

# Food Recycling/ Biogas Power Generation

JFE Engineering Corporation

J&T Recycling Corporation

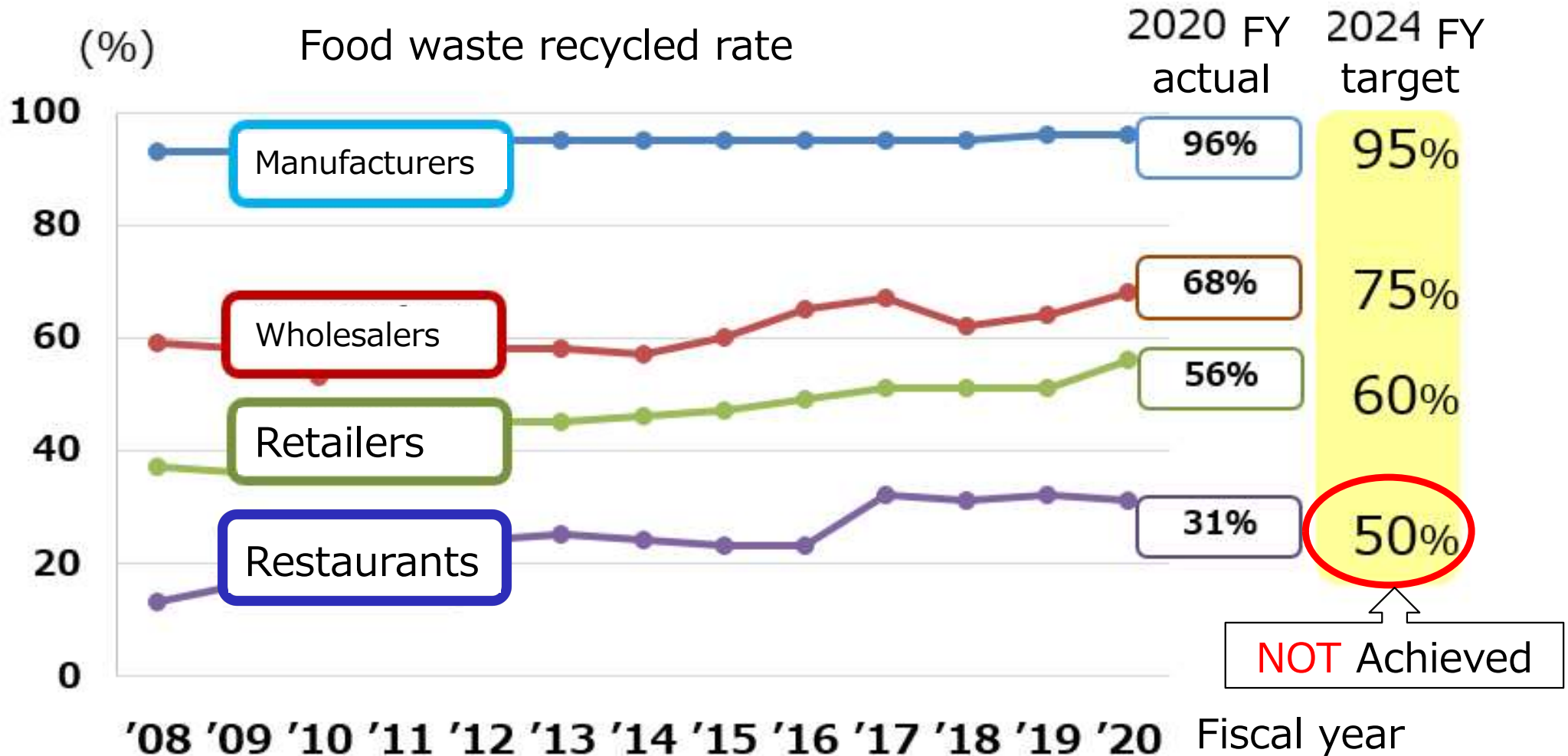
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# I Current State of Food Recycling in Japan

- Targets for food waste recycling set by government have not been achieved in the downstream sector.



