



January 30, 2024  
Cosmo Energy Holdings Co., Ltd.

## Cosmo Energy Commences Validation of its Power Storage Business

Cosmo Energy Holdings Co. Ltd. (hereafter, "Cosmo Energy Holdings") is pleased to announce that it has commenced validation of its power storage business.

As part of its commitment to achieving net zero carbon emissions by 2050, the Cosmo Energy Group (hereafter, "the Group") has set out to bolster the green electricity supply chain as part of its Seventh Consolidated Medium-Term Management Plan and Vision 2030. This involves maximizing the value of green electricity through renewable energy generation, supply-demand adjustment and energy storage, and green electricity sales.

Solar and wind power generation, renewable energies representative of green electricity, are subject to significant fluctuations in generation volume due to external factors such as seasonal variations and weather conditions. To enhance the resilience of the green electricity supply chain, establishing a supply-demand adjustment function to manage such fluctuations is crucial, with the storage battery system in this validation project being necessary to achieve this end.

The details of the Group's power storage business validation efforts are as follows:

### Validation project (1): Validation at Cosmo Oil Co., Ltd.'s Yokkaichi Kasumi Power Plant

In validation project (1), a storage battery system will be installed at the Yokkaichi Kasumi Power Plant operated by Cosmo Oil Co., Ltd. (hereinafter, "Cosmo Oil"). The Engineering, Procurement, Construction, and Commissioning (EPC)<sup>1</sup> process is currently underway, with the goal of commencing pilot operation by the end of FY2024. This storage battery system will have an output of approximately 3,900 kW and a capacity of about 15,600 kWh, marking the Group's first storage battery installation of this magnitude. Additionally, an Energy Management System (EMS) will be introduced to optimize storage battery charging and discharging management.

The Group intends to trade electricity generated by this storage battery system, participating not only in the wholesale electricity market but also in the supply-demand adjustment and capacity markets. Through this validation project, the Group aims to gain expertise in operating storage batteries through a combination of various market transactions and to verify how to maximize earnings in its power storage business.

#### Validation project (2): Validation at the Cosmo Oil Research & Development Center

In validation project (2), a storage battery system will be installed at the Cosmo Oil Research & Development Center. The EPC process is currently underway, with the goal of commencing pilot operation by the end of FY2023. The storage battery system will have an output of approximately 200 kW and a capacity of approximately 650 kWh. A solar power generation system with an output of approximately 200 kW will also be installed at the same time.

At this validation facility, the Group intends to charge the storage battery system during the morning and afternoon when solar power generation facility reaches peak output and discharge it during evening hours or other times when power companies struggle to meet demand. Additionally, the Group plans to manage battery charging and discharging through the grid in accordance with solar power generation levels. Similar to validation project (1), the Group will optimize the operation of both systems by introducing an EMS.

Based on the results of this validation project, the Group will verify the effectiveness of solar power generation, which it seeks to expand, and the optimal configuration of storage batteries based on power generation levels, as well as the appropriate scale of the storage battery system.

