



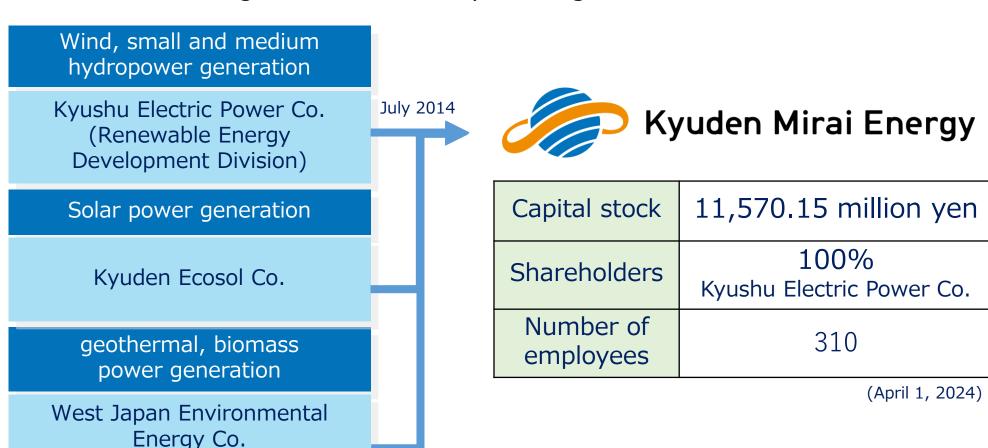


Kushima Wind Power Plant (Kushima City, Miyazaki Prf., 64,800 kW, COD: October 2020)

Copyright (C) Kyuden Mirai Energy Co.

Background of the establishment of Kyuden Mirai Energy

- Established in July 2014 by consolidating the renewable energy divisions of the Kyuden Group to provide a one-stop, speedy approach to renewable energy development.
- > Started <u>retail electricity business in the Kanto and Kansai areas</u> in April 2016, in line with the total deregulation of electricity retailing.

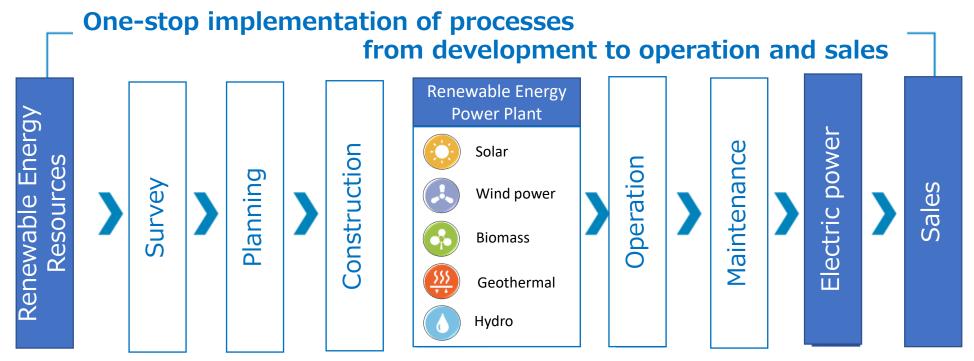


Copyright (C) Kyuden Mirai Energy Co.

(Renewable Energy Business Division)

Features of Kyuden Mirai Energy

- > Conducting business based on <u>in-house development and long-term ownership of</u> renewable energy generation facilities.
- Conducting <u>research, operation</u>, and <u>sales</u> of <u>five major renewable energy sources</u> (solar, wind, biomass, geothermal, and hydro).



We also sell <u>RE100 electricity</u> using <u>non-fossil certificates derived from our renewable energy sources.</u>

Renewable Energy Development Status

(In operation + Under Construction + Planned) End of FY2025

Renewable Energy Power Plants

In Operation + Under construction + Planned

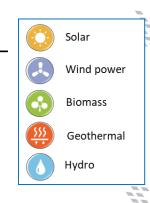
Shimonoseki Biomass Power Plant (Yamaguchi)

Kitakyushu Hibikinada Offshore Wind Farm <Under construction> (Fukuoka)

Karatsu · Chinzei Wind Farm (Saga)

(Fukuoka)

Oita Biomass Power Plant (Oita



🧊 Ishikari New Port Biomass Power Plant (Hokkaido)

3

Plants

O N

Miya River Watarai Solar Park (Mie)

Kanda Biomass Power Plant (Fukuoka)

Hirohata Biomass Power Plant (Hyogo)

1,313,532 kw *As of April 2024



Nakagusuku Biomass Power Plant (Okinawa)

*Development and operation of power plants in Japan and overseas, including in-house development, alliances with business partners, and subsidiaries

Yamaguchi

Kitakyushu

Hibikinada Offshore Wind Farm

- ➤ Kitakyushu City launched the Green Energy Port Hibiki concept in 2010 to promote the accumulation of wind power generation-related industries.
- The Ministry of Land, Infrastructure, Transport and Tourism (MLIT) revised the Port and Harbor Law in 2016, and **Kitakyushu City became the first city in Japan to set up a public bid for occupancy of offshore areas for 20 years** (the first project under the revised law).
- As a result of a public solicitation, the consortium led by Kyuden Mirai was selected as the business operator, and a basic agreement was signed with Kitakyushu City on January 10, 2018.



