

afterFIT, Sojitz and MIRAIT ONE Provide Advanced Green Solution to Isogo Country Club Implementing Solar Carports Equipped with Rechargeable Batteries and EV Charging Stands

Cutting-edge example of next-generation solar carports providing 53.4% power self-sufficiency and increasing customer value

January 11th, 2024
Yokohama Kanko Tochi K.K.
afterFIT Co., Ltd.
Sojitz Corporation
MIRAIT ONE Corporation

afterFIT Co., Ltd. (head office: Minato-ku, Tokyo; Representative Director: Kanzo Tanimoto; “afterFIT”), Sojitz Corporation (head office: Chiyoda-ku, Tokyo; Representative Director, President & CEO: Masayoshi Fujimoto; “Sojitz”) and MIRAIT ONE Corporation (head office: Koto-ku, Tokyo; President and Chief Executive Officer: Toshiki Nakayama; “MIRAIT ONE”) will introduce solar carports equipped with rechargeable batteries and EV charging stands in the parking area of Isogo Country Club operated by Yokohama Kanko Tochi K.K. (Yokohama-shi, Kanagawa; Representative Director: Yasunaga Suzuki; “Yokohama Kanko Tochi”) as an initiative to spread decarbonization solutions.

The commercial implementation of solar carports with integrated rechargeable batteries and EV charging stands is a pioneering initiative providing a high level of social value significantly contributing to the spread of green power sources and EV infrastructure.

Yokohama Kanko Tochi adopted the project as a groundbreaking initiative for environmentally friendly resort facility operation with low running costs, and promote sustainable business operations.

Furthermore, afterFIT, Sojitz and MIRAIT ONE are proceeding with several projects going forward, and will contribute to the realization of a more decarbonized society through the provision of new green solutions utilizing the strengths of each company.

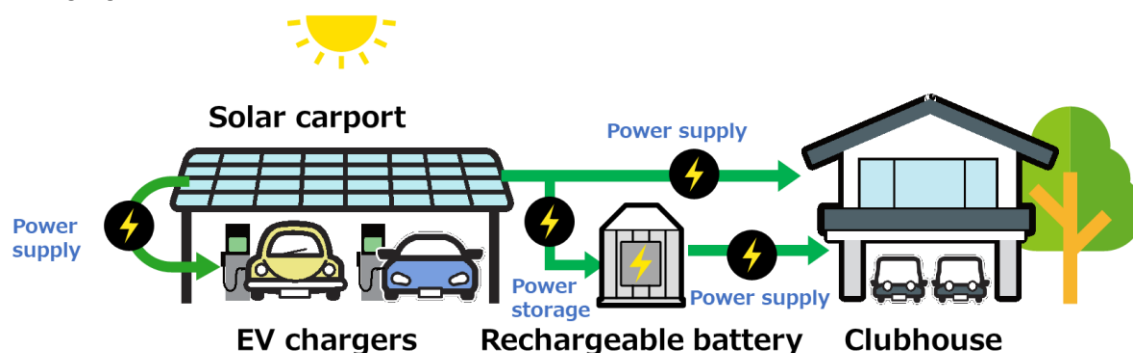
The project will be implemented due to being chosen for the “FY2022 grant for operating expenses for measures to curb carbon dioxide emissions” with construction by the three partners starting in mid-November 2023, and operation scheduled to start in March 2024.



- Overview of the Initiative

Carports equipped with solar panels with a total output of 306.8kW will be installed in the parking spaces for a total of 104 vehicles in the entire installable area of the Isogo Country Club parking area, along with rechargeable batteries with a capacity of 193.5kWh, three standard EV charging stands and one quick EV charging stand. It is estimated that power generation will be 342,234kWh/year^{*1} and that power self-sufficiency will be 53.4%^{*2}, increasing the power self-sufficiency rate by 6.4 percentage points compared to not also installing rechargeable batteries. The generated power will be utilized in the EV charging stands, in addition to captive use in the clubhouse. In addition, excess power will be stored in rechargeable batteries for use at night and as backup power in the event of a disaster, contributing as a BCP measure^{*3}. Design, procurement and construction of rechargeable batteries and solar carports will be handled by afterFIT, and the design and construction of EV charging stands will be handled by MIRAIT ONE under the guidance of Sojitz.