#### Validation project (3): Validation at Cosmo Oil Sales Corporation-operated service stations (hereafter, "SS")

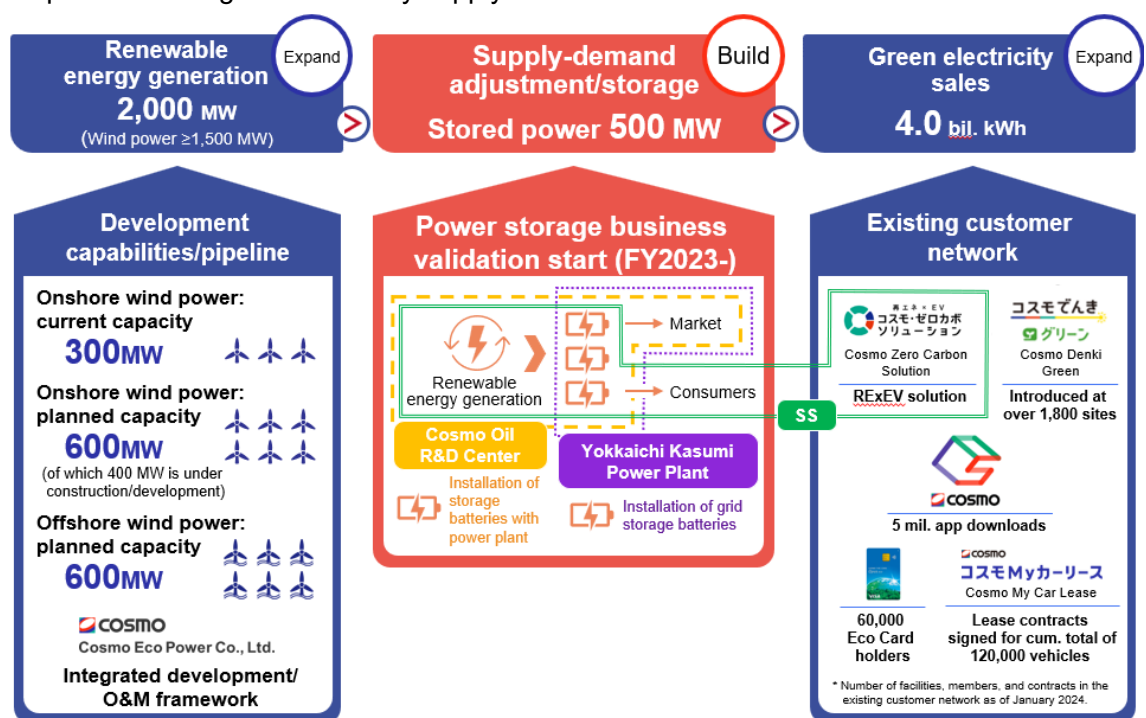
In validation project (3), a storage battery system has been installed at two SS (Self-service Nagakute SS and Self-service Wakae Minami SS) operated by Cosmo Oil Sales Corporation, a wholly owned subsidiary of Cosmo Oil Marketing Co., Ltd. (hereinafter, "Cosmo Oil Marketing"). This validation project has been ongoing since January 2024.

The storage battery system at each SS in this validation project has an output of approximately 3 kW output and a rated capacity of approximately 16.6 kWh. Similar to validation projects (1) and (2), an EMS has also been introduced. The Group will determine the optimal charging and discharging of the storage batteries at the SS locations based on the volume of electricity generated by the existing solar power generation system and SS electricity demand forecasts. The Company will also demonstrate the benefits of reducing electricity bills by shifting peak power consumption at SS as an effective means of utilizing surplus energy from solar power generation

through a series of operations. Additionally, the volume of solar power-derived energy consumed will be leveraged as J-Credits.

Based on results of this validation project, the Group will add a new storage battery system with an in-built EMS to Cosmo Zero Cabo Solution,<sup>2</sup> a Cosmo Oil Marketing offering. The Group will also support efforts by local governments and private companies to achieve carbon neutrality.

Moving forward, the Group remains committed to realizing net zero carbon emissions by 2050 through various green electricity-related initiatives, including this validation project, to help it bolster its green electricity supply chain as set forth in Vision 2030.



< Overview of validation plan >

Validation project (1)	
Validation site	1-22 Kasumi, Yokkaichi-shi, Mie – On the premises off Yokkaichi Kasumi Power Plant
Project site area	Approx. 1,200m <sup>2</sup>
Facility capacity	Storage battery system: output approx. 3,900 kW, capacity approx. 15,600 kWh
Construction start date	June 2024 (planned)
Pilot operation commencement date	Before end of FY2024 (planned)

Validation project (2)	
Validation site	1134-2 Gongendo, Saitama-shi, Saitama – On the premises of Cosmo Oil Research & Development Center
Project site area	Approx. 2,700m <sup>2</sup>
Facility capacity	Storage battery system: output approx. 200 kW, capacity approx. 650 kWh Solar power generation system: output approx. 200 kW
Construction start date	November 2023
Pilot operation commencement date	Before end of FY2023 (planned)

Validation project (3)	
Validation site	Self-service Nagakute SS: 1001 Netake, Nagakute-shi, Aichi Self-service Wakae Minami SS: 1-2-7 Wakae Minamimachi, Higashiosaka-shi, Osaka
Facility capacity	Storage battery system: output approx. 3 kW, capacity approx. 16.6 kWh (capacity per SS)
Pilot operation commencement date	January 2024

1: A four-step basic process for constructing storage battery systems.

2: About Cosmo Zero Carbon Solution

URL: [https://ceh.cosmo-oil.co.jp/press/p\\_210915/index.html](https://ceh.cosmo-oil.co.jp/press/p_210915/index.html) (available in Japanese only)

<https://www.cosmo-denki.com/business/lp/solution/> (available in Japanese only)

(End)

(The official language for Cosmo Energy Group's filings with the Tokyo Stock Exchange and Japanese authorities, and for communications with our shareholders, is Japanese. We have posted English versions of some of this information on this website. While these English versions have been prepared in good faith, Cosmo Energy Group does not accept responsibility for the accuracy of the translations, and reference should be made to the original Japanese language materials.)