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Residential Fuel Cell "Ene-Farm" reaches 10,000 units sold on a cumulative basis

Tokyo Gas Co., Ltd.

Tokyo Gas Co., Ltd. (President: Mr. Tsuyoshi Okamoto, hereafter "Tokyo Gas") reached 10,000 units sold cumulatively (*1) of residential fuel cell "Ene-Farm" on April 19, and is the first to have reached 10,000 units sold of "Ene-Farm".

Tokyo Gas marketed "Ene-Farm" for residential use in May, 2009, for the first time in the world, and launched new improved "Ene-Farm" to address customers' needs for more affordable price and improved generation efficiency with downsized package. Also, as a distributed energy system, "Ene-Farm" is capable of saving energy and reducing CO2 emissions while contributing to the energy peak-cut and improvement of energy security that attract more social needs nowadays.

Under these circumstances with the cooperation of housing manufacturers and residential customers, Tokyo Gas reached 10,000 units sold cumulatively in about 3 years after the launch, with the record of 1,500 units sold in FY2009, 2,400 units sold in FY2010, and 5,700 units sold in FY2011 respectively. Tokyo Gas set a goal of 7,100 units sold in FY2012.

Tokyo Gas is determined to make a contribution through the spread of "Ene-Farm" to more comfortable lives of customers, conservation of global environment, electricity peak-cut, etc.

[Features of "Ene-Farm"]
"Ene-Farm" generates electricity through a chemical reaction between oxygen in the atmosphere and hydrogen extracted from city gas, and the generated electricity is utilized residentially. This is eco-friendly system utilizing energy quite effectively since the electricity is generated and used at the same site without losses in transmission and all heat produced during electricity generation can be used without waste. Compared to conventional method of using electricity from thermal power plant and hot water supply and heating by city gas (*2), this system allows primary energy consumption to be reduced by approximately 35% and CO2 emissions by approximately 48% (*3). Users can save annual utility charges by about 50,000 to 60,000 yen, and also reduce CO2 emissions by approximately 1.5 tons a year (*4). The rated generation efficiency is raised to 40% on an LHV basis (*5).
In addition, installment subsidies are provided on a national basis, which help customers install "Ene-Farm" economically with the high reliability upon product quality.

*1: The number of units sold from Tokyo Gas to retailers
*2: Method where electricity supplied from a thermal power station, and gas supplied by Tokyo Gas is used for heating. Assuming use of gas-based water boiler, gas-based floor heating in living room, and electrical air-conditioners for heating/cooling all rooms bar living room.
*3: Compared with the method (*2) at a rated operation of electricity generation of 0.75kWh and heat recovery volume of 0.94kWh / approximately 32 liters at 40 degrees Celsius.
*4: Conditions used in estimation are as follows:

- 4-person family in single, detached house (total floor area: 150m2)
- Annual burden – Hot water supply: 15.4GJ; Warming bath heater: 1.7GJ; Cooking; 2.2GJ; Coolers: 3.1GJ; Floor heaters: 12.6GJ; Air-conditioner heating; 8.8GJ; Lighting and others; 16.8GJ
- CO2 equivalent – City gas: 2.29kg-CO2/m3; Electricity: 0.69kg-CO2/kWh
- Primary energy equivalent – Electricity: 9.76MJ/kWh; Gas: 45MJ/kWm3; Hot water/heating efficiency: 80%

- Gas charges – Based on the average material cost specified in service agreement for Tokyo district, etc. effective as of March 2012, after March 8. Conventional system: Using “Danran Plan”; Ene-Farm: Using “Eco Plan with Ene-Farm”
- Electricity charges – Based on the average material cost specified in meter rate lighting B contract effective as of March 2012, after March 8. Using “Meter Rate Lighting B” with 40A contract for both conventional system and Ene-Farm

*5: LHV is the abbreviation of Lower Heating Value. Value obtained by subtracting the heat of vaporization of the water vapor from the total heat generated when the gas fuel is fully combusted. (Compared with HHV = Higher Heating Value ≒0.9×LHV)

[Product Exterior]

[Specifications Overview]

Performance	Electricity generation output	250W – 750W
	Rated generation efficiency	40%(LHV) 36%(HHV)
	Rated heat recovery efficiency	50%(LHV) 45%(HHV)
	Water tank capacity	200 liters
Dimensions	Fuel cell unit	H1,883mm×W315mm×D480mm
	Hot water unit	H1,883mm×W750mm×D480mm
Weight	Fuel cell unit	100kg
	Hot water unit	125kg
Installation area		Approx. 2.0m2
Recommended retail price (Incl. tax; excl. installation)		2,761,500 yen
Maintenance support		10 years