

Signed a Joint Demonstration Contract with GS Yuasa using a new type of PCS
combined storage battery system

May 30, 2024

Osaka Gas Co., Ltd.

Osaka Gas Co., Ltd. (President: Masataka Fujiwara; Head office: Chuo-ku, Osaka; hereinafter referred to as "Osaka Gas") has concluded a joint demonstration agreement with GS Yuasa Corporation (President: Osamu Murao; Head office: Minami-ku, Kyoto; hereinafter referred to as "GS Yuasa") regarding demonstration tests using a new type PCS^{*1} combined storage battery system (hereinafter referred to as "the storage battery system") newly developing by GS Yuasa.

The storage battery system integrates the storage batteries, PCS, and remote monitoring system into a single unit, making the entire facility compact and enabling transport and delivery of individual systems, eliminating the need for special vehicles and large cranes, and enabling the construction of storage systems in narrow spaces. In addition, by increasing or decreasing the number of systems according to the required capacity, the design can be flexibly adapted to the scale of the system.

As the introduction of renewable energy (hereinafter referred to as "renewable energy") has accelerated in recent years, storage batteries have become increasingly important as a regulating force against fluctuations in the output of renewable energy. In addition, as the trading of adjustment power^{*2} by storage batteries with shorter response times^{*3} began in April 2024 in the supply-demand adjustment market^{*4}, storage batteries that can be recharged and discharged quickly are expected to be utilized even more.

In the verification test, a prototype of the storage battery system will be installed on the company's premises to verify multi-use operation in response to multiple electricity market transactions, including the response to the new addition of short response time regulating power in the supply-demand adjustment market, and to verify optimal operation control patterns and system operation in consideration of the storage battery performance and characteristics.

The Daigas Group aims to contribute to the spread of renewable energy power sources worth 5,000 MW^{*5} both within Japan and abroad, including in-house development/ownership and procurement from other companies, by FY2030. Through the expansion of its storage battery business, we will contribute to the further spread of renewable energy and grid stabilization, as well as to the realization of a decarbonized society, which is a social issue.

*1 : A device necessary to connect storage batteries to grid, called a power conditioner. It is mainly responsible for converting DC current and AC current.

*2 : Primary adjustment force with a response time of 10 seconds or less, etc.

*3 : The time which each generator change the electric output by the control of general transmission and distribution utilities.

*4 : A market in which general transmission and distribution utilities efficiently procure and operate, through the market, the regulating power (ΔkW) for frequency and supply-demand adjustment.

*5 : Including projects under construction or already decided, and power sources covered by the FIT system.

1. Overview of Joint Demonstration

Item	Overview
Installation location	Konohana-ku, Osaka City Osaka Gas Torishima District
Demonstration Operation Period	April 2025 ~ March 2028 (scheduled)
Machinery & Equipment	PCS : 500kW Lithium-ion battery: 840 kWh ※Both manufactured by GS Yuasa
Verification details	<ul style="list-style-type: none"> · Verification of multi-use operation for multiple electricity market transactions · Verification of optimal operational control patterns and system operation considering the performance and characteristics of storage batteries
Division of roles	<ul style="list-style-type: none"> ➤ Osaka Gas <ul style="list-style-type: none"> · Construction of facilities and provision of premises necessary for the operation of the storage battery system · Operation and management of the storage battery system that simulates trading in the electricity market ➤ GS Yuasa <ul style="list-style-type: none"> · Provision of the storage battery system and implementation of operation and maintenance (O&M) support · Implement and review equipment modifications and improvements based on data

2. Company Profile

<GS Yuasa>

Company Name	GS Yuasa Corporation
Head Office Location	1, Inobanba-cho, Nishinosho, Kisshoin, Minami-ku, Kyoto, Japan
Representative	CEO and Representative Director: Osamu Murao
Capital	10 billion yen
Date of Establishment	01 June 2004
Business Overview	Manufacture and sale of automotive and industrial batteries, power supply systems, power receiving and transforming equipment, and other electrical equipment, etc.

<Osaka Gas>

Company Name	Osaka Gas Co., Ltd.
Head Office Location	4-1-2 Hiranomachi, Chuo-ku,, Osaka
Representative	Masataka Fujiwara, President and Representative Director
Capital	132,167 million yen
Date of Establishment	10 April 1897
Business Overview	Production and sale of gas, generation, and sale of electricity, etc.