

Sold a Total of 150,000 Units of the Ene-Farm Fuel Cell System for Residential Use

September 10, 2021

Osaka Gas Co., Ltd.

Osaka Gas Co., Ltd. (President: Masataka Fujiwara; hereinafter referred to as "Osaka Gas") achieved cumulative total sales of 150,000 units^{*1} for Ene-Farm, a fuel cell cogeneration system for residential use, on September 9, 2021. The CO₂ emissions reduction attributable to 150,000 Ene-Farm units roughly reaches 280,000 tons^{*2} annually, which is equivalent to planting about 19,950,000 *sugi* cedar trees.^{*3}

Since Ene-Farm was launched in June 2009, Osaka Gas has strived to put it into widespread use and worked to improve its functions. Ene-Farm Type S, launched in April 2020, attains the highest power generation efficiency in the world^{*4} of 55%.^{*5} Moreover, the main unit has improved in durability and has been significantly downsized. As an outcome, Ene-Farm Type S has won multiple awards, including a 2020 Energy Conservation Grand Prize Award.^{*6} Additionally, Osaka Gas offers various enhanced services, which have been chosen by many customers. These include IoT connection service, which benefits the user with improved convenience and security, and the surplus power purchase service "E-Share," designed to improve Ene-Farm's environmental friendliness and economy even more.

In recent years, natural disasters such as those caused by typhoons and heavy rains have been increasing. As a result, there is an increasing need for resilient Ene-Farm capable of independent operation and uninterrupted power generation even in the event of a power outage. Among customers newly purchasing Ene-Farm, those who select a model with an independent power generation capability account for approximately 98%.^{*7}

Furthermore, Ene-Farm is expected to serve as a supplier and adjuster in the power grid. Osaka Gas plans to use Ene-Farm as an energy resource for building a virtual power plant^{*8} in the future. This virtual power plant will help stabilize the power grid, thereby contributing to wider use of renewable energy, including photovoltaic power generation.

The Daigas Group will accelerate the dissemination of Ene-Farm to contribute to the realization of a low-carbon and decarbonized society, and it will become a corporate group useful in the further evolution of life and business.

*1 Based on orders received by Osaka Gas

*2 The value was calculated in a trial by Osaka Gas on the assumption that the gas combination room heater and water heater of the conventional system is replaced by Ene-Farm or Ene-Farm Type S (for a family of four in a single-family detached home).

[Conventional system] Gas combination room heater and water heater, gas hot water floor heating (living/dining room), gas hot water bathroom heater and dryer equipped with a mist sauna function, gas stove, and electric air conditioner

[Ene-Farm/Ene-Farm Type S] Ene-Farm/Ene-Farm Type S, gas hot water floor heating (living/dining room), gas hot water bathroom heater and dryer equipped with a mist sauna function, gas stove, and electric air conditioner

[CO₂ emission coefficients] Gas: 2.29 kg-CO₂/m³ (our data); Electricity: 0.65 kg-CO₂/kWh

(Based on the mean coefficient of the thermal power source in FY2014.3 set out in the Plan for Global Warming Countermeasures [decided by the Cabinet in May 2016])

*3 Unit CO₂ absorption of one *sugi* cedar tree = 13.9 kg-CO₂/year (on the supposition of a 50-year-old *sugi* cedar tree with a diameter of 26 cm and a height of 22 m; source: 1997 White Paper on Forestry)

*4 Fuel cell for residential use with rated output of 1 kW or less (Osaka Gas survey as of the end of January 2020) Based on the lower heating value

*5 Power generation efficiency observed during continuous rated power generation stably for at least three hours (e.g. under the surplus electricity purchase system) In cases other than the above, the rated power generation efficiency is 54% (overall efficiency: 87%). Based on the lower heating value

*6 The Energy Conservation Grand Prize Award program is set up by the Energy Conservation Center, Japan. The program honors players in the domestic industrial, commercial, and transport sectors for their superb energy-saving efforts and advanced, highly energy-efficient equipment.

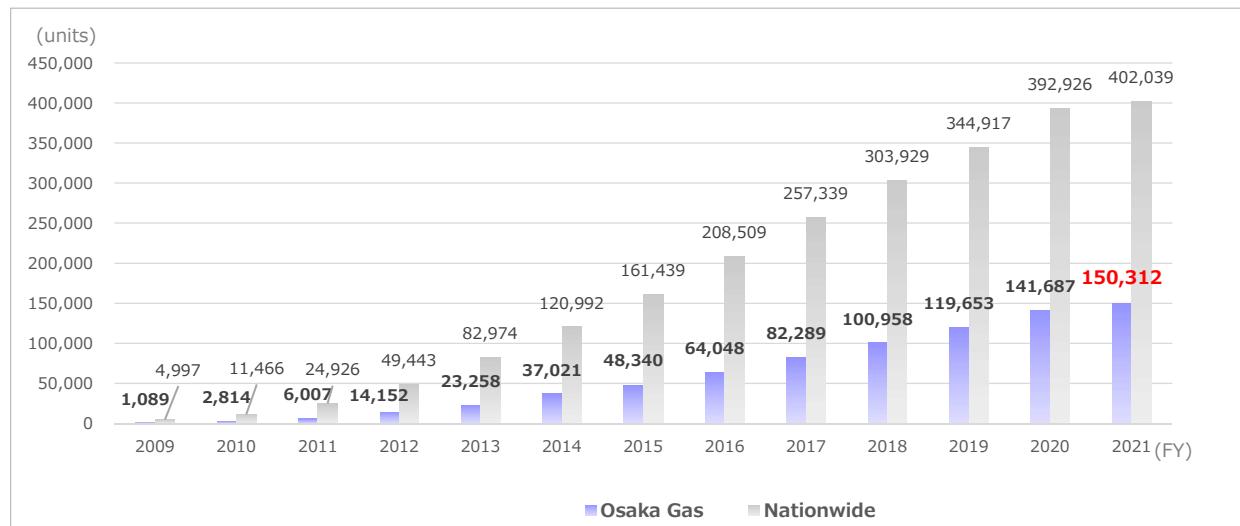
*7 Track record for existing residential houses in the service area of Osaka Gas for the period from April 2021 to the end of July 2021

*8 Business operators called "aggregators" use the adjustability provided by dispersed power sources in a bundle.

■ About Ene-Farm, a fuel cell system for residential use

http://home.osakagas.co.jp/search_buy/enefarm/index.html

■ Ene-Farm sales



◆ The nationwide figure of 402,039 units for FY2022.3 is the sum of units sold by individual Ene-Farm manufacturers by the end of June 2021 (according to a survey by the Advanced Cogeneration and Energy Utilization Center Japan).

◆ The Osaka Gas figure of 150,312 units for FY2022.3 is based on orders received by Osaka Gas (as of September 9, 2021).

■ Major awards received for Ene-Farm Type S



- ICEF2020 https://www.osakagas.co.jp/topics/1290224_14522.html
- Energy Conservation Grand Prize Award
https://www.osakagas.co.jp/topics/1291052_14522.html
- Japan Resilience Award https://www.osakagas.co.jp/topics/1294778_14522.html
- EcoPro Award https://www.osakagas.co.jp/topics/1297451_14522.html

■ About FY2022.3 Demonstration Project to Build a Virtual Power Plant

https://www.osakagas.co.jp/company/press/pr2021/1296779_46443.html