# Current State of Food Recycling (2/2)

«Reduce production»



at every phase in the cycle including manufacturing, distribution, restaurant, etc

«Recycle» ※the priority of nominated method

- ① Animal Feed
- ② Fertilizer
- ③ Methane Fermentation

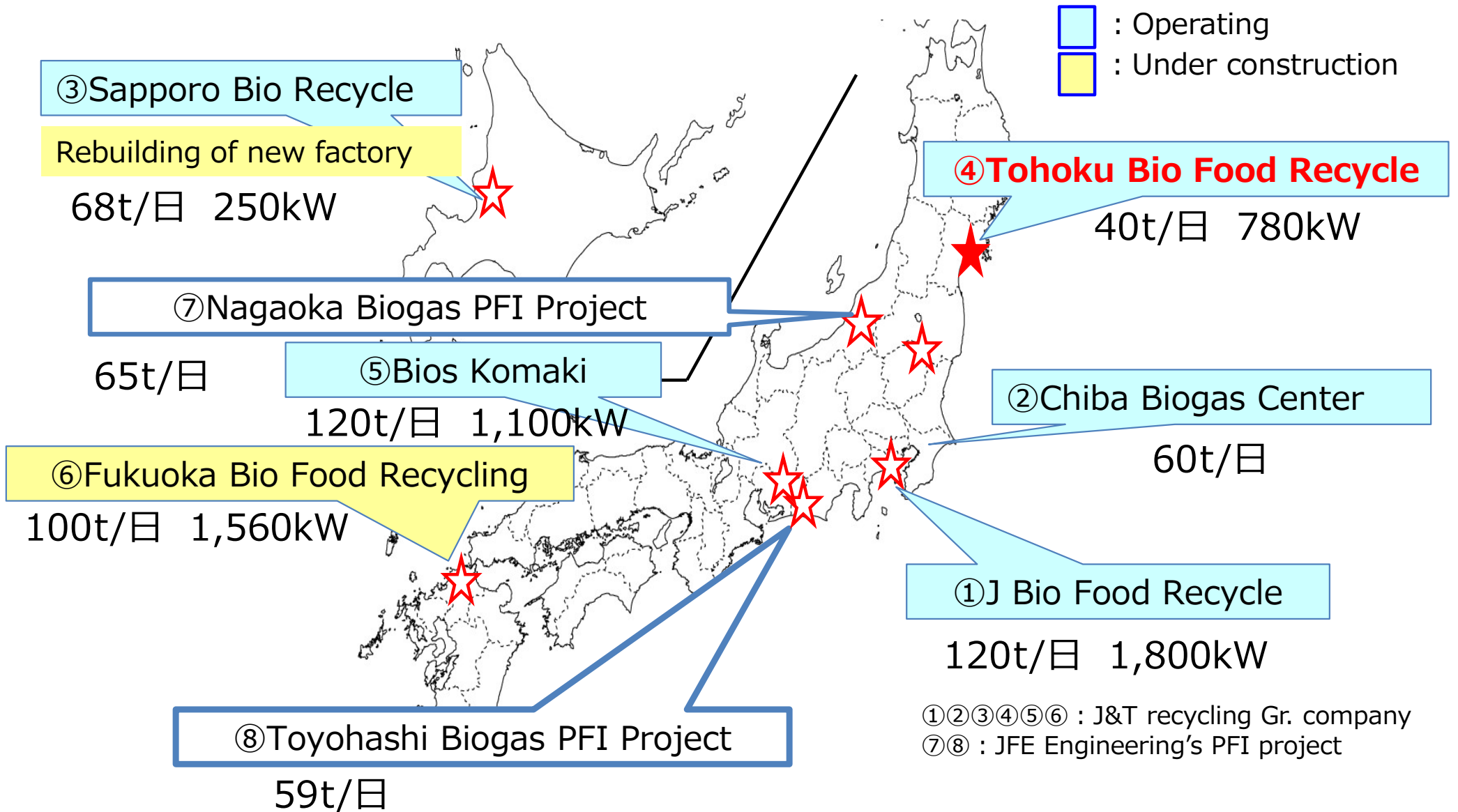
★ **Upstream industries:** Without contamination, food residue is suitable for animal feed and fertilizers.

★ **Downstream industries:** Contamination are difficult to remove. Food residue is not suitable for animal feed and fertilizers.

★ **Methane fermentation is a good solution for the manufacture contaminated food waste which is not good for animal feed and fertilizers. It can contribute to increase the recycling ratio.**

Industry	Separation	Product from recycle
Food Manufacturing		Animal feed
Food wholesale & retail		Fertilizers
Restaurants		Methane Power
Households		

## II Our Plants and Recycling Process



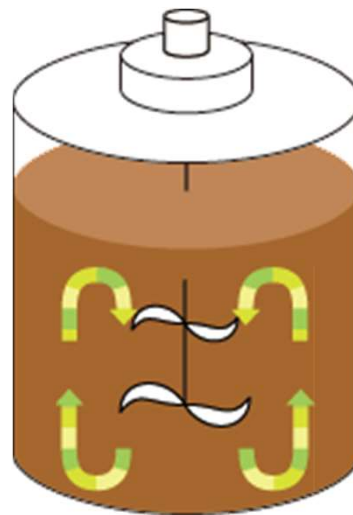
- JFE Group'S Plants

“extracts energy from food waste and transform it to electricity”

with a help of micro-organisms.



