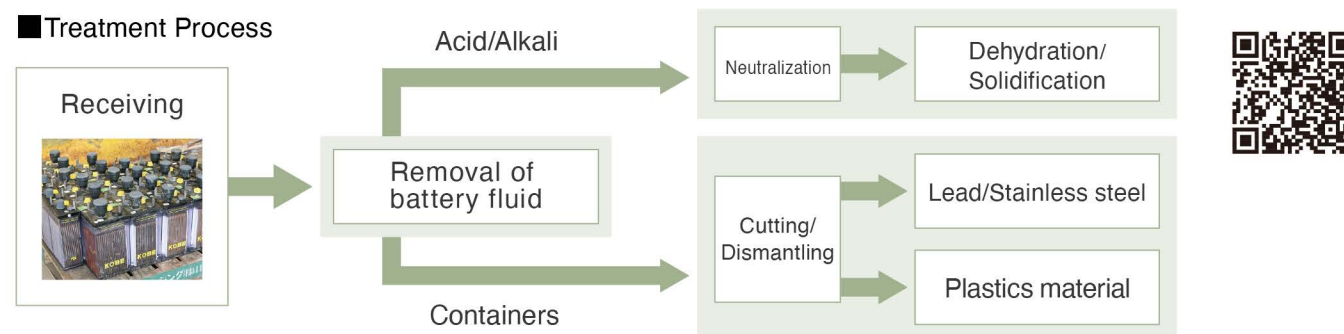
## Storage Battery Recycling Facility [Yokohama Area]

Waste liquid treatment, recovery of metals and recycling of containers

Dismantling and treatment facility  
Treatment capacity : 20,000 t/y



### Treatment Process



# Solid Waste Recycling

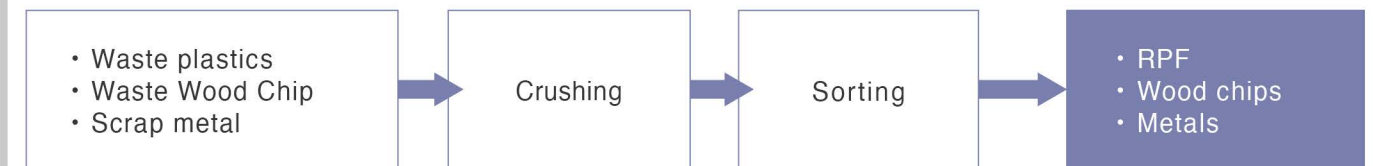
## Kanazawa Recycling Plant [Yokohama Area]

Recycling of construction/industrial mixed wastes  
Integrated treatment from advanced sorting to recycling

Treatment capacity : 3,200 t/y  
Targets : Plastics, wood chips, scrap metal, glass, ceramics, rubble and other debris, paper



### Treatment Process



# Disposal of Confidential Media



## Tokyo Waterfront Eco Clean [Tokyo Area]

Incineration of confidential information media and documents containing personal information, etc. in vertical furnace



CD/DVD, etc.



