

New Horizons for Cosmo Oil

Power Generation Business

There are rising expectations for renewable energy as a domestic and environmentally friendly energy source that can address social issues such as natural resource depletion, energy supply stability, and global warming. Further development is expected for wind power in particular, which is comparatively low cost and can also generate power at night. The Cosmo Oil Group has built new wind farms, embracing the challenge of the renewable energy business to help build a more sustainable society.

Expanding the Business Portfolio with Sustainable Energy

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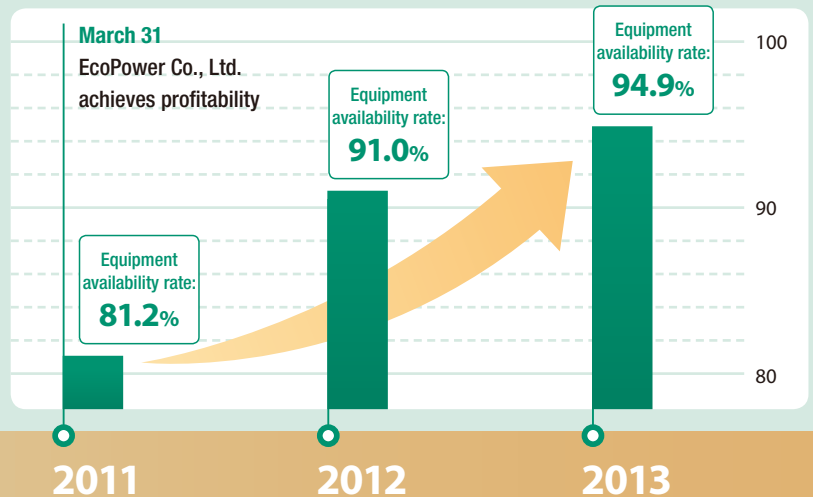
Maximizing output from existing equipment

Working to enhance maintenance in order to improve operating rates and reduce downtime due to malfunctions.

March Acquisition of EcoPower Co., Ltd

Cosmo Oil acquired EcoPower to further develop its wind power business after launching commercial operation of a wind power plant in Sakata City, Yamagata Prefecture in 2004.

March 31 EcoPower Co., Ltd. achieves profitability



Initiatives to improve equipment availability rates

Past issues

- Maintenance technology not yet reliable
- Parts procurement at the time of accidents
- Maintenance measures



Specific measures for enhancing maintenance

- Additional personnel and skill training
- Inventory management for spare parts and development of global procurement channels
- Improvement of repair methods to enable rapid recovery and better maintenance



Solar Power Business Built on Unused Land

In March 2013, Cosmo Oil established CSD Solar, a joint venture with Showa Shell Sekiyu K.K. and the Development Bank of Japan Inc., marking the Company's full-scale entry into the massive-scale solar ("mega solar") power business. Solar panels will be installed on eight sites, including the Company's former oil depots whose operations were ceased due to a direct delivery system from refineries to service stations. The panels were made by Solar Frontier K.K., a subsidiary of Showa Shell Sekiyu. The eight mega solar sites, which will start operation sequentially as construction is completed, are expected to output a total of 24,000 kW.

Through its mega solar power business, the Cosmo Oil Group will work to create a safe, clean and sustainable energy supply in Japan.

Overview of the Mega Solar Business

- Managed by CSD Solar
- Generation capacity: Approx. 24,000 kW
- Uses panels manufactured by Solar Frontier
- Eight sites to be constructed, including on the former sites of Ohgishima Oil Terminal (jointly owned by Cosmo Oil and Showa Shell) and the Cosmo Oil Hitachi Depot



Mega solar power plant (provided for illustrative purposes only)

Strengthening the Wind Power Generation Business

After the Great East Japan Earthquake, the Japanese public has higher expectations for renewable energy. The business environment has also changed significantly with the introduction of a feed-in tariff (FIT)¹ scheme in July 2012, resulting in an increasing number of renewable energy installations.

The Cosmo Oil Group has targeted business portfolio expansion in its new Medium-Term Management Plan. Renewable energy, and wind power generation in particular, is one of the pillars of this growth strategy. In 2010, the proven expertise of EcoPower Co., Ltd. in the

wind power business was brought into the Group. EcoPower achieved profitability in just one year, helping to solidify the Group's efforts to build a new growth foundation and expand wind power generation.

¹ **Feed-in tariff scheme** is a government initiative requiring electric utilities to purchase renewable energy (wind, solar, hydro, geo-thermal and biomass power) at a fixed price in order to promote renewable energy production. The additional cost to the utilities is partly passed on to consumers in higher electric rates.

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New wind farms

Studying sites with good wind conditions in Japan, and building consensus with local governments and residents for the establishment of new wind farms.

October:
Wakayama Prefecture
Scheduled start of the Hirogawa and Hidakagawa wind farms

Estimated output:
20,000 kW

2014

March:
Fukushima Prefecture
Scheduled start of Aizu Wakamatsu Wind Farm

Estimated output:
16,000 kW

2015

Mie Prefecture
Scheduled start of a project in Watarai

Estimated output:
50,000 kW

2016

Also studying the development of wind farms in other locations

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Potential for offshore wind farms using floating turbines



As an island nation, Japan has a natural interest in offshore wind power. EcoPower participates in the Ministry of the Environment's Floating Offshore Wind Turbine Demonstration Project as an outside partner, seeking to gain expertise in this area.

Floating Offshore Wind Turbine Demonstration Project

Will generate wind power offshore using floating wind turbines (a 100 kW small-scale test plant and a 2,000 kW demonstration plant)
Location: Offshore Kabashima Island, Goto City, Nagasaki Prefecture
Photo: 100 kW small-scale test plant