

# RENEWABLE ENERGY BUSINESS

We work to create a sustainable society by expanding the wind power generation business.



President, Representative Director,  
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Masayoshi Noji

## Business Overview

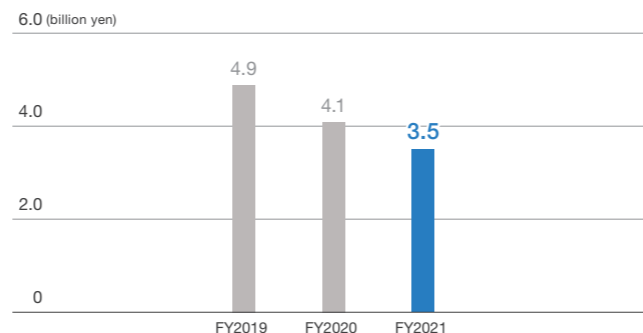
Cosmo Eco Power, a Group company, is working in the Renewable Energy Business as a pioneer in the wind power generation business in Japan. Since its founding in 1997, the company has been working to build a system capable of developing wind power generation sites and designing, constructing, operating and maintaining wind power plants in an integrated manner. Taking advantage of this strength, we are working to expand our onshore wind power generation business further. At the same time, we are actively engaged in offshore wind power generation projects, which are expected to expand in the future.

## FY2021 Results and FY2022 Forecasts

In FY2021, net sales reached ¥13.1 billion (up ¥1.4 billion year on year), marking a record high, due to the smooth operation of new onshore wind power generation sites. However, regarding costs, upfront costs (including labor expenses and expenses for development surveys) increased due to the full-scale development of offshore wind power generation facilities. As a result, ordinary profit decreased ¥0.6 billion year on year, to ¥3.5 billion.

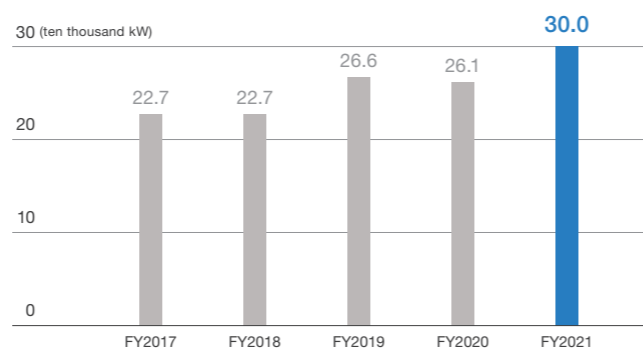
In FY2022, we expect ordinary profit to decline ¥0.5 billion year on year, to ¥3.0 billion, mainly reflecting an increase in upfront costs related to the development of offshore wind power generation facilities as in FY2021, offsetting the beginning of the operation of a new wind power generation site planned in the second half.

### Ordinary profit



\* Starting at the end of FY2020, we disclose information about the Renewable Energy Business as a single segment.

### Wind power plant capacity



## Identified risks

- Changes to government policies and institutions related to renewable energy
- Decline in profitability resulting from intensified competition
- The offshore wind power generation industry is still in its infancy.

## Opportunities

- Renewable energy will be the main power source towards the achievement of carbon neutrality by 2050.
- Government-led promotion of wind power generation (including power grid development, changing rules on power feeding, and the easing of regulations)
- Expansion of offshore wind market (Establishing projects with a total capacity of 10 GW by 2030 and projects with a total capacity of 30 GW to 45GW including floating windmills by 2040)\*1
- Expansion of the onshore wind market (Expected total capacity: 15.9 GW\*2 in 2030)

\*1 Source: Energy Kihon Keikaku (Basic Energy Plan) published in October 2021

\*2 Source: 2030 nendo ni okeru energy jukyu-no mitoshi (kanren shiryō) (Outlook for energy supply and demand in FY2030 (related document)) published in October 2021

## Strengths

- Onshore**
  - Japan's first company specialized in wind power generation with a track record of more than 20 years of operation
  - Already operating projects with a capacity of 300,000 kW, we can expand further by building on our expertise.
- Offshore**
  - Leading the industry, we are advancing multiple projects including offshore sites under construction and projects under development.
  - Partnership with Iberdrola and acquisition of expertise in overseas operations

## Business strategy

A risk in the business environment is the fact that policies and institutions related to renewable energy are expected to continue changing as the energy policies of the Japanese government change greatly centered on the keyword, "decarbonization." We need to respond appropriately to these changes.