Confidential information media



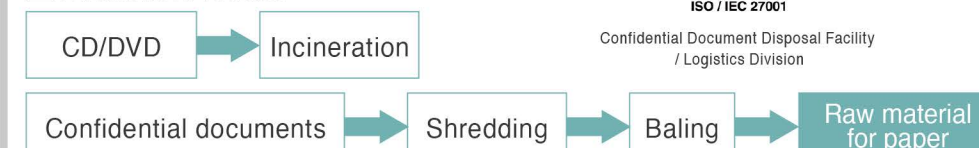
Confidential documents



## Confidential Document Disposal Facility [Sendai Area]

Batch disposal of confidential/important documents in cardboard box units

### Treatment Process



Confidential Document Disposal Facility / Logistics Division





# PET Bottle Recycling



## Kawasaki PET Bottle Recycling Plant

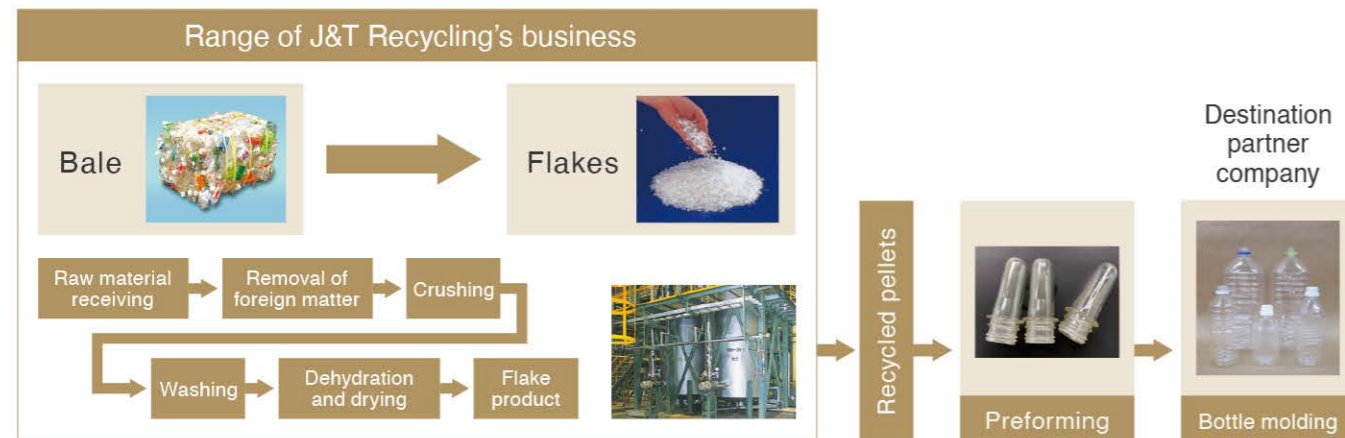
[Kawasaki Area]

Material recycling: PET bottles are recycled as a raw material for recycled bottles or other recycled products.

Treatment capacity : 15,000 t/y



### Treatment Process



## High Quality Baling Facility

[Kawasaki Area]

Recover waste pet bottles from station, streets, and towns as raw material.

Treatment capacity : 25 t/d  
Used PET bottles



### Treatment Process



## Kyoei J&T Recycling Corporation

[Tsu Area]

Scheduled start of operations: Fall 2021

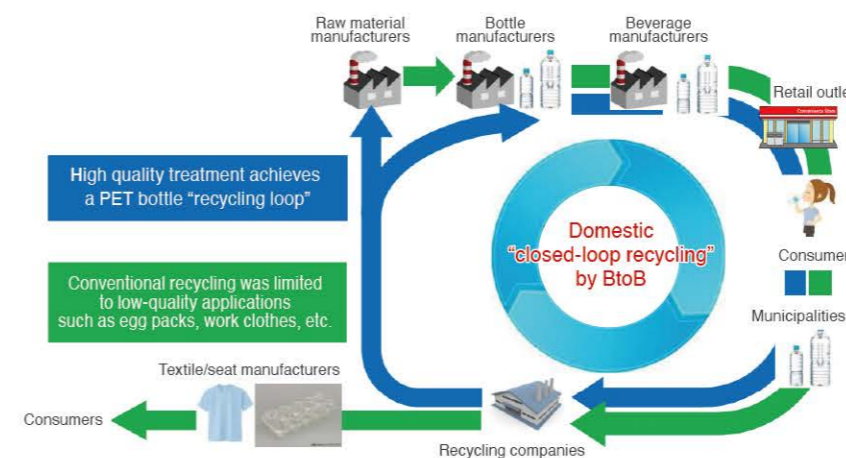
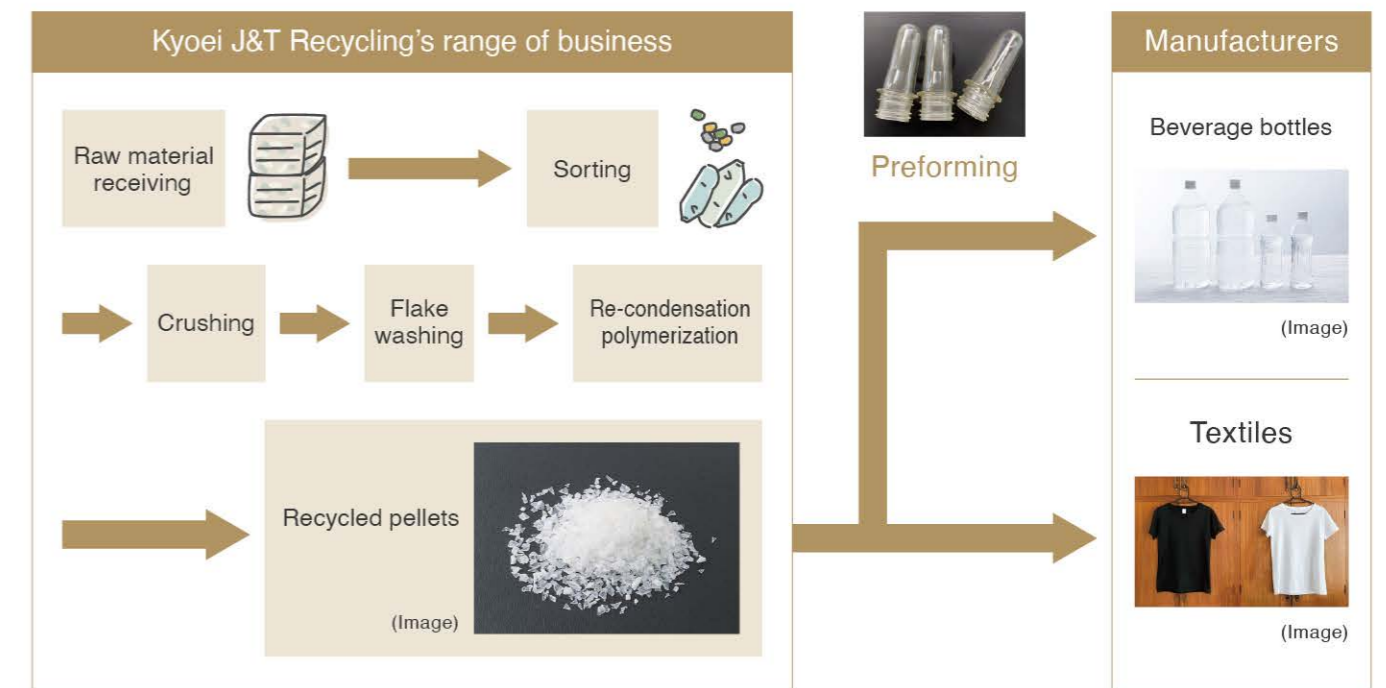
The largest production facility of recycling PET pellets contributed to "B to B" recycling.

