

October 28, 2022
Shizen Energy Inc.

Shizen Energy Launches VPP demonstration through a joint platform with retail electricity providers and storage battery manufacturers

～Seeking participants for a 2,200 kW scale experiment of adjustment capacity of residential energy resources～

Shizen Energy, a global renewable energy group and distributed energy resource platform provider, together with retail electricity providers and storage battery manufacturers will start a virtual power plant (VPP) (*1) demonstration project from mid-December 2022 to prevent power supply shortage and reduce power procurement costs. This demonstration project includes 3 retail electricity providers, UPDATER, Inc., Tokyo Gas Co., Ltd., Borderless Japan Corporation and 5 storage battery manufacturers including GridShare Japan Corporation (*2), Smart Solar Corporation, Sumitomo Electric Industries, Ltd., Nichicon Corporation, and Diamond & Zebra Electric Mfg. Co., Ltd.

Starting today, the demonstration project is seeking home battery storage system owners to participate in this demonstration project (see Table 3).



This project will utilize Shizen Connect(*3), Shizen Energy's energy management system, to remotely control home battery storage systems based on the electricity supply and demand status of retail electricity providers to verify the effects of creating adjustment capacity and reducing electricity procurement costs for retail electricity providers.

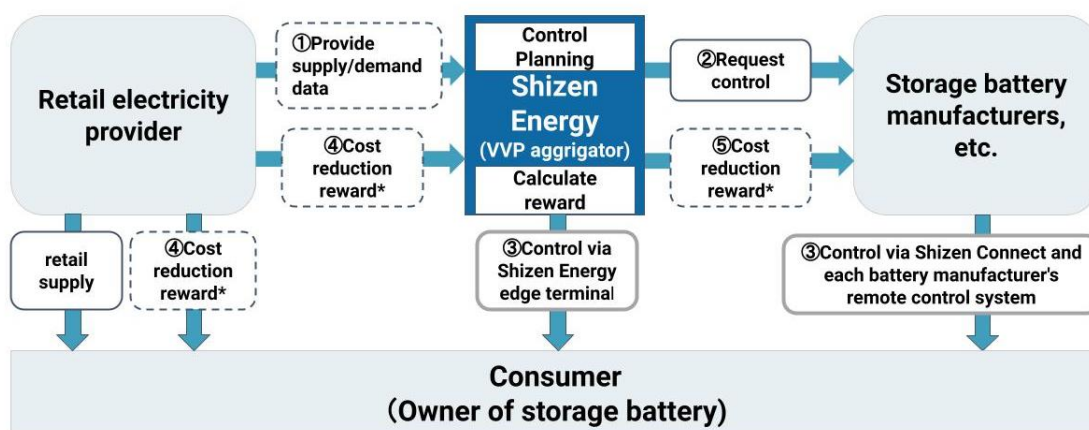
■ Features of the Scheme

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- Reduction of electricity procurement costs for retail electricity providers by utilizing residential energy resources (*4)
- Utilization of adjustment capacity of home battery storage systems of all participating storage battery manufacturers
- Increase of synergy effect and economic benefits with the number of participating storage battery manufacturers and retail electricity providers
- No need for new IoT devices for control (in the case of control through cloud collaboration)

This demonstration will be the largest-scale VPP demonstration using residential energy resources in Japan. Utilizing the knowledge gained through this demonstration, the project aims to commercialize the system as early as fiscal 2023.

Chart 1: Diagram of the project



*This demonstration does not involve the provision of actual supply and demand data or the exchange of cost reduction rewards.

Table 1 : Project Overview

<p>Demonstration content</p>	<ol style="list-style-type: none"> 1. Assessment of technological feasibility of creating adjustment capacity using a remote control system of storage battery manufacturers 2. Investigate ways for retail electricity providers to understand supply and demand conditions and control logic 3. Investigate business models for retail electricity providers that reduce costs <ul style="list-style-type: none"> - Estimate and evaluate cost savings from procurement costs from wholesale electricity markets and capacity reservation fees - Evaluate the operational cost aspects of remote control systems for storage battery manufacturers
<p>Timeline</p>	<ul style="list-style-type: none"> • Oct. 28, 2022 - start accepting applications from home battery storage owners to participate in the demonstration • Dec. 2022 - begin demonstration (until Jan. 2023)