For example, the plan is that the feed-in tariff (FIT) scheme, which was introduced in 2012 to expand renewable energy, will start shifting to the feed-in premium (FIP) scheme in FY2023 with the goal of making renewable energy the main form of energy and commercializing it.

Unlike FIT, under which electricity was sold at a fixed price, FIP is linked to the market price, so electricity prices will change depending on supply and demand. We need to respond even more appropriately than before, such as by devising creative measures to generate more power in the demand season.

In addition, as the future potential of the wind power business becomes more widely known, new companies are entering the market one after another. This trend is especially remarkable in the offshore wind power generation market. Intensified competition is likely to reduce the profitability of the business in the short term.

Above all, we believe that we need to advance projects by managing risks appropriately, considering that the offshore wind power industry in Japan is still in its infancy.

On the other hand, opportunities in the business environment include the government's policy of expanding wind power generation as much as possible to achieve carbon neutrality by 2050, which leads us to expect that onshore wind power generation will expand faster than ever due to power grid development, the easing of various regulations, and other changes. It is also expected that the number of large-scale offshore wind power generation projects will increase rapidly due to the development of new laws.

Cosmo Eco Power is Japan's first company specialized in wind power generation, which boasts the third largest share of the domestic onshore wind power generation market. We are striving to expand our business further by expanding our onshore wind power business and leveraging our expertise in the business in offshore wind power generation. Additionally, in the project off the northwest coast of Aomori Prefecture (Sea of Japan off the Coast of Aomori Prefecture (South Side)), in which Cosmo Eco Power is the largest equity investor, we have formed a partnership with Iberdrola,\* the world's largest company operating wind power generation facilities. Through this, we are striving to improve business viability and increase our competitiveness by acquiring the expertise of the overseas partner.

\* A major electricity enterprise in Spain, which is a world-leading company in terms of the scale of wind power generation facilities it possesses





## Competitive advantages

### Relationships building with local communities and industry-leading availability of wind turbine

Cosmo Eco Power was established in 1997 as Japan's first company specialized in wind power generation. Since then, we have been working to build a system serving the entire wind power generation process, from site development to the design, construction, operation, and maintenance of power plants. We boast the third largest share of the domestic onshore wind power generation market. To date, we have constructed wind turbines in more than 25 areas by advancing the development of projects together with the local people involved. We aim to be a company that operates its business by striving to have its projects understood by local people, always with respect for them, and overcoming worries and issues together with them. As a result, we have built good relationships with the local people in the areas where we have developed wind power plants to date, something that we are proud of.

