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# JFE Group and East Japan Railway Company Forming a Joint Venture for Food Recycling and Biogas Power Generation Business

## 1. Introduction

J Bio Food Recycle Corporation (hereinafter, J Bio) is a project realized by leveraging the strengths of the JFE Engineering Group, which has a track record of operating biogas power generation facilities and waste treatment technologies, and the East Japan Railway Company (JR East), which is involved in the reuse of food waste. The project was launched in August 2018 with investment from four companies: JFE Engineering, J&T Recycling, East Japan Railway Company, and JR East Environmental Access Co., Ltd. The project is responsible for recycling food waste in the Tokyo metropolitan area by receiving food waste and effectively utilizing it to generate biogas power, thereby contributing to improving the food recycling rate of waste-discharging businesses and reducing carbon dioxide (CO<sub>2</sub>) emissions by creating waste-derived renewable energy.

tered sludge is thermally recycled at an incineration facility, the dewatered filtrate is reused in the facility after biological treatment, and the surplus is discharged into the sewage system.

## 2.2 Result of Operation

## 2. Outline

### 2.1 Treatment Process Flow

Figure 1 shows treatment process flow of the J Bio plant. After the received food waste is sorted by machine to remove containers and packages that are unsuitable for fermentation, it is slurried by addition water and agitation. The slurried food waste is sent to a fermenter, where it is converted into biogas through the methane fermentation action of microorganisms. This biogas is then converted into electricity by a gas engine generator and sold to a retail electric utility. The dewatered

using it as an alternative to fossil fuel-derived electricity. Use of electricity generated by J Bio as a substitute for the electricity supplied by TEPCO Energy Partners will reduce CO<sub>2</sub> emissions by approximately 5 000 tons per year. This reduction in CO<sub>2</sub> emissions is equivalent to a cedar forest with a diameter of 2.7 km, or an area of forest 1.5 times the size of Japan's Imperial Palace. Thus, as a global warming countermeasure, use of bio-gas power generation, a renewable energy source, is as effective as extensive afforestation.

### **3.2 Contribution to Goal 12**

#### **3.2.1 Improvement of recycling rate**

J Bio is also contributing to SDG Target 12.5, reducing food waste generation. As an example, at a commercial facility in Tokyo Station (JR East Cross Station Co., Ltd.), food waste in containers and packaging was simply incinerated in the past, but the food recycling rate was improved by 30 points, from 36 % to 66 %, by recycling by bio gasification at J Bio.

#### **3.2.2 Electricity recycling loop**

ute to the creation of a sustainable society through stable food waste treatment and power generation.

**For Further Information, Please Contact:**

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