- 1) Making the same quality level of PET pellet as virgin resins, removing foreign matters under high temperature and low pressure.
- 2) Reducing 63% CO<sub>2</sub> rather than producing virgin PET (oil derived pellets)

Treatment capacity : 180 t/d (planned)  
Targetss : Used PET bottles



### Treatment Process



Realizing to restore IV (Intrinsic Viscosity) value of recycled resins. This advanced technology contributes to producing 100% recycled material PET bottle making. The aim is "Closed-loop Recycling"

# Container and Packaging Plastic Recycling



## Baling

Baling of general waste plastic garbage (business entrusted by municipalities)

### Yokohama Plastics Recycling Plant [Yokohama Area]

Sorts, compacts and bales container and packaging plastics collected after sorting/discharge by general households in Yokohama (designated area), and ships the bales to recycling businesses



Treatment capacity : 136.8 t/d

Targetss : Plastic containers and packaging (excluding PET bottles)

### Sendai Plastics Baling Plant [Sendai Area]

Sorts, compacts and bales container and packaging plastics collected after sorting/discharge by general households in Sendai



Treatment capacity : 70 t/

Targetss : Plastic containers and packaging (excluding PET bottles)

### Dia Ecotech Hiroshima [Hiroshima Area]

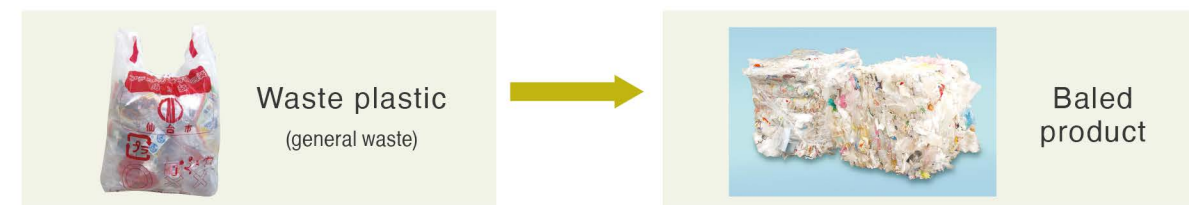
Sorts, compacts and bales PET bottles and container and packaging plastics collected after sorting/discharge by general households in Hiroshima



Treatment capacity : 80 t/d

Targetss : Plastic containers and packaging

#### ■ Treatment Process



# Recycled Plastic Pallets



## 100% recycled plastic pallets

Production of pallets from waste plastic

### Fukuyama PM Recycling Plant [Fukuyama Area] PM: Plastic Materials

Produces pallets using recycled plastic pellets from used flexible containers as raw materi



