

Support to the initiative toward carbon neutrality at AEON MALL Toyokawa  
**- On-site biogasification system "D-Bio Methane" and RPA-based air conditioning solution "D-Airing Robot" start operation -**

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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; hereinafter "Osaka Gas"), announced the start of operations of its on-site biogasification system "D-Bio Methane" and air conditioning system utilizing RPA "D-Airing Robot," both of which have been installed at AEON MALL Toyokawa (Toyokawa City, Aichi Prefecture, hereinafter "the facility"), operated by AEON MALL Co., Ltd.

"D-Bio Methane" produces methane gas by fermenting food waste at high temperature (55°C). The produced methane gas is used as fuel to operate biogas cogeneration that produces carbon-neutral electricity and warm water to be used at the facility. Effective utilization of food waste generated at restaurants and food courts is expected to significantly reduce the amount of food waste, contributing to the realization of a circular economy. Furthermore, the use of carbon-neutral electricity and warm water is expected to reduce CO2 emissions by approximately 89 tons per year.

The "D-Airing Robot" is an option menu of the air conditioning solution service "D-Airing," which utilizes DX (Digital Transformation) to meet the needs of energy management, ventilation, etc. and realizes a comfortable environment, energy saving and CO2 reduction. The service, which involves a robot (program) with learning and decision-making capabilities based on RPA (Robotic Process Automation) and takes over control of air conditioning, ventilation, etc., is aimed at saving energy and reducing CO2 as well as the burden of facility managers. The "D-Airing Robot" is being operated for the first time at the facility. The "D-Airing Robot" uses the temperature, humidity, etc. predicted by Osaka Gas-owned weather forecasting technology to support optimal control of air conditioning at the facility.

The Daigas Group released the "Daigas Group Carbon Neutral Vision" in January 2021 and is working together as a group to decarbonize. Daigas Energy will provide low-carbon and decarbonization solutions that leverage the strengths of an energy company, represented by the "D-Lineup," to solve customer issues and contribute to the realization of a carbon-neutral society, which is an important social issue.

\* Please refer to the announcement "Acquisition of permission for operations to start a weather forecasting business" released on September 7, 2018 (available only in Japanese).

[https://www.osakagas.co.jp/company/press/pr\\_2018/1273577\\_37838.html](https://www.osakagas.co.jp/company/press/pr_2018/1273577_37838.html) This technology enables detailed forecasting that takes topographical effects into consideration by dividing the forecast area into small high-resolution meshes and performing data analysis. Machine learning based on observation data is combined for even higher accuracy.