

GR JAPAN INDUSTRY INSIGHT

CLOSE UP: Energy

Japan's EEZ offers new frontier for offshore wind development

Key Takeaways

- Despite a recent legislative setback, the Japanese government is keen to promote expansion of offshore wind development into its exclusive economic zone (EEZ)
- Key challenges include establishment of relevant industries and supply chains, reducing costs, enhancing technical capabilities, local stakeholder coordination, grid development, and training personnel
- Though still in a nascent stage, successful implementation could transform Japan's clean energy landscape

In October 2020, then Prime Minister Yoshihide Suga unveiled an ambitious goal of realizing net-zero carbon emissions by 2050. To achieve this target, the government aims to aggressively decarbonize Japan's electricity sector, which is heavily reliant on thermal power generation. The 6th Strategic Energy Plan (SEP) adopted in 2021 positioned wind power as a pillar of these efforts, calling for 6% of Japan's energy to be wind-generated by 2030—a roughly fourfold increase from the target set under the 5th SEP.

Offshore wind power (OWP) in particular is considered a “trump card” for promoting decarbonization. The 6th SEP sets a goal of designating OWP projects equivalent to 10 GW of power by 2030, with an additional goal of 30-45 GW by 2040. In December 2021, the government announced the results of the first round of bidding for development of large-scale fixed-bottom OWP projects in Japan's territorial waters, followed by a second round completed in March 2024. The government is currently reviewing a third round of bids.

However, areas suitable for development within Japan's territorial waters are limited, with the bulk of projects concentrated in the Hokkaido and Tohoku regions. The government has therefore called for the development of floating OWP farms (as opposed to fixed-bottom farms, where turbines are rooted in the seabed) in the country's vast exclusive economic zone (EEZ).

The Diet aimed to pass legislation during the 2024 ordinary session that would authorize OWP development in the EEZ. While the House of Representatives unanimously approved the bill, the ordinary session concluded before the House of Councillors could hold a vote. As a result, the bill will likely be considered during the Diet's extraordinary session scheduled for autumn 2024.

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The government has lofty ambitions for offshore wind development





The delay marks a setback for agencies and developers hoping for rapid progress and will likely affect the timeline for implementation.

The government has identified three key priorities for introducing floating OWP into the EEZ:

- Development of regulatory regimes
- Establishment of technology for cost reduction and mass production
- International collaboration on R&D and standard setting

Relevant ministries are thought to be developing regulatory frameworks ahead of final approval of legislation. A new domestic industry association, the Floating Offshore Wind Technology Research Association (FLOWRA), will play a leading role on the latter two priorities alongside the government. Given the growing emphasis on floating OWP and its high-profile membership, which includes major utilities and project developers, FLOWRA is primed to emerge as a key stakeholder in the coming years.

The government and industry must overcome a range of challenges to realize their vision for floating OWP. In addition to enacting regulatory frameworks, Japan must cultivate specialized shipping, construction, and parts and equipment industries, while reducing costs and training personnel. The government aims to domesticate supply chains for OWP projects and is targeting a 60% domestic procurement rate by 2040. To promote technical development, the Ministry of Economy, Trade and Industry has announced a slate of floating OWP initiatives, including demonstration projects off the coasts of Akita and Aichi Prefectures. Coordination with various stakeholders, such as fisheries associations, and development of grid infrastructure connected to the mainland will also be critical.

While still in a nascent stage, Japan has marshalled considerable resources toward realizing its OWP ambitions. Successful development of floating OWP could transform Japan's energy landscape, while offering abundant opportunities for private-sector involvement.

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