Current Status and Challenges of Human Resource Development towards the Industrialisation of Japan's Offshore Wind Power Based on the Perspective of the Diamond Model

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Thesis Abstract

At present, the construction of a supply chain for Japan's offshore wind power industry is still ongoing. Additionally, although it has a very broad base and high potential to become a new driving industry in Japan, the development of diverse human resources needed for industrialisation lags behind. Therefore, in this article, the author points out four factors that affect the promotion of offshore wind power in Japan and discusses the issue of developing human resources for the industrialisation of offshore wind power based on Porter's Diamond Model. The results reveal the following: first, relationships with local companies, universities, and research institutes, which are a type of resource in the areas where offshore wind power will be established, are important. Second, because Japan will need copious offshore wind power human resources by 2050, challenges include promoting the enhancement and expansion of training facilities and training instructors, etc., for offshore wind power, which has begun to be initiated in various regions, for the development of human resources and supply. Third, in developing human resources for offshore wind power, aside from the business model of offshore wind power generation operators and construction operators, the role of small and medium-sized companies that are responsible for the supply chain will be important. Fourth, although companies involved in onshore wind power human resource development and supply are currently delving into offshore wind power, the human resource development business aimed at the offshore wind power industry must also take floating offshore wind power into consideration, and it will be established as an independent industry. Fifth, although a framework for developing future human resources in the offshore wind power industry with ECOWIND at its core has been presented, going forward, the government will need to provide strong support for human resource development policies for offshore wind power. This will include the standardisation of training programmes, promotion of collaboration with local industry, and the utilisation of universities and technical colleges. Sixth, as the importance of energy security increases because of the global turmoil caused by the recent emergence of climate change issues, the Russia–Ukraine war, and

the Israel–Gaza conflict, among others, human resource development for offshore wind power, which is expected to become the baseload power generation, is important for rebuilding local industries as well. The abovementioned six points are discussed.