Treatment capacity : 12 t/d

### Pallet Plant [Fukuyama Area]

High quality, lightweight 100% recycled plastic pallets with an original honeycomb structure Reducing 40% of CO<sub>2</sub> rather than virgin plastic pallet



Treatment capacity : 370,000 pallets/y

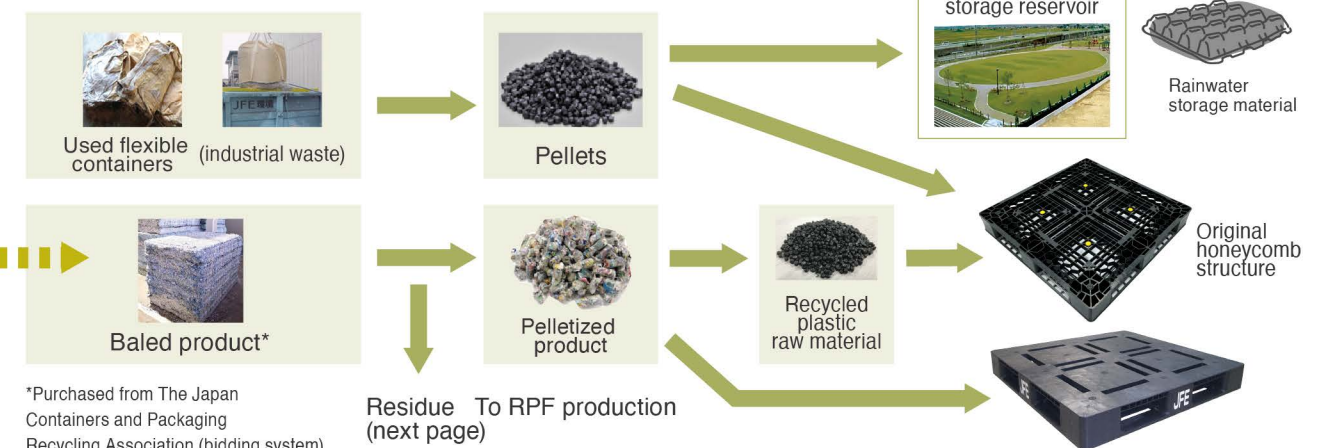
### Sendai Plastic Recycling Plant [Sendai Area]

Processes container and packaging plastics into a pelletized product for use as raw material for pallets, and produces 100% recycled plastic pallets



Treatment capacity : 360,000 pallets/y

#### ■ Treatment Process



# Raw Material/Fuel Recycling

Recycling of waste plastics (industrial waste)

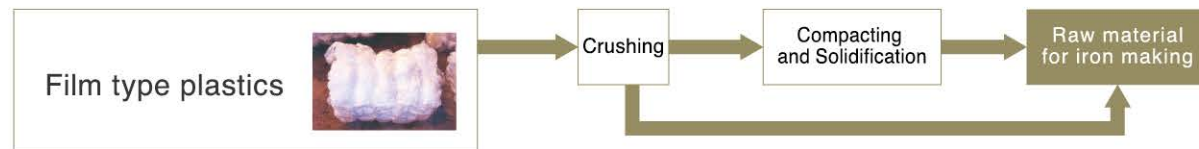
## Ohgishima Recycling Plant [Kawasaki Area]

Produces raw material for iron making by crushing, compacting and pelletizing industrial waste plastics

Treatment capacity : 52,000 t/y



### Treatment Process



## Fukuyama RPF Plant [Fukuyama Area]

Produces RPF (Refuse Paper & Plastic Fuel: solid fuel for steel works)

Treatment capacity : 21,000 t/y



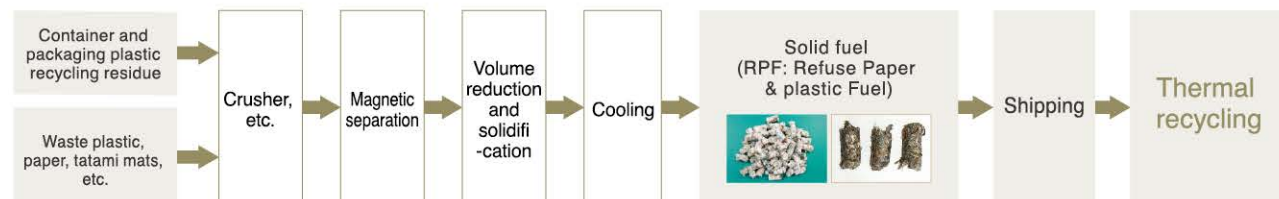
## RPF Production Plant [Sendai Area]

