

**Announcement Concerning Commencement of Service of D-Bio Methane,
an On-site Biogasification System**

September 27, 2021
Osaka Gas Co., Ltd.
Daigas Energy Co., Ltd.

Daigas Energy Co., Ltd. (President: Masayuki Inoue, Head Office: Chuo-ku, Osaka, hereinafter, “Daigas Energy”), a wholly owned subsidiary of Osaka Gas Co., Ltd. (President: Masataka Fujiwara, Head Office: Chuo-ku, Osaka), has developed D-Bio Methane (hereinafter, “the system”), an on-site biogasification system to produce biogas by processing food waste. Applications for the service will be accepted from October 1, 2021. In principle, this will be an energy service*¹ in which Daigas Energy will install the system at customers’ facilities to process food waste into biogas.

In developing the system, two field operational tests have been conducted (from August 2017 to April 2018, and from April 2020 to the present) at a food factory operated by BESTONE Co., Ltd. (President: Hitoshi Tanaka, Head Office: Taga-cho, Shiga Prefecture) using food waste. It has been confirmed that the system can be put into actual operation.

The system produces methane gas by fermenting food waste at high temperature (55°C). Methane gas produced by the system will be used as fuel to operate gas boilers and gas engines to produce carbon-neutral steam and electricity, which will be used at customers’ facilities. This significantly reduces greenhouse gas emissions compared to conventional composting and power generation through incineration.

The system has been successfully downsized by increasing the speed of the methane fermentation process for food waste through high-temperature fermentation. The manufacturing cost has been reduced by utilizing an FRP purification tank for the fermentation tank.

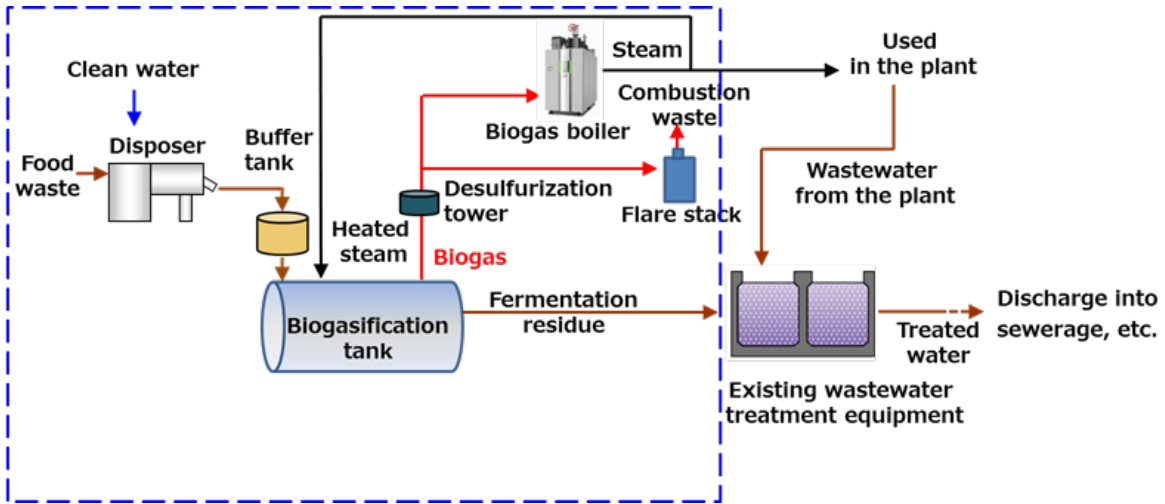
Target facilities include large commercial facilities and food factories where one to two tons of food waste is generated per day.

The Daigas Group announced the “Daigas Group Carbon Neutral Vision” on January 25, 2021, and is promoting an initiative to develop technologies and services for the realization of carbon neutrality by 2050 and to contribute to global environmental conservation together with customers.

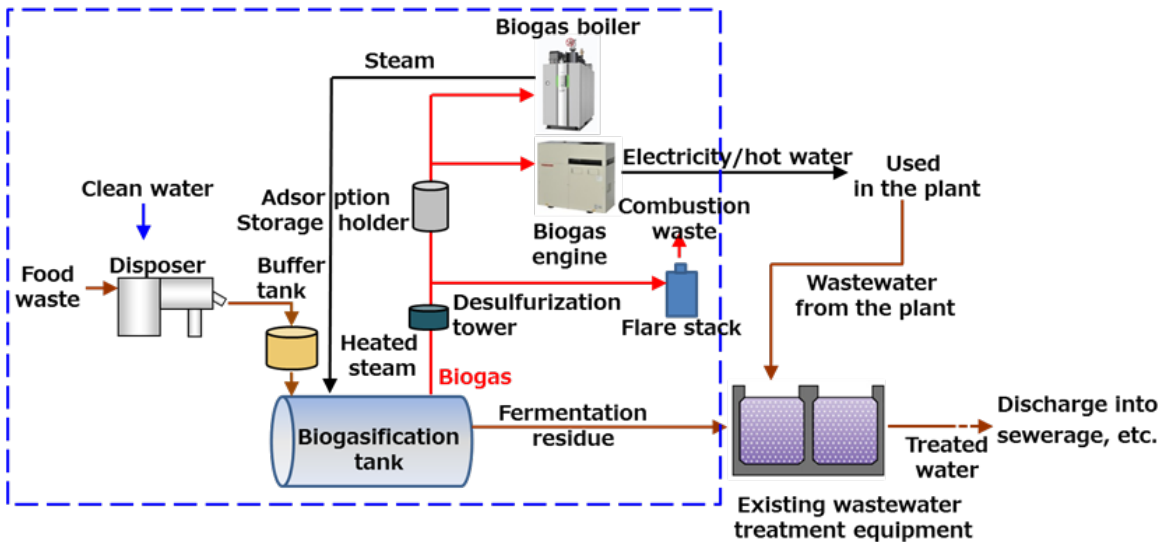
Daigas Energy has named the product lineup for effectively utilizing biomass the “D-Bio series.” The company contributes to reducing waste and CO₂ emissions by supplying safe and secure energy to customers and providing solutions that meet a wide range of customer needs, such as the introduction of the D-Bio series.

*1 Energy service: Daigas Energy installs its equipment at customers’ facilities, saving the customer from buying it, thus eliminating the initial cost.

[Example of an on-site biogasification system at a food factory]



[Example of an on-site biogasification system at a large commercial facility]



[Plant where field operational tests have been conducted]

(a food plant operated by BESTONE Co., Ltd.)



[Image of a plant in actual operation]

