

March 30, 2020

MIRAIT Holdings Corporation**【 MIRAIT Corporation 】****Field Trial of Electric Power Interchange to Regional Communities Utilizing Solar Power Generation and an Electric Vehicles to Commence on March 31**

MIRAIT Corporation (head office: Koto-ku, Tokyo; President: Toshiki Nakayama; “MIRAIT”), which is a Group company of MIRAIT Holdings Corporation, will jointly conduct a field trial of electric power interchange to regional communities utilizing solar power generation and electric vehicles (EVs) with ENNET Corporation (head office: Minato-ku, Tokyo; President: Yuji Kawagoe; “ENNET”) and CCD Co., Ltd. (head office: Chiyoda-ku, Tokyo; President: Shigeru Komori; “CCD”) from March 31, 2020 until March 31, 2021.

The field trial will involve the installation of solar power generation facilities and an EV power conditioner (SMART V2H[®] manufactured by Mitsubishi Electric Corporation) in a conventional energy-saving residence in Karuizawa-cho, Kitasaku-gun, Nagano. In addition to using the solar power generation of a conventional energy-saving residence to charge a private EV, power will be discharged at specific times to obtain surplus electric power. This surplus electric power will be supplied to the Docomo Shop Karuizawa store operated by CCD to realize electric power interchange.

The electric power interchange will be used to stabilize ENNET’s electric power supply by discharging a fixed amount of electricity from the EV during specified times when the amount of power generated by solar power generation decreases

The conventional energy-saving residence used in this field trial is in a cottage area and is also positioned as a demonstration assuming electric power interchange from public facilities, etc. with low usage rates because there are periods when it is unoccupied on weekdays.

In future, in addition to working with local governments to promote similar initiatives, the knowledge obtained in this field trial will be utilized to contribute to the creation of environmentally friendly communities with local production for local consumption that are highly resilient to disasters.

Background

Amid international moves to reduce CO₂ emissions, Japan is also required to proceed with additional decarbonization efforts.

Furthermore, natural disasters such as typhoons have intensified in recent years, and a local production for local consumption energy system in which comparatively small power generation facilities are distributed near where energy is consumed to supply electric power are believed to be an efficient way of achieving decarbonization and increasing resilience to natural disasters.

In order to provide a local production for local consumption power supply such as this, it is believed to be important to create a mechanism for the interchange of surplus electric power from solar power generation to users in the local community by combining solar power generation that has already become widespread with EVs that are expected to become widespread as mobile rechargeable batteries.

Implementation period

March 31, 2020 to March 31, 2021 (scheduled)

Implementation site

Conventional residence in Karuizawa-cho, Kitasaku-gun, Nagano

SMART V2H

An EV power conditioner manufactured by Mitsubishi Electric Corporation. It is a power conditioner that can simultaneously use solar power generation, EV and grid electricity, and can be remotely controlled to charge and discharge power on the EV. Using this function, the electricity charged in the EV will be discharged at specific times by remote control to be utilized in to stabilize ENNET's power supply.

Electric power interchange

The mutual provision of electric power. In this field trial, the electric power from the conventional energy-saving residence is provided to the Docomo Shop Karuizawa Store by controlling EV charging and discharging using information on the power consumption within the residence, solar power generation and the EV charging volume obtained using the communication function of SMART V2H, and discharging a fixed amount of electricity at specific times.

The role of the electric vehicles (EV)

EVs are utilized as large rechargeable batteries to realize electric power interchange. The battery capacity of the EV used in this field trial is 30kWh.

Roles of the companies

MIRAIT Corporation

- Evaluation and project management of the trial
- Installation of the solar power generation facilities and SMART V2H in the conventional energy-saving residence
- Evaluation of the system for realizing electric power interchange at specified times

ENNET Corporation

- Purchase of surplus electric power from the conventional energy-saving residence
- Supply of surplus electric power purchased from the conventional energy-saving residence to the Docomo Shop Karuizawa Store

CCD Co., Ltd. (Docomo Shop Karuizawa Store)

- Purchase of surplus electric power from the conventional power-saving residence through ENNET
- Reduction of CO₂ emissions associated with business activities by utilizing renewable energy

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