Produces RPF (Refuse Paper & Plastic Fuel: solid fuel for steel works)

Treatment capacity : 18,000 t/y



### Treatment Process



# Home Appliance Recycling



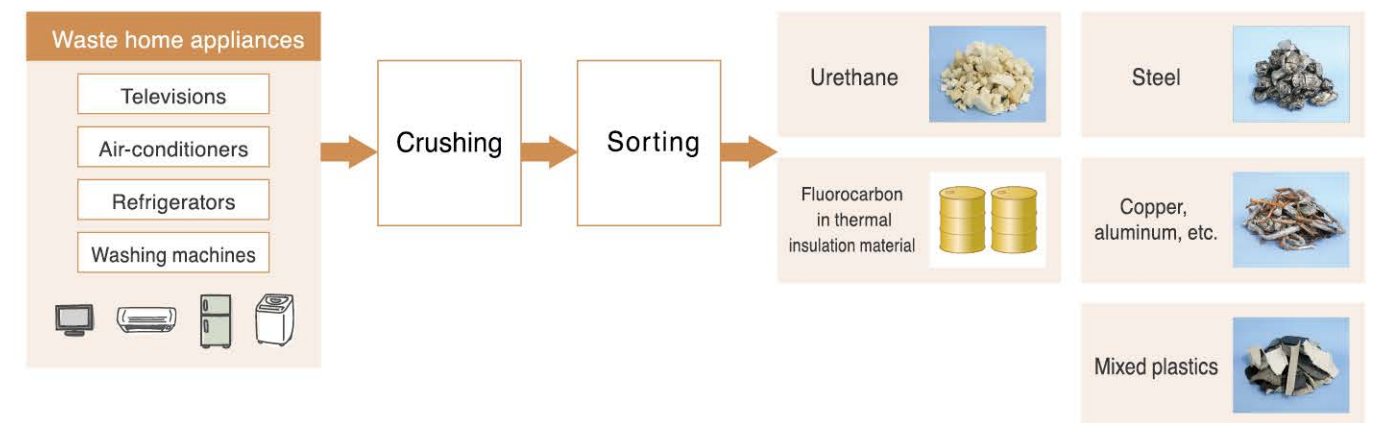
## JFE Urban Recycle Corporation [Kawasaki Area]

Disassemble and recycle televisions, air-conditioners, refrigerators and washing machines based on Japan's Home Appliance Recycling Law

Treatment capacity : 79.2 t/d



### Treatment Process



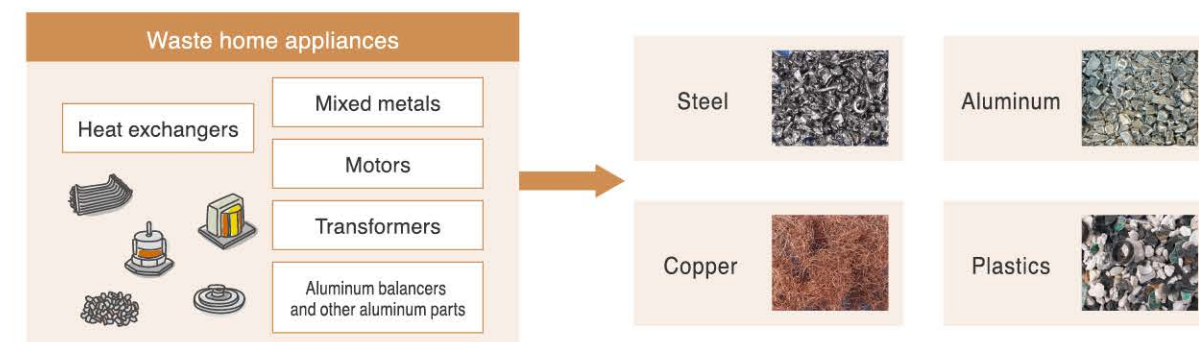
## Home Appliance Processing Plant [Kawasaki Area]

Revalued metals from JFE urban Recycle

Treatment capacity : 3,000 t/y



### Treatment Process



# Food Waste Recycling

## ■ Treatment Process



## ■ J Bio Food Recycle Co., Ltd.

[Yokohama Area]

Food waste recycling and biogas power generation business in cooperation with the JR East Group



Treatment capacity : 80 t/d  
 Generating capacity : 1,800kW  
 Target : General (food), industrial (animal/plant residue, sludge, acid, alkali)



