News Release

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Matsuyama Mikan Energy selects Hitachi's grid energy storage system with e-mesh™ PowerStore™

contribute to mainstreaming of renewable energy power sources and secure stable power supply simultaneously,
by utilizing e-mesh™ PowerStore™ with a rich global experience

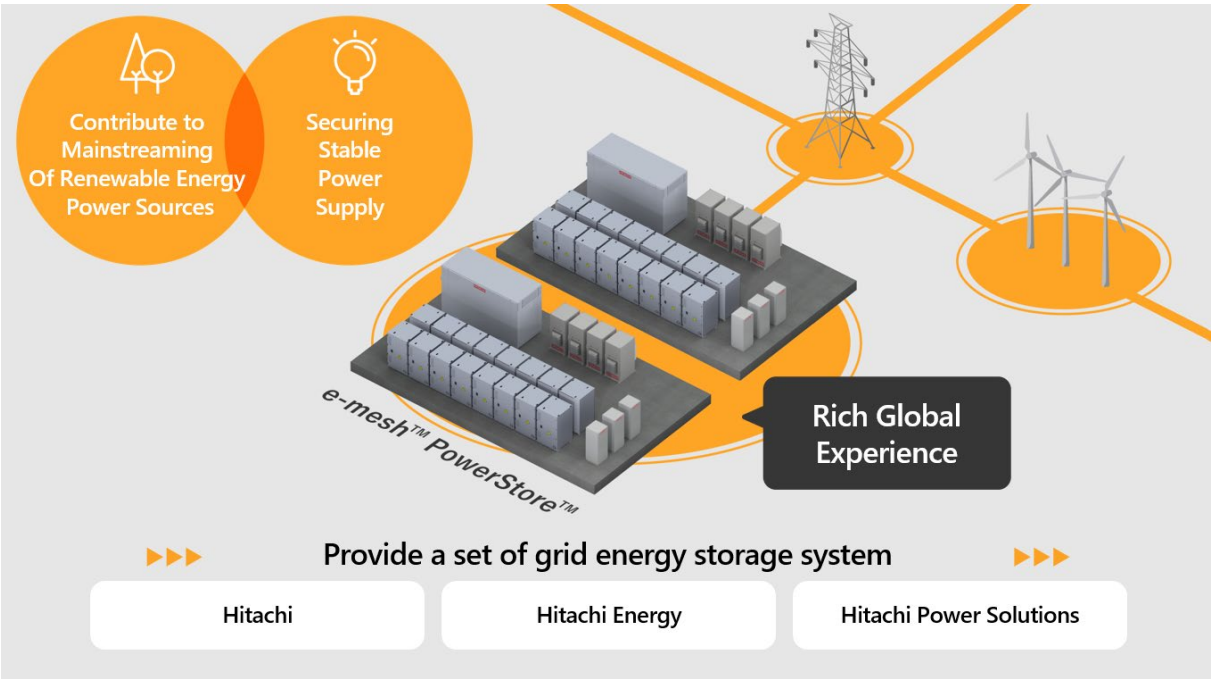

Image of grid energy storage business for the Matsuyama Power Storage Plant

Tokyo, August 7, 2023 – Hitachi, Ltd. (TSE: 6501, "Hitachi") has received an order for a set of grid energy storage systems[*1] for the Matsuyama Storage Plant to be newly established in Matsuyama City, Ehime Prefecture, from Matsuyama Mikan Energy LLC, a business company established jointly by Shikoku Electric Power Company, Incorporated ("Shikoku Electric"), and CHC Japan K. K ("CHC Japan"). Together, Hitachi, Hitachi Energy and Hitachi Power Solutions Co., Ltd. ("Hitachi Power Solutions"), are providing a set of grid energy storage system, utilizing Hitachi Energy's grid edge solutions e-mesh™[*2] PowerStore™[*3], battery energy storage system (BESS) which has a rich global experience.

In order to achieve carbon neutrality by 2050, it is necessary to introduce and utilize renewable energy. However, renewable energy production is easily affected by a supply and demand imbalance of electrical energy and weather conditions, and it is an issue to secure the adjustment capability.
The Matsuyama Mikan Energy is planning construction of Matsuyama Storage Plant utilizing grid energy storage systems that could adjust power consumption by either charging or discharging electrical energy to match the needed power supply and demand to contribute to similar problems.

The e-mesh PowerStore BESS provides the solution for high-quality power management system and response capability to sudden changes in the balance of power supply and demand. The BESS enable efficient storage and discharge of electrical energy in line with the

balance of power supply and demand, as well as the prompt supply of renewable energy in response to output fluctuations.

Hitachi continues to support the battery energy storage business undertaken by Shikoku Electric and CHC Japan. Thereby supporting to a decarbonized society through the domestic deployment of the e-mesh grid edge solutions*4, by contributing to mainstreaming of renewable power sources and securing the stable power supply.

*1 Energy storage systems used mainly for power grids and renewable energy power plants
*2 https://www.hitachienergy.com/us/en/products-and-solutions/grid-edge-solutions/our-offering/e-mesh
*3 https://www.hitachienergy.com/uk-ie/en/products-and-solutions/energystorage/powerstore
*4 A grid edge solution is a variety of solutions that are located at the edge of a transmission and distribution system, manage power and energy close to demand sites.