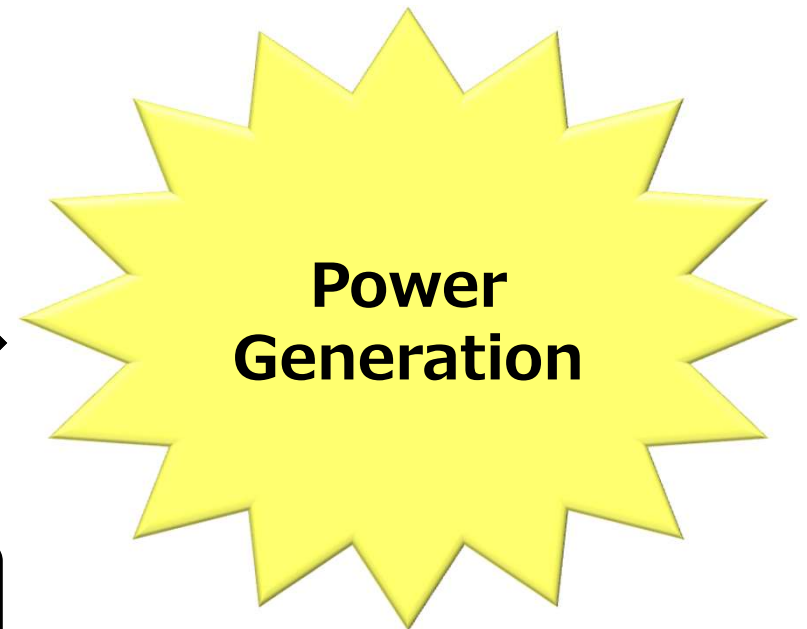
Organic waste



Methanation



**Power  
Generation**





# Example: Tohoku Bio Food Recycling



1.Founded	15 Nov. 2019	5.Stake- holders	J&T Recycling Corporation JR East Railway Company Tokyo Gas Co., Ltd Tohoku Railway Transportation Co., Ltd.
2.Capital	¥60M		
3.Start of Operation	14 Feb. 2022		



Capacity	40t/d (Industrial waste 20t/d + Municipal Waste 20t/d)
Method	Wet Methane fermentation
Power Gen.	Gas engine 780kw x 1 Unit
Power Gen. Cap.	Appr. 6,500MWh/yr equiv. to 1,500 household consumption



# Types of Incoming Waste

Cooked wastes  
(w/ chopsticks, etc.)



Outdated foods



Packaged foods  
(w/plastics & paper)