Image of Power Supply from Solar Carport Equipped with Rechargeable Battery and EV Charging Stands



Further, Yokohama Kanko Tochi will reduce its CO₂ emissions by approximately 108.3 tons per year^{*4} through the installation of the equipment, securing a stable power supply not affected by rising energy prices, improving convenience for customers such as providing shelter from sun and rain characterized by the carports, and also supporting the transition to EVs based on the characteristics of golf course customers. In future, consideration will also be given to opening up the facilities to the local community as an emergency power source. The details of the expected effects are as follows.

1. Double decarbonization through power supply and vehicles

Power generated by solar carports 100% renewable energy not emitting CO₂. The power supplied to general EV charging facilities is generated by means such as thermal power generations, but installing them with solar carports makes them zero CO₂ emission EV chargers directly charging EVs with raw green power, contributing to decarbonization management in companies implementing the system.

2. Reduction of power expenses

Due to no sign of resolution to rising energy prices caused by the situation in Ukraine and the Middle East, problems with operation of nuclear power plants in Japan, or the problem of aging and decommissioning of coal-fired power plants in Japan, there is no prospect of electric power prices falling. Solar carports enable the use of generated power as captive consumption power generation facilities not susceptible to power market prices. They significantly contribute to reduction of power expenses for companies suffering from rising power expenses.

3. Attracting customers

Solar carports are also effective in providing shelter from rain and sun as roofs of parking areas. In commercial facilities where they have been implemented, the high percentage of parking under solar carports is notable, and the reduction in the number of customers on rainy days was improved from 30% to 15% in some cases.

4. Reduction of costs through simultaneous implementation

The patent-pending construction method realizing significantly shorter construction times and development costs reduced as much as possible through the sale of carports for four vehicles per unit enable them to be provided at a price equivalent to ground-mounted solar panels. Furthermore, development including all aspects from the design phase to EV charging facilities enable improvement of overall system efficiency, leading to a reduction of relative cost through

rationalization of electric wiring, etc. They can be installed with effectively zero upfront costs if a PPA^{*5} is concluded.

● Future Outlook

Yokohama Kanko Tochi has been constantly aware of the problems presented by recent abnormal weather and rising temperatures directly linked to golf club operation, and wishes to conduct sustainable business operations helping the realization of a decarbonized society.

Furthermore, one of the club's policies is to "aim to be a golf club with high added value," and this initiative realizes both of these goals.

Starting with this initiative, Yokohama Kanko Tochi will increase social value by strengthening environmentally friendly business operations, with the aim of ensuring the golf club is chosen by more customers.

With the ambitious target of doubling renewable energy by 2030, Japan already has the largest amount^{*6} of solar power in relation to national land area among major countries, and solar carports hold the key to achieving decarbonization targets, while installing them with rechargeable batteries maximizes their effectiveness. Furthermore, the shortage of charging stands is a challenge in the transition to EVs that is pivotal for realization of carbon neutrality, and increasing added value by installing them with solar carports will promote the spread of charging infrastructure.

This initiative has high social value as a pioneering example, and it is believed that the combination of afterFIT's technological capability in the area of power generation, Sojitz's strengths as a general trading company, and MIRAIT ONE's extensive accomplishments in the construction of charging stands will lead to technological innovation for next-generation solar carports. As further decarbonization solutions are expected to spread for the realization of carbon neutrality, this trend will be perceived as an opportunity, and the three companies will continue to utilize their know-how and strengths, closely coordinating to contribute to the realization of a decarbonized society.