■Background

Japanese government has set a goal of achieving carbon neutrality by 2050, with renewable energy's share of total electrical energy generation to be 36-38% by fiscal year 2030, which increased by about 20% compared to 2019. On the other hand, recently there are problems of the amount of generated renewable energy has exceeded the demand, or the output of renewable energy is susceptible to fluctuations due to changes in weather and other factors. Therefore, it is an issue to ensure the adjustability to utilize the surplus renewable energy or to provide a stable supply of electrical energy in response to fluctuations in output.

Because of these problems, the subsidies for power storage facilities are being implemented under the supplementary budget in order to accelerate the start-up of domestic power storage facilities. For this project as well, it was decided that Shikoku Electric and CHC Japan would receive the subsidy for the project to support the introduction of distributed energy resources that contribute to the expansion of the introduction of renewable energy*5 by SII*6.

Against the background, Shikoku Electric and CHC Japan announced that the Matsuyama Mikan Energy would build the Matsuyama Storage Plant (12MW rated output and 35.8MWh rated capacity) in Matsuyama City, Ehime Prefecture, to stabilize power supply and demand and maximize the use of renewable energy, by using storage batteries to adjust power storage and charging/discharging in line with the balance of power supply and demand on June 14, 2023*7.

*5 https://sii.or.jp/chikudenchi04r/(Japanese only)
*6 Sustainable open Innovation Initiative
https://sii.or.jp/(Japanese only)
*7 June 14, 2023 Shikoku Electric Power Company "Establishing “Matsuyama Mikan Energy LLC” to Start Energy Storage Business in Matsuyama City, Ehime Prefecture "
https://www.yonden.co.jp/english/assets/pdf/profile/international_business_topics/index/enpr010.pdf

■Features of this project

In this project, Hitachi Group provides the BESS and substation facilities, installation and test operation of the entire storage plant.
The e-mesh PowerStore is part of Hitachi Energy's e-mesh portfolio of grid edge solutions. This BESS consists of hardware and advanced software technologies developed to provide reliable power, stabilize a grid, and expand the use of renewable energy. The e-mesh can also monitor and control distributed energy resources, reducing power fluctuations caused by intermittency of sunlight, and provides a storage of surplus power that can discharges whenever necessary to help adjust the supply-demand balance and stabilize the grid. These solutions have been selected for more than 250 projects in more than 90 countries and regions.

■Each company's role

[1] Hitachi: Manages the project with taking advantage of its extensive experience in grid energy storage system.
For many years, Hitachi has been provided grid stabilization solutions to electric power companies in Japan. In recent years, Hitachi participated in the demonstration of multiple grid

energy storage systems in Japan and overseas. In this project, Hitachi is utilizing its many years of experience in the provision of grid energy storage systems with global experience to project management, such as requirements definition and initial design based on needs.

[2] Hitachi Energy: Provides e-mesh grid edge solutions.
Hitachi Energy is advancing a sustainable energy future for all, has best-in-class technologies and solutions in the energy storage field based on its knowledge and more than 30 years of global experience. In this project, Hitachi Energy is responsible for the supply, commissioning of the e-mesh PowerStore BESS.

[3] Hitachi Power Solutions: Provision of substation facilities and installation of the entire power storage facility.
Hitachi Power Solutions provides solutions that utilize storage batteries and distributed power sources such as wind power, solar power, and cogeneration systems. In addition, Hitachi Power Solutions has a wealth of experience and know-how in procurement, installation, operation support, and facility maintenance services for power receiving and transforming equipment and control systems. In this project, Hitachi Power Solutions will utilize their accumulated experience and know-how to supply and commissioning of substation facilities and install the entire storage facility.

■Future development
The Hitachi Group will support both the expansion of the renewable energy ratio in Japan and the stable supply of electric power by providing a consistent support system from design to maintenance, including the provision of grid energy storage system. In addition, we will contribute to the realization of carbon neutrality by accelerating the deployment of the e-mesh grid edge solutions with global experiences for micro-grid applications which can be used in small-scale environments, such as islands in Japan.

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About Hitachi, Ltd.
Hitachi drives Social Innovation Business, creating a sustainable society through the use of data and technology. We solve customers' and society's challenges with Lumada solutions leveraging IT, OT (Operational Technology) and products. Hitachi operates under the business structure of “Digital Systems & Services” - supporting our customers’ digital transformation; “Green Energy & Mobility” - contributing to a decarbonized society through energy and railway systems, and “Connective Industries” - connecting products through digital technology to provide solutions in various industries. Driven by Digital, Green, and Innovation, we aim for growth through co-creation with our customers. The company’s consolidated revenues for fiscal year 2022 (ended March 31, 2023) totaled 10,881.1 billion yen, with 696 consolidated subsidiaries and approximately 320,000 employees worldwide. For more information on Hitachi, please visit the company's website at https://www.hitachi.com.

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Information contained in this news release is current as of the date of the press announcement, but may be subject to change without prior notice.