Table 2: Role of participants

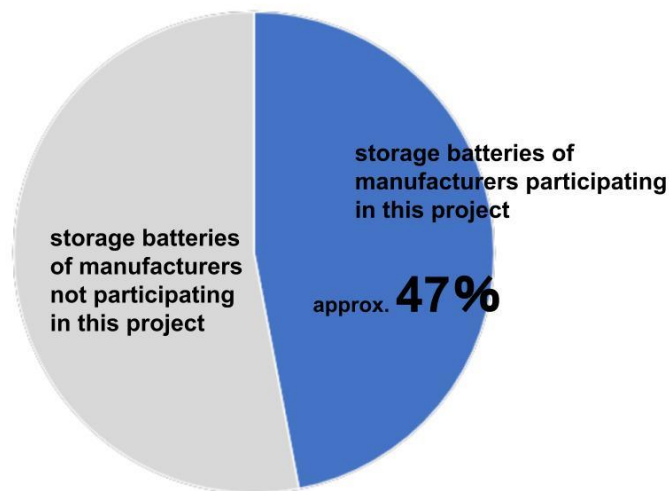
Participant	Company	Role
Retail electricity providers	UPDATER, Inc. Tokyo Gas Co., Ltd. Borderless Japan Corporation	Provide information for economic feasibility estimates, etc.
Storage battery manufacturers and others	GridShare Japan Corporation Smart Solar Corporation Sumitomo Electric Industries, Ltd. Diamond & Zebra Electric Mfg. Co., Ltd. Nichicon Corporation	Conduct battery storage control, customer service, etc.
VPP aggregator	Shizen Energy Inc.	Power control planning, verification of results, and overall coordination of the demonstration project

Table 3: Overview of application from participating home battery storage owners

Eligibility	Owners of storage batteries from the storage battery manufacturers participating in this demonstration note: contract with any retail electricity provider is applicable
Application period	Oct. 28, 2022 ~ end-Nov. 2022
Demonstration Experiment Details	<ol style="list-style-type: none"> 1. Approx. four 3-hour remotely controlled sessions. No preparation is required from participating storage battery owners. 2. The maximum increase in the cost of electricity due to charge/discharge control is assumed to be 600 yen. Should it be more than this, the difference will be compensated. <p>*We will contact you individually if compensation becomes necessary.</p>
Timeline	<ol style="list-style-type: none"> 1. Oct. 28, 2022: Press release and web page open for applications (deadline: end-Nov. 2022) 2. Oct.-Nov. 2022: Implementation of short-duration charge and discharge control for control confirmation. 3. Mid-Dec. 2022 to mid-Jan. 2023: Implementation of demonstration experiment <p>*We will contact participants in early Dec. about exact dates.</p>
Number of participants	approx. 700 participants *You may not be eligible depending on the type of equipment you own.
Application form	https://se-digital.net/vpp2022
Notice	1. For inquiries regarding this demonstration project, please contact

	<p>Shizen Energy Inc.</p> <p>2. In the event of a malfunction of the energy storage system or other equipment due to this demonstration project, Shizen Energy Inc. will be responsible for the repair costs.</p>
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Chart 2: Market share of storage battery manufacturers participating in this demonstration



Source: *Monthly Smart House No.84* "Share of various types of home energy storage systems (unit based): compiled by organizing OEM relationships

* 1 Virtual Power Plant(VPP): digital technology that collectively controls distributed power sources (power generation facilities, storage batteries, EVs, etc.) and demand facilities as if they were a single power plant.

* 2 GridShare Japan Corporation: a resource aggregator that controls residential storage batteries manufactured by NF Blossom Technologies, Inc.

* 3 Shizen Connect: an aggregation energy management system that collectively controls energy resources such as renewable energy power generation, storage batteries, EVs and EcoCutes. Shizen Connect can control residential solar power generation with storage batteries and V2H equipment, as well as operation of microgrids connecting multiple buildings with transmission lines, and VVP construction of several thousand units of energy resources. Individual control and VVP control tended to be separate, but Shizen Connect provides a one stop service allowing energy resources to be utilized with multi-purpose which also improves economic efficiency. The system can be adapted with any equipment supplier, allowing energy resources to be chosen freely without relying on a certain manufacturer.

* 4 In the future, we also aim to accommodate market transactions such as supply and demand adjustment markets and capacity markets.

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【Websites of companies participating in this demonstration】

- Borderless Japan Corporation: <https://www.borderless-global.com/>
- Diamond & Zebra Electric Mfg. Co., Ltd.: <https://www.diaelec-hd.co.jp>
- GridShare Japan Corporation: <https://www.gridshare.co.jp/>
- Nichicon Corporation: <https://www.nichicon.co.jp/english/>
- Smart Solar Corporation: <https://www.smartsolar.co.jp/en/>
- Sumitomo Electric Industries, Ltd.: <https://sumitomoelectric.com/>
- Tokyo Gas Co., Ltd.: <https://www.tokyo-gas.co.jp/>
- UPDATER, Inc.: <https://minden.co.jp/>

■ Shizen Energy Inc.

Founded in June, 2011. With the company purpose of “We take action for the blue planet”, the company’s business includes development, financing, and asset management of renewable energy power plants using solar power, wind power, small-scale hydroelectric power, and biomass. Since 2016, the company has also been focusing on its overseas operations, expanding its development and power generation projects in areas such as Southeast Asia and Brazil. In 2019, the company also entered the energy tech business, offering micro-grid and VPP construction, smart charging and discharging services for EVs, and other services through its self-developed EMS (energy management system). Shizen Energy Group has been involved in more than 1 GW of renewable energy generation in Japan and overseas.

URL: <http://www.shizenenergy.net/en/>

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