# Outlook of Kyuden Mirai Energy

**April 2025** 





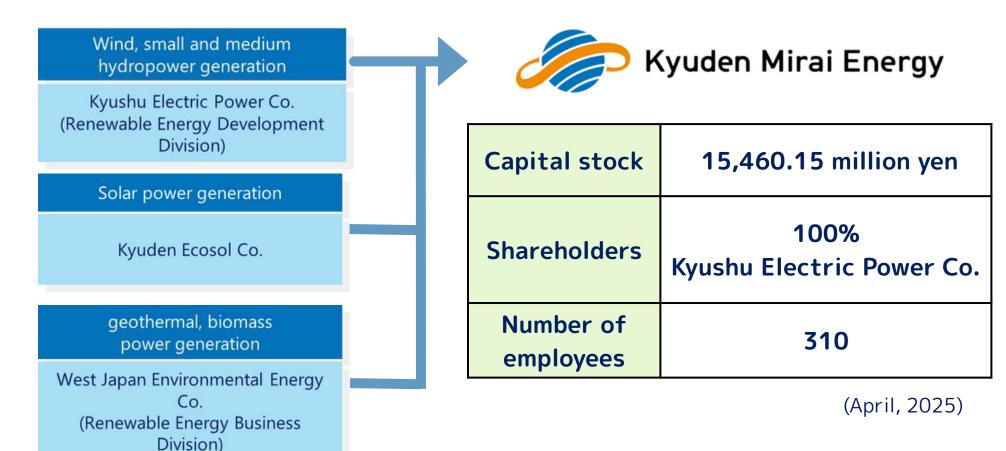


# TABLE OF CONTENTS

- Background of the establishment of Kyuden Mirai Energy
- Features of Kyuden Mirai Energy
- Renewable Energy Development Status
- Hibikinada Offshore Wind Farm
- Kyuden Group Carbon-Neutral Vision 2050
- Kyuden Mirai Energy 2050 Vision
- Our mission, our future

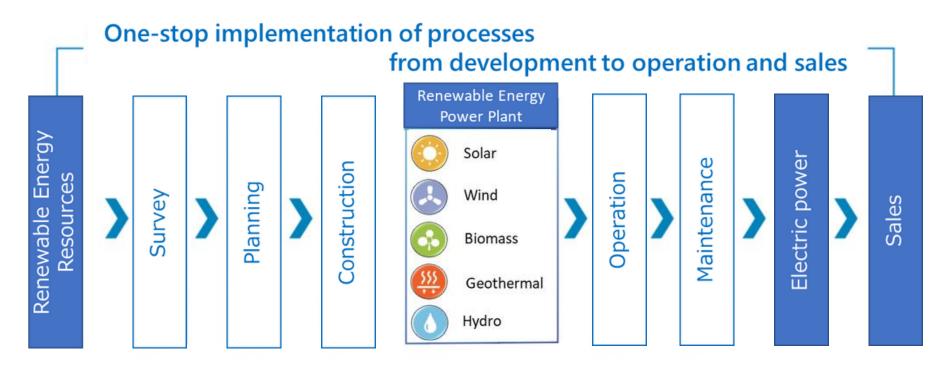
# ackground of the establishment of Kyuden Mirai Energy

- Established in July 2014 by <u>consolidating the renewable energy divisions of the Kyuden Group</u> 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.



# eatures of Kyuden Mirai Energy

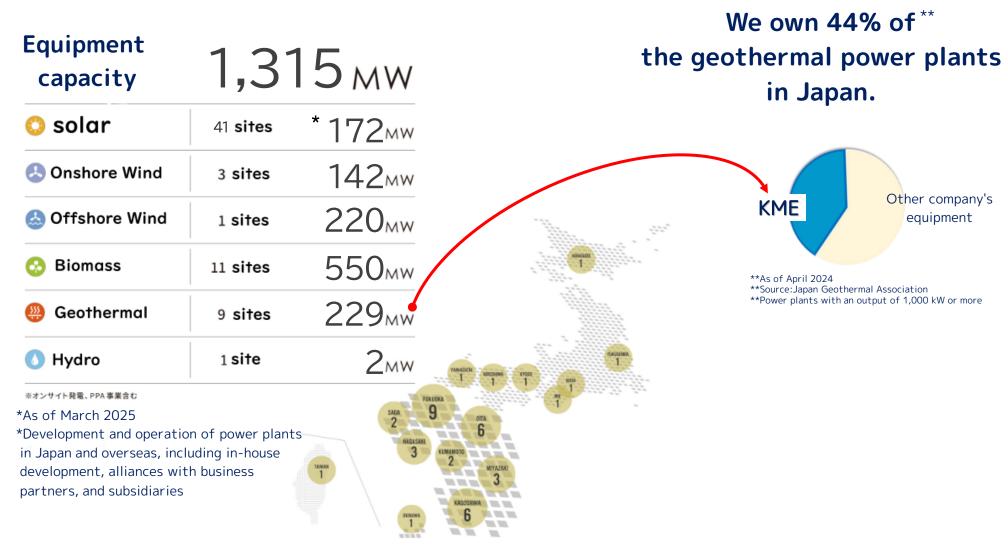
- Conducting business based on **in-house development and long-term ownership of** renewable energy generation facilities.
- Conducting research, operation, and sales of five major renewable energy sources (solar, wind, biomass, geothermal, and hydro).
- Achieving **high efficiency** and **high operational rate** by leveraging the technical expertise the Kyuden Group has built up over 100 years in developing and operating power source facilities.