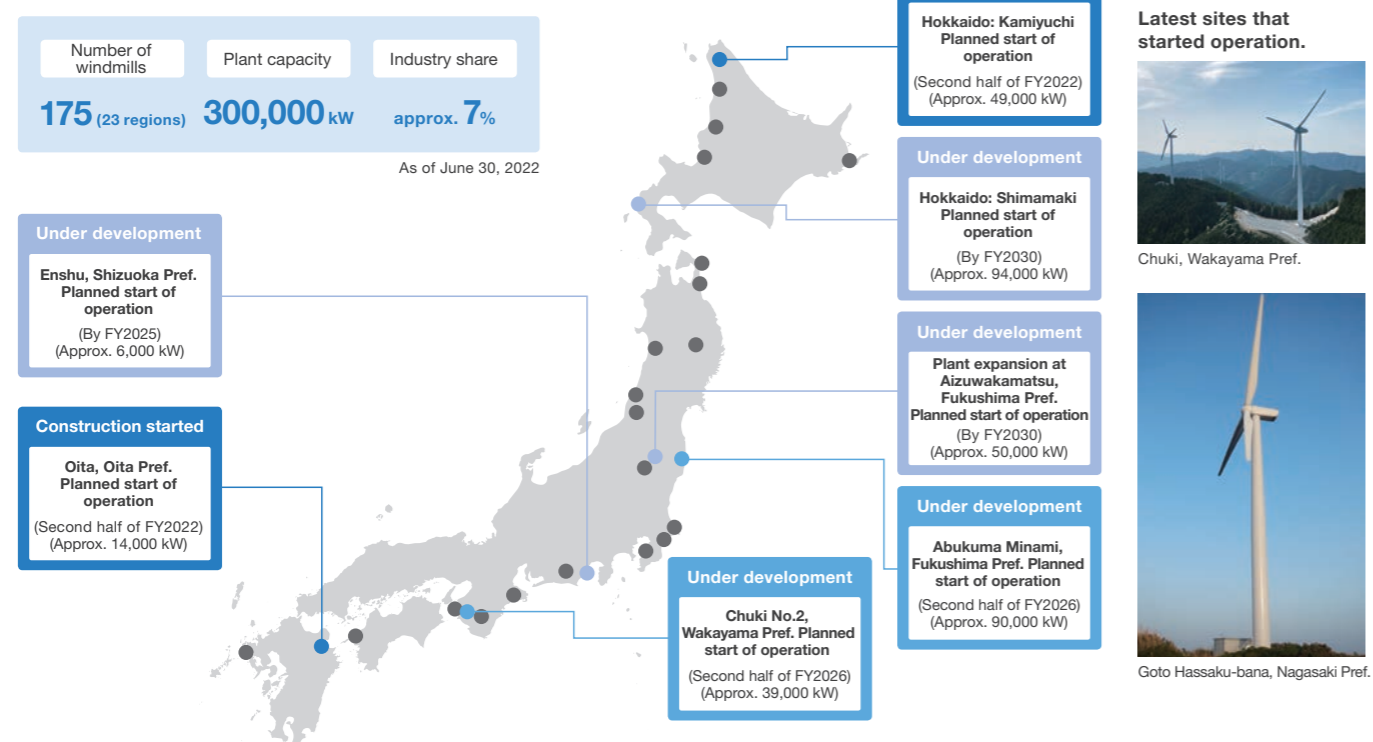
These achievements and strengths are also leveraged in offshore wind power projects that are being newly expanded. We are advancing offshore wind power projects in a locally based manner, aiming for co-existence and co-prosperity with local fishery industry and the people of the local community in each candidate area. We aim to achieve mutual development with local communities by engaging sincerely with them in addition to converting local wind resources into clean energy.

Further, Cosmo Eco Power has cultivated high-level technological

capabilities which enable it to maintain its own wind turbines leveraging its 25 years of experience. It improves its technological capabilities by identifying the causes of problems and taking measures to steadily prevent their recurrence. We have to date introduced a system which stops wind turbines automatically when a lightning strike is detected, a system which predicts failures based on vibrations, and other systems. We strive to reduce wind turbine downtime by preventing failures, identifying errors and resetting turbines immediately using a 24-hour monitoring system. We have continued to steadily implement efforts to prevent and handle failures. As a result, Cosmo Eco Power is able to boast of industry-leading availability of wind turbine.

In recent years, we have been engaging in joint research with FUJIFILM Corporation for the remote monitoring of offshore wind turbines for abnormalities caused by lightening strikes and other phenomena. We aim to improve the efficiency of maintenance and operation by enabling the remote monitoring of wind turbines to discover small scratches on their surfaces. There are new challenges in offshore wind power, such as the inspection of marine equipment and the size of wind turbines, which we never experienced previously. However, we will push forward with the application of IT, in addition to leveraging our experience to date, thus making maintenance one of the pillars of our competitiveness.

### Map of onshore wind power plants in Japan



## Initiatives and achievements under the medium-term management plan

### Accelerating the growth of onshore wind power generation and advancing multiple offshore wind power generation projects

To promote renewable energy, which falls into the "New" of the basic Oil & New policy of the Sixth Consolidated Medium-Term Management Plan, we aim to achieve an onshore wind power generation capacity of 500,000 kW quickly. We are also advancing the development of offshore wind power generation sites for continued growth.