Food ingredients



Flexible containers

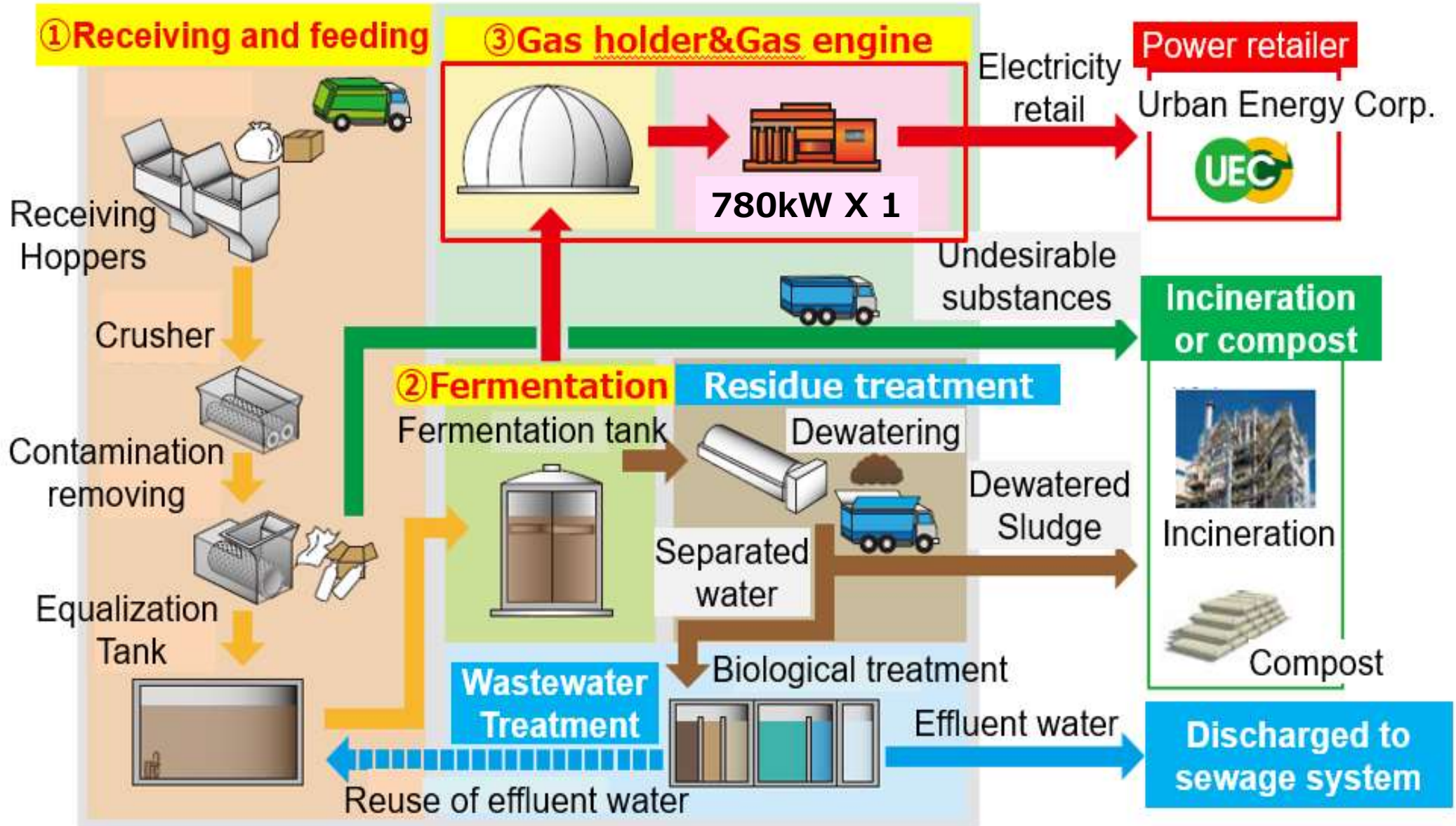


Drums





## Treatment Process (in detail)

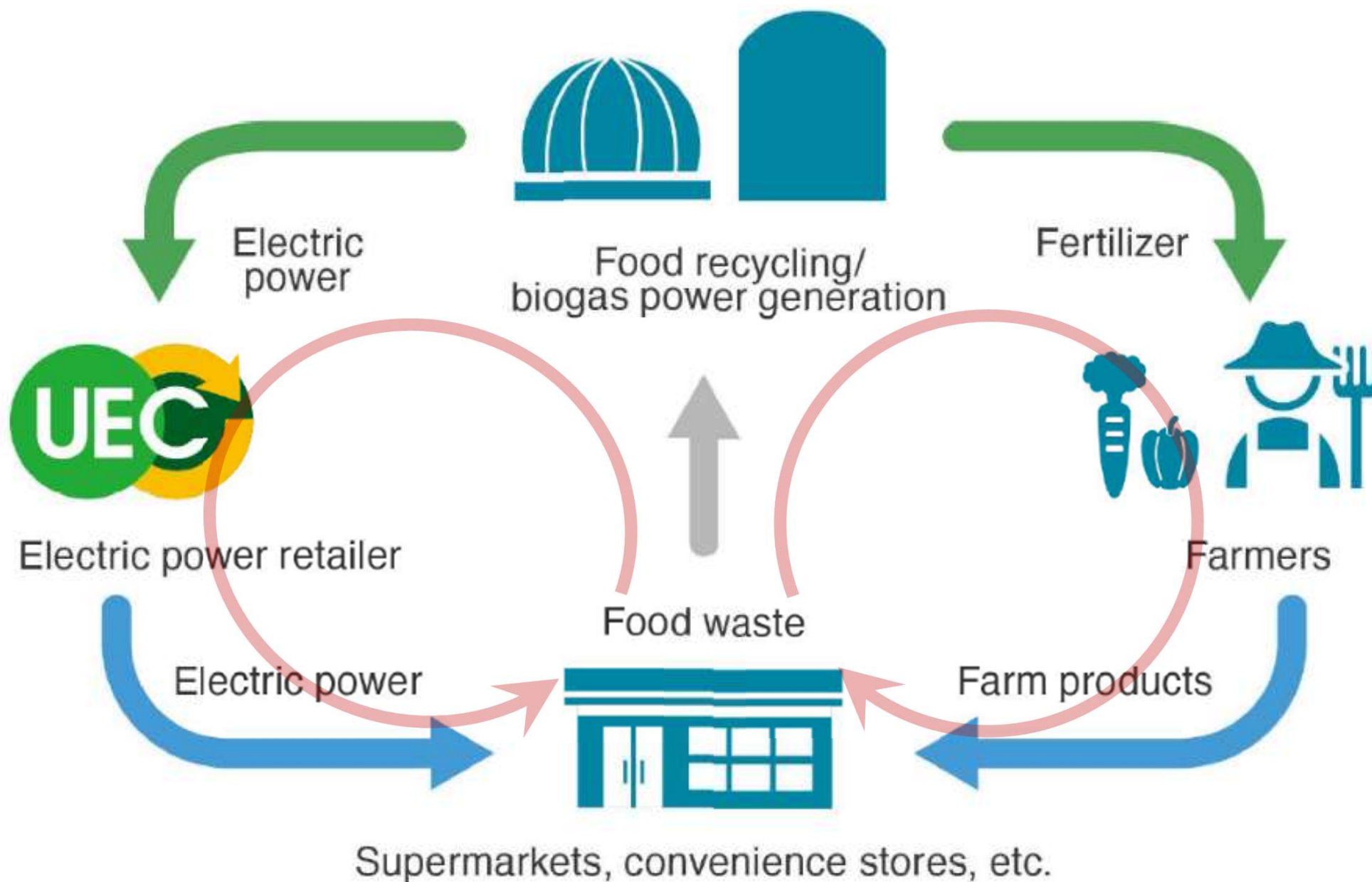


## III Contribution to SDGs

## 【SDG's Goal and Target】

- Goal 7 : Increase the share of renewable energy(7.2) ⇔ Biomass Power Generation
- Goal12 : Reduce waste generation through recycling(12.5) ⇔ Methane Fermentation