*1 Estimated power generation: Calculated using the power generation calculation method for solar cells based on "JISC8907"

*2 Self-sufficiency rate: The percentage of annual demand for electric power covered by solar power generation

*3 BCP measure: A plan for arranging activities to perform under normal circumstances and methods, means, etc. for business continuity in the event of an emergency to minimize damages to business assets and enable continuation or rapid restoration of core businesses in the event a company encounters an emergency situation such as a natural disaster, a major fire or a terrorist attack

*4 CO₂ emission reduction: Calculated based on the electricity utility emission factor announced by the Ministry of the Environment and the Ministry of Economy, Trade and Industry

*5 PPA: Power Purchase Agreement. The power consumer (user) provides space such as land and rooftops to a power generation business operator, and the power generation business operator installs power generation facilities such as solar power systems and performs operation and maintenance for free. The power generation business operator meters and bills for the captive consumption of the power generated, and the user pays electricity charges for this. As a global trend, companies are required to not only reduce CO₂ emissions

through “environmental certificates” but also introduce 100% renewable energy, and the procurement of renewable energy is becoming widespread among European and US companies.

*6 Materials released by the Agency for Natural Resources and Energy on the “Study Group on the Introduction and Management of Renewable Energy Generation Facilities” (April 4, 2022)

- Overview of the Companies

About Yokohama Kanko Tochi K.K.

The operating company of the prestigious Isogo Country Club. It is well known as a prestigious course with a history spanning over six decades since it opened, and with an excellent location with good access from central Tokyo, the course with beautiful views and heightened strategic elements that has continuously undergone remodeling over many years has been well received for being varied and never boring. Furthermore, the meals centered around Chinese cuisine provided in the clubhouse are also highly regarded within the industry, making it a very comfortable club. The club is aiming to achieve operations that increase added value with high member satisfaction.

Company Overview

Company name: Yokohama Kanko Tochi K.K.

Established: June 1957

Representative: Yasunaga Suzuki, Representative Director

Head office address: 6-43-24 Yokodai, Isogo-ku Yokohama-shi, Kanagawa

Businesses: Golf club operation

About afterFIT Co., Ltd.

A green power company specializing in green and operating the three businesses of power generation power transmission and power sales. The company’s strength is its ability to handle all aspects from development to maintenance and management in house, and is growing in the area of power generation business. It is also uses its track record and know-how for the development of rechargeable batteries for grid use and electric power market operation. In addition, the company is focusing on resolving issues with green power, such as finding appropriate sites for power generation utilizing AI, and development of systems for performing algorithmic control of large-scale rechargeable batteries.

Company Overview

Company name: afterFIT Co., Ltd.

Established: October 2016

Representative: Kanzo Tanimoto, Representative Director

Head office address: 2-4-6 Shibadaimon, Minato-ku, Tokyo

Businesses: Green power business

About Sojitz Corporation

Sojitz is a general trading company operating businesses in a variety of countries and regions worldwide with approximately 400 consolidated subsidiaries in Japan and overseas. Based on

the “Sustainability Challenge” long-term vision for 2050, the company has established a policy aimed at realizing a decarbonized society, and is engaged in the creation of business with a view to decarbonized society and a recycling-based society.

Company Overview

Company name: Sojitz Corporation

Established: April 1, 2003

Representative: Masayoshi Fujimoto, President and CEO

Head office address: 2-1-1 Uchisaiwaicho, Chiyoda-ku, Tokyo

Businesses: Automotive; aerospace & transportation projects; the infrastructure & healthcare; metals, mineral resources & recycling; chemicals; consumer industry & agriculture business; and retail & consumer service

About MIRAITS ONE Corporation

MIRAITS ONE Corporation was launched on July 1, 2022 through the integration of MIRAITS Holdings Corporation, MIRAITS Corporation, and MIRAITS Technologies Corporation. MIRAITS ONE has established “co-creating an exciting future through challenges and technology” as its purpose (significance of existence), and is engaged in the resolution of issues faced by customers and society and regional revitalization by promoting initiatives such as urban development and regional development, corporate DX and GX, green business and global business based on the technical capability cultivated until now in telecommunications facility construction and the civil engineering business.

Company Overview

Company name: MIRAITS ONE Corporation

Established: October 1, 2010

Representative: Toshiki Nakayama, Representative Director and President

Head office address: 5-6-36 Toyosu, Koto-ku, Tokyo

Business lines: Telecommunications engineering work, electrical work, civil engineering work and construction work, as well as management control of subsidiaries and Group companies engaged in businesses related to these