At present, the development of onshore wind power generation sites has been steadily progressing. In FY2021, we began operating the 48,000 kW Chuki Wind Farm in Wakayama Prefecture in April. In addition, in FY2022, we plan to start operating the 49,000 kW Kamiyuchi Wind Farm in Hokkaido and the 14,000 kW Oita Wind Farm in Oita Prefecture.

Further, we are steadily advancing our FIT-certified projects, such as the 90,000 kW Abukuma Minami Wind Farm in Fukushima Prefecture and the 39,000 kW Chuki No.2 Wind Farm in Wakayama Prefecture. In addition, in FY2021, there was an invitation for bids for 1 million kW onshore FIT projects, and we won bids for three projects totaling approx. 150,000 kW. Because of these initiatives, the early achievement of the 500,000 kW capacity target is now in sight, and we aim to achieve a capacity of at least 900,000 kW by 2030.

Additionally, we have also made great progress in offshore wind power generation. Specifically, the Vision for Offshore Wind Power Industry was created by a public-private council in 2020. In the Vision for Offshore Wind Power Industry, the government set goals of establishing new offshore wind power generation projects with a capacity of 10 million kW by 2030 and 30 to 45 million kW,

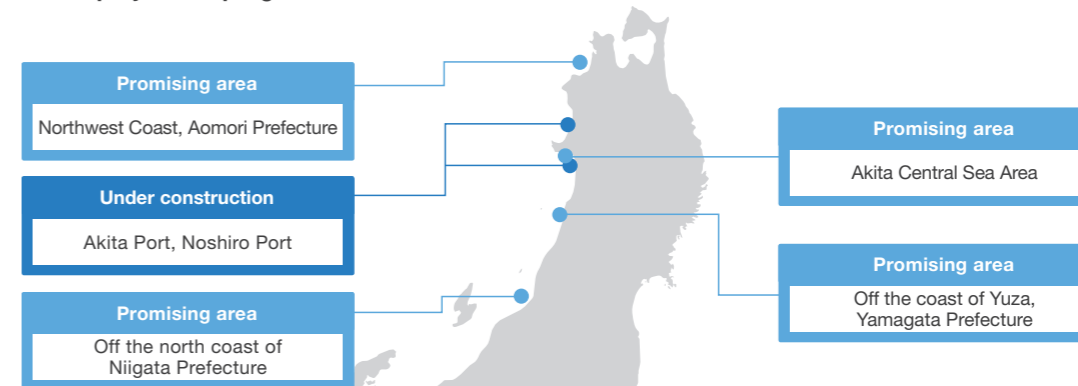
including floating wind turbines, by 2040. Thus, significant growth in offshore wind power generation is anticipated.

Prior to these moves, the Cosmo Energy Group began moving forward with multiple offshore wind power generation projects, mainly on the Sea of Japan side of the Tohoku region. As a result, it is planned that the 140,000 kW wind farms off Akita Port and Noshiro Port in Akita Prefecture which are under construction at present will start operating within FY2022. In addition, as of July 2022, we are considering projects as an industry leader with an understanding of the local people in four of the eight sea areas that are designated as promotion zones or promising zones, including the project off the northwest coast of Aomori Prefecture the Sea of Japan (South Side) off the Coast of Aomori Prefecture off the Coast of Aomori Prefecture, the project in the Akita central sea area (off the coast of Oga City, Katagami City, and Akita City, Akita Prefecture), and the project off the coast of Yuza, Yamagata Prefecture (off the coast of Yuza Town, Yamagata Prefecture).

The operator of the project in each sea area is to be selected from applicants. We will make preparations for the public tender. With these initiatives, we will establish a foundation for offshore wind power generation business as well, aiming to achieve a wind power plant capacity of at least 600,000 kW by 2030.

The Cosmo Energy Group will achieve a wind power plant capacity of more than 1.5 million kW, including both onshore and offshore plants, by 2030, aiming to be the leading company in wind power generation.

### Offshore wind projects in progress



### Process of selecting the operator in a general sea area and progress of each project

