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## Roadmap to Offshore Wind Power Development and Policy Recommendations for Vietnam

Today, the Danish Energy Agency and the World Bank Group presented their studies and recommendations on the development of a new offshore wind sector to the Vietnamese government. The presentation takes place in a two-day international conference just ahead of the release of the new Power Development Plan 8 outlining the pathway for the next ten years of power sector development in Vietnam with a vision for 2045. The conference took place both offline in Hanoi and online through a video link between Hanoi, Copenhagen and other locations in the world and attracted broad participation

of Vietnamese decision-makers and sector managers both at the central and provincial levels, international and local professionals from the offshore wind industry and supply chain, and the private sector.

With a massive estimated potential of 160 gigawatt offshore wind power within the distance to shore from 5 km to 100 km, Vietnam has favourable conditions to create an offshore wind industry. Long coastline, ample wind resources and political will are key parameters to creating a green and forward-looking industry that can supply huge amounts of green electricity at attractive prices while creating new jobs and attracting investments. Studies carried out by the Danish Energy Agency and the World Bank, also recommend that 10 gigawatt offshore wind