

Third workshop on offshore wind development in Japan, Taiwan and Vietnam: Japanese perspectives on the challenges of port development

- Date : September 29, 2023 16:00-18:00 (JST)
- Host : Institute for Future Initiatives (IFI), The University of Tokyo
- Venue : Online

<Highlights of keynote presentation>

Mr. KAWASAKI Takayuki, Port and Harbor Bureau, Kitakyushu City, Japan
“Green Energy Port Hibiki” Project Past Twelve-Year Foot Print and Future

- Introduction of Kitakyushu
 - Located as a gateway of Japan to East Asia
 - Industrialization started in 1889, including steel, petro-chemical, robotics, sanitary, automobile, and chemical material recycling industries
 - Port capacity includes RoRo/PCC, Multi-purpose terminals (container and conventional), air cargo terminals, and container terminals
 - Industrial pollution escalated in the 1950s, but the city has since recovered and was nationally selected as a Eco-model City in 2008
 - Also listed in OECD’s “Green Cities Program” and the “SDG’s Future Cities” of Japan
- National government policy
 - Targets: set 10 GW of clear targets by 2030, 30-45 GW by 2040 (includes floating)
 - Targets set by industry: Increase domestic content to 60% by 2040
 - Broad supply chain will create ripple effects in the local economy
 - Base port (=installation port) construction underway at four locations, and a review of the necessary functions and specifications of ports in the future is ongoing
 - Kitakyushu is the only port in West Japan
- Green Energy Port Hibiki: started in 2011, aiming to create new green energy industries leveraging the port
 - Numerous renewable energy projects
 - Onshore wind commissioned in 2003, now in the decommissioning process (area open to public)
 - Wind/PV hybrid power station with 2.5 MW PV and 5 MW wind (multiple components incl. turbine components supplied within Kitakyushu)
 - Local companies have good track record of handling large/heavy components
 - Offshore wind
 - Largest offshore wind project (total capacity 220,000 kW, marine area 2,700 ha), developed by Hibiki Wind Energy Co., Ltd.
 - Development initiated by City Government, holding public tender in 2016
 - Full commercial operation from 2025

- Supported by existing wind industry cluster for manufacturing (turbine components, marine structures, materials) and other services (jack-up vessels, CTV, floating cranes, cable laying, marine construction, heavy load logistics)
 - Aiming to create a wind industry hub with manufacturing, installation, O&M and logistics services
 - More than 50 ha of land reclaimed for commercial and demonstration use of offshore wind, with base port construction ongoing
- Challenges and further goals
 - Increasing the size of offshore turbines at an accelerating pace
 - More collaboration between public-private actors may be necessary to overcome this challenge
 - Developing next-generation floating offshore wind turbines
 - Hibiki demonstration project developed in cooperation with the national govt, in operation since 2019
 - Kitakyushu has been studying supply chain development
 - To be a value increasing port, Kitakyushu will leverage its strengths as an industrial hub and port to become a center for sustainable offshore wind development

Note) For details of the presentation and discussion points, see the uploaded slides.

<Q&A to Ministry hearings>

Q: What does “Japan does not have a central player at the domestic level” mean?

- It likely refers to the situation that, unlike the automobile or other major industries, there is no domestic player that is already globally competitive.
- The validity of this reasoning is questionable since if there already were a global key player in Japan, the need for an industrial strategy would be totally different.

Q: Are different Ministries and industry all aligned in terms of offshore wind development policies?

- The private sector is of course, the main player in development and is likely aligned with government goals, with industrial stakeholder engagement playing an important role, even though there may be wide differences in the agenda or visions of each company. Regarding inter-ministerial coordination, there may be an issue there, as mentioned in the hearings. As a researcher conducting the hearings, I thought that there is sectionalism for example for manufacturing port development policies, since the Ministry for economy thinks it should be initiated by the port authorities, but the port authorities think it is an industrial policy issue.

<Q&A to Kitakyushu presentation>

Q: What is the largest hurdle to realizing the visions of the Hibiki project?

- The speed of the increase of turbine size is the largest hurdle, as it is difficult to think about the future and form our plans. As a personal opinion, enhanced public-private cooperation and communication, maybe also internationally, could be a key to this issue.

Q: How is the project financed?

- For the industrial land, the local government covers the cost, for port facilities and quays, the national government, and for factories and other manufacturing/service facilities, the private sector.

Q: How many projects are necessary for the project to be continuously operational?

- This is different for installation uses and manufacturing uses. For installation, Kitakyushu is the only nationally designated port in West Japan, and there are two projects already decided on, and another two likely to be coming up. For manufacturing ports, there is extensive discussion with manufacturers and related service providers but there is no concrete project pipeline yet.

Q: Bringing manufacturing to Japan means there will be a cost increase, especially considering the competitiveness of Chinese manufacturers. How/who will bear this cost increase?

- A difficult question, but ultimately, it will be the same as other industries where the balance of logistics, cost, and competitiveness will result in the best supply chain, involving players from multiple nations.
- From a manufacturer's perspective, I agree with Mr. Kawasaki's answer but would also like to add that local suppliers are not necessarily too expensive, even compared with Chinese players, if you consider the costs of transportation, the geopolitical risks, and stability of supply, etc. Global OEMs are also now more cautious about supply chain dependency on China, even though they are strong in terms of cost, backed up by the vast domestic market and government backup. In this sense, Kitakyushu is a very potent industrial hub for developing Japan's industrial capacity.

<Highlights of Discussion>

Q: What other forms of bottom-up (sub-national) cooperation are there?

- The lack of installation vessels will be an issue for both Taichung and Kitakyushu, so there may be room for cooperation, including considerations at the national level for relaxation of cabotage laws, priority berthing, etc.

Q: Is the "top-down/bottom-up" model appropriate?

- There will always be a mix of the top-down and bottom-up, so it would be better to include that in the model.
- What does "local initiatives" of the "bottom-up" model mean? What localities does this model imply? Kitakyushu is a very special case, it would be difficult to expect initiatives from other localities, and we should be thinking about government-led approaches such as those in Taiwan. Especially for manufacturing, national-level coordination is crucial.
- The point of this top-down/bottom-up dichotomy is to consider whether the "top-down" goal of joint optimization of the supply chain can be achieved or made easier through other "bottom-up" initiatives. It may be necessary to think of a different way of modeling this idea, including different wording.

Q: Issue of ambiguity of who has the initiative for development in the Japanese scheme.

- The analysis on slide no. 19 on the ambiguity of the Japanese scheme is a very important point. In Japan, since the initiative is left to localities, it is unclear which area will be developed when, and there is little clarity of the timeframe and schedule of development. This makes it difficult for MLIT to form plans for port development. Deciding everything based on local initiatives and auctions is not an ideal scheme. This is an important issue that should be at the basis of the discussion.
- The question asked earlier about the expected pipeline of projects relates to this point. If this overall development schedule is unclear, it is difficult for all stakeholders.
- At the same time, maybe the Taiwanese scheme of the government deciding everything is not ideal either. If there is a clear plan laid out by the government, each port should be able to more organically decide what is necessary for themselves.