Hibikinada Offshore Wind Farm

Project Summary

- SPC: Hibiki Wind Energy Corporation [Investors: Kyuden Mirai Energy, J Power, Hokutaku, Saibu Gas, Kyudenko]
- Power generation: 220MW (9.6MW x 25 units)
- Project scale: approx. 175 billion yen (plans under scrutiny)
- Start of construction: March 2023, Planned installation: FY2025

Wind turbine model

Japan's first large wind turbine with a single unit capacity of 9.6MW

Model	V174-9.6MW
Output	9.6MW
Blade layout	Upwind
Rotor diameter	174 m
Receiving air surface area	23,779 ^{m2}
Hub height	Approx. 110 m
The highest point	Approx. 200 m
Type certification	IEC-Class IB, T



型型性 編章権 (φ1.8m)

Image of a pile-type

iacket foundation

Image of wind turbine

*Photo courtesy of Vestas Wind Systems A/S

Selection of wind turbine foundation type

- Pile-type jacket foundation, a technically safe and reliable foundation type, is adopted.
- This foundation type has been adopted in many port and marine structures in Japan and overseas.

Kyuden Group Carbon-Neutral Vision 2050



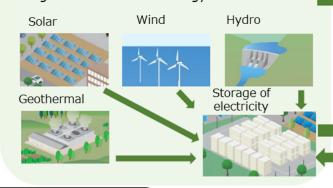
Low and decarbonized power supply (supply side)

Promotion of electrification (demand side)

Renewables and storage

Conversion to mains power

- · Promotion of renewable energy development
- Integrated control technology for DER



Nuclear power

Maximum utilization

- Improve facility utilization
- · Consideration of Next generation light water reactor, SMR, HTGR, etc.
- · Consideration of hydrogen production



Virtually zero CO₂ emissions

Increase efficiency

Thermal power and new technologies, etc.

- · Hydrogen and ammonia production, study of cofiring, Consideration of hydrogen production
- Study on the application of carbon recycling technology



Networks

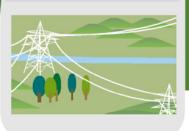
Next-generation power transmission and distribution networks

- · Wide-area operation of networks
- Advancement of supply and demand operation and grid stabilization technologies

ectricity

Heat

Non-fossil electricity



Electrification of each sector

Maximum electrification

- · Promotion of all-electric housing, Electrification of air conditioning, hot water supply, and kitchen in commercial facilities. (Home and business)
- Technical research on heat source conversion equipment, electrification for heat demand for wide range of temperatures (Industrial)
- Consideration of projects and services to promote EVs (Transportation)
- · Feasibility study of hydrogen supply, etc.

<Home and **Business>**

Electricity





<Industry>

<Transportation>





Hydrogen



Local Energy

Co-creation of a zero-carbon society with local communities

- · Contribution to the construction of a regional energy system
- · Adding value to cities and communities



Our mission, our future

Brighten our future through renewables

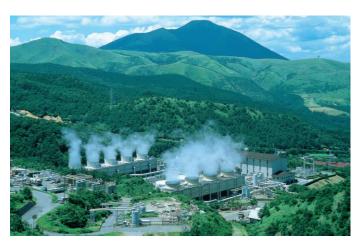
> The Kyuden Group takes on the challenge to achieve carbon neutrality by 2050 and plans to achieve "carbon negativity" as early as possible before 2050. We aim to create a sustainable society.



Higashi-Hiroshima Mega Solar Power Plant (Hiroshima Prf., 1,000 kW)



Karatsu Chinzei Wind Farm (Saga Prf., 27,200 kW)



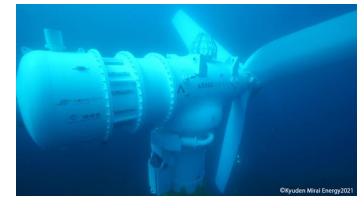
Hatchobaru Geothermal Power Plant (Kagoshima Prf., 110,000 kW)



Fukuoka Woody Biomass Power Plant (Fukuoka Prf., 5,700 kW)



Kamoshishi Hydroelectric Power Plant (Kumamoto Prf., 1,990 kW)



Tidal power generation demonstration project with Ministry of the Environment (Nagasaki Prf., 500 kW)

Copyright (C) Kyuden Mirai Energy Co.