# IV Business in Vietnam for reference

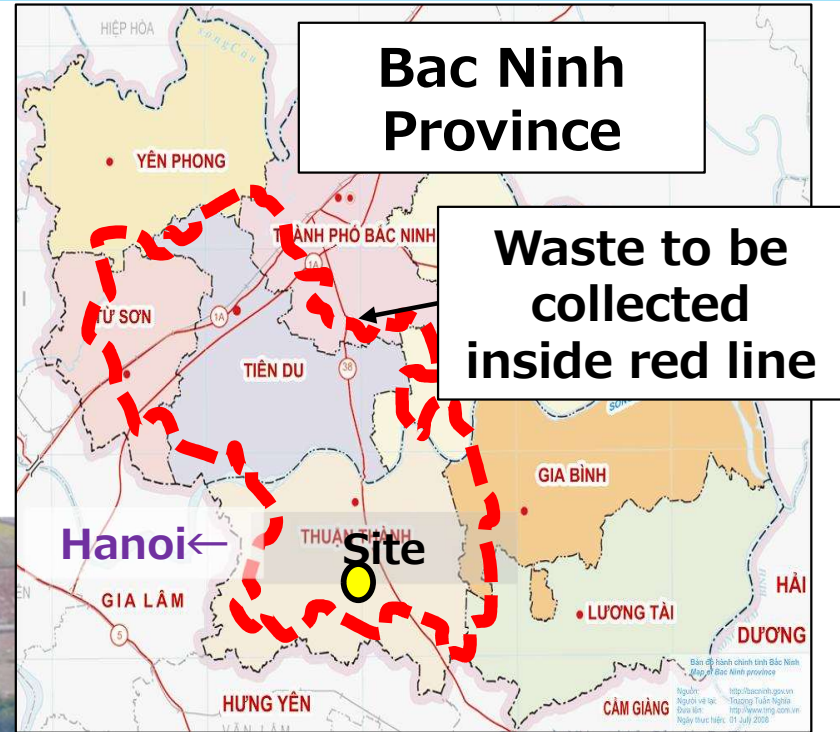


- \*Capacity : 500t/day (Municipal Waste + Industrial Waste)
- \*Power Output : 11.6MW
- \*Start Operation : Beginning of January 2024
- \*Operation Leaders had been trained in Plants in Japan operated by J&T Recycling Corporation from March to May.





# Location



Thank you for your attention.

**JFE Engineering Corporation**

**J&T Recycling Corporation**