## ■ Chiba Biogas Center

[Chiba Area]

Supplies biogas recovered by Biogas System as fuel gas

Treatment capacity : 60 t/d  
 Target : Industrial waste (animal/plant residue, sludge, waste liquid, waste acid, waste alkali), general waste (raw garbage and kitchen waste)



## ■ Soga Bio Power Corporation

[Chiba Area]

Power generation/sale business utilizing biogas refined by Chiba Biogas Center

Generating capacity : 1,160 kW



## ■ Tohoku Bio Food Recycle Co., Ltd.

[Sendai Area]

Scheduled start of operations: Spring 2022

Food waste recycling and biogas power generation business in cooperate with the JR East Group and Tokyo Gas Co., Ltd.

Treatment capacity : 40 t/d (planned)  
 Generating capacity : 780 kW (planned)  
 Target : Food waste



## ■ Sapporo Bio Food Recycle Corporation

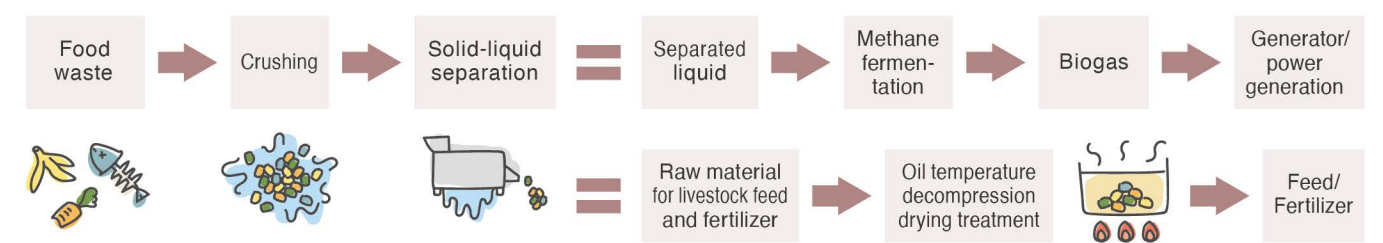
[Hokkaido Area]

Power generation/sale utilizing methane fermentation of kitchen waste discharged in Sapporo, and production/sale of raw material for livestock feed, etc.

Treatment capacity : 68 t/d  
 Generating capacity : 250 kW  
 Target : General waste (food waste)



## ■ Treatment Process



## JFE Engineering Group Efforts for food waste recycling

### ■ Nagaoka Raw Waste Biogas Power Generation Center

On the premises of Nagaoka Bio Cube Co. Ltd.  
 3-6-1 Kotobuki, Nagaoka-shi, Niigata

Treatment capacity : 65 t/d



### ■ Toyohashi Biomass Utilization Center

5 Azanakajima, Jinnoshindencho, Toyohashi, Aichi

Treatment capacity : 59 t/d (+ sludge 472 m3/d)

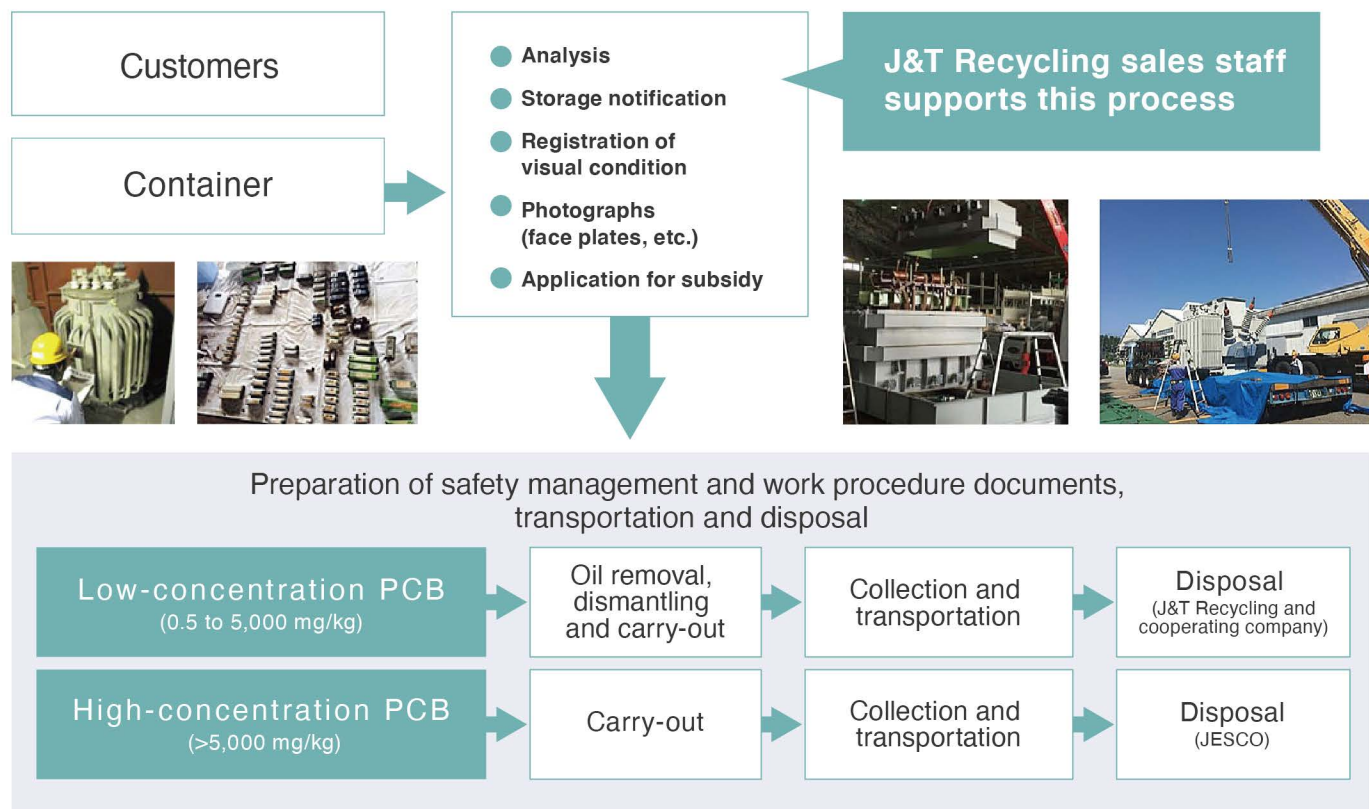


# PCB - One Stop Solution



Total support for the complicated PCB disposal process, from investigation and notification to dismantling, transportation and disposal

## ■ Treatment Process



# Waste Collection/ Transportation

## ■ Treatment Process



J&T Recycling has a wide range of vehicles suitable for every type of load to ensure safe, high efficiency transportation. The status of all vehicles, from the pickup point to destinations nation-wide, is controlled by an integrated traffic management system. J&T Recycling is committed to safe, environment-friendly waste transportation responding to the diverse needs of its clients.

## ■ Vehicle Type

Tractor	4 ton wing truck
Semi-trailer	4 ton flatbed truck
10 ton wing truck	4 ton UNIC truck
10 ton flatbed truck	4 ton UNIC truck
10 ton arm roll truck	2 ton EV packer truck
10 ton dump truck	2 ton flatbed truck
10 ton UNIC truck	2 ton arm roll truck
8 ton flatbed truck	10 ton tank lorry truck
7 ton UNIC truck	10 ton sludge/waste liquid suction truck



# Other Related Businesses

## ■ Fukuyama Recycle Power Co., Ltd.

Operated under O&M contract

107-8, Minoki-cho, Fukuyama, Hiroshima Prefecture

Waste-to-energy (WtE) incineration and power generation business using RDF (Refuse Derived Fuel) produced from combustible waste discharged by Fukuyama City, Hiroshima Prefecture and 13 other

- Capacity 314 t/d
- Target RDF



## ■ Green Energy Tsu Corporation

Operated under O&M contract

1 Kumozukokancho, Tsu, Mie Prefecture (on the premises of JFE Engineering Corporation Tsu Works)

Power generation business utilizing biomass fuels such as lumber from forest thinning, PKS (palm kernel shell), etc.

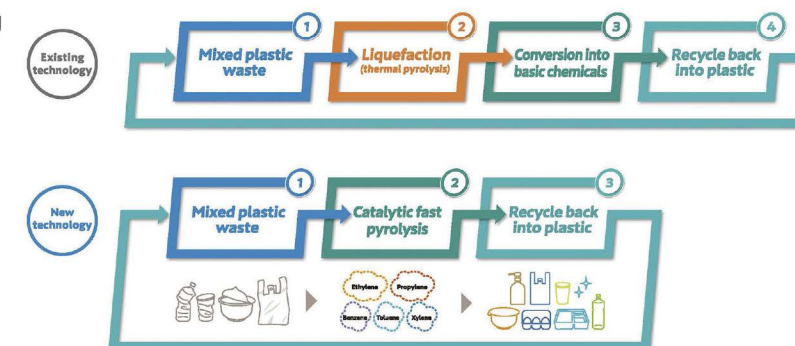
- Generating capacity 20,100 kW
- Target Woody biomass fuels



## ■ R Plus Japan

J&T Recycling has been joining the project of new plastic recycling technology and which create new plastic value chain since June 2020. Major companies from various industries are joining the project and aiming at practical application of a new chemical recycling technology by 2027.

- Target Plastic



# J&T Recycling Group

Providing total solutions utilizing the J&T Recycling Group network

# Group Network

Providing total solutions utilizing the JFE Group network

## JFE Urban Recycle Corporation

6-1 Mizue-cho, Kawasaki-ku, Kawasaki, Kanagawa Prefecture

Recycling of home appliances and OA equipment

- Capacity Crushing capacity 79 t/d
- Target Used home appliances, personal computers, OA equipment



Appliance Recycling Plant

## J Bio Food Recycle Corporation

Head Office: 3-1 Benten-cho, Tsurumi-ku, Yokohama, Kanagawa Prefecture  
Plant: 2-1-5 Suehiro-cho, Tsurumi-ku, Yokohama, Kanagawa Prefecture

Food waste recycling

- Capacity 11,000 kWh/y (approx.) Receiving capacity 80 t/d
- Target Raw garbage (general), animal/plant residue (industrial), sludge (industrial)



Yokohama Plant

## Sapporo Bio Food Recycle Corporation

Sapporo Recycling Complex, 45-53 Nakanuma-cho, Higashi-ku, Sapporo, Hokkaido

Food waste recycling

- Capacity 1 GWh/y (approx.) Receiving capacity 68 t/d
- Target Raw garbage (general/commercial food wastes) Sapporo Plant



Sapporo Plant

## Kyoei J&T Recycling Corporation

1 Kumozukokancho, Tsu, Mie Prefecture (on the premises of JFE Engineering Tsu Works)

PET bottle recycling

- Capacity 180 t/d (planned)
- Target Used PET bottles

Scheduled start of operations: Fall 2021



West Japan PET Bottle MR Center

## Tohoku Bio Food Recycle Co., Ltd.

6-1 Northern Gamo Disaster-Affected Area Urban Redevelopment Project Area, Miyagino-ku, Sendai, Miyagi Prefecture

Food waste recycling

- Capacity 40 t/d (planned)
- Target Food waste

Scheduled start of operations: Spring 2022



Sendai Plant

## Dia Ecotech Hiroshima

5-1 Ebaokimachi, Naka-ku, Hiroshima, Hiroshima Prefecture

Container and packaging plastics recycling

- Capacity 80 t/d
- Target Plastics (Container and Packaging Recycling Law)



Daiya Ecotech Hiroshima

## JFE Plastic Resource Corporation

5-1 Mizue-cho, Kawasaki-ku, Kawasaki, Kanagawa Prefecture

Recycled plastic material for blast furnace

- Capacity 185 t/d
- Target Plastics (Container and Packaging Recycling Law)



Mizue Recycling Plant

## JFE Bars and Shapes Corporation

1-14-5 Kawasaki-dori, Mizushima, Kurashiki, Okayama Prefecture

Waste recycling using electric furnace

- Capacity 1,500 t/d × 2 units
- Target Metal scrap, waste glass, waste ceramics, soot and dust, burnt residue



DC arc furnace

## JFE Environmental Service Corporation

1-14-1 Kawasaki-dori, Mizushima, Kurashiki, Okayama Prefecture

Carbonization of wood wastes

- Capacity 65 t/d (19,500 t/y)



Okayama Carbonizing Furnace

## Mizushima Eco-Works Co., Ltd.

1-14-1 Kawasaki-dori, Mizushima, Kurashiki, Okayama Prefecture

JFE-Thermoselect gasification & melting furnace

- Capacity 555 t/d
- Target Burnt residue, sludge, waste plastics, animal/plant residue, etc.



Mizushima Eco-Works Co., Ltd.

## Soga Bio Power Corporation

Head Office : 2-1 Suehiro-cho, Tsurumi-ku Yokohama, Kanagawa Prefecture  
Plant : 1 Kawasaki-cho, Chuo-ku, Chiba, Chiba Prefecture (on the premises of JFE Steel Corporation East Japan Works (Chiba District))

Power generation/sale utilizing biogas fuel

- Capacity 1,160 kW



Power Plant