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

# Renewable Energy Development Status

# In operation + Under Construction + Planned



## Hibikinada Offshore Wind Farm

- Kitakyushu City launched the Green Energy Port Hibiki concept in 2011 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 30 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 Co., Ltd.

[Investors: Kyuden Mirai Energy, J Power, Hokutaku, Saibu Gas, Kyudenko]

- Power generation: 220MW (9.6MW x 25 units)
- Project scale: approx. 170 billion yen
- 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	V174-9.5MW
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



Image of wind turbine
\*Photo courtesy of Vestas Wind Systems
A/S

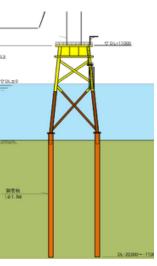


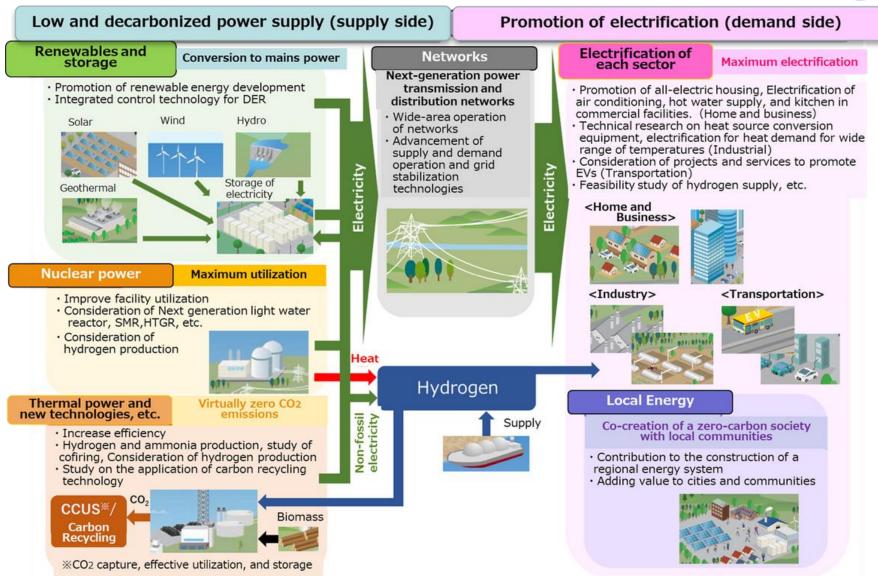
Image of a pile-type jacket foundation

#### 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.

# yuden Group Carbon-Neutral Vision 2050





# Kyuden Mirai Energy 2050 Vision

To the world's leading green energy company that is pioneering the future

Employee Engagement Index

Highest domestic ranking of AAA



Kyushu to be a carbon-negative region

Expanding technology and models to the world

**EBITDA** 

Over 150 billion yen

# Yuden Mirai Energy 2050 Vision

#### Venture into new businesses

Supply next-generation energy to all sectors.



# Evolution of the Renewable Energy Business

Provide one-stop services for the development and operation of renewable energy.





# **Expansion of existing businesses**

Make the most of the abundant resources in Kyushu and Japan.







current 2030

2050

# Making renewable energy the main source of power through 3C's

We define the 3C's as "Creation," "Continuation," and "Coordination," and are working to make renewable energy the main source of power.

I: Creation
Expansion of
Renewable Energy Business

III: CoordinationHarmonization ofsupply and demand

II: ContinuationContinuation of RenewableEnergy projects

I Creation	<ul> <li>Create and expand renewable energy sources both in Japan and abroad, fostering harmony with local communities.</li> </ul>
II Continuation	• Ensure the long-term stable utilization of renewable energy, anticipating post feed-in tariff (FIT) .
III Coordination	<ul> <li>Maximize renewable energy use through efficient supply-demand management and grid stabilization.</li> <li>Address challenges by offering environmental solutions and services that cater to the specific needs of our customers.</li> </ul>

## Dur mission, our future

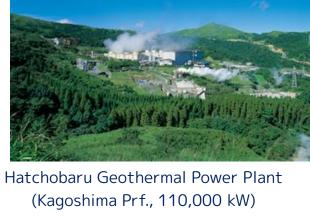
- The Kyuden Group takes on the challenge to achieve carbon neutrality by 2050 and plans to achieve "carbon negativity" as early as possible before 2050.
- We aim to create a sustainable society.



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



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





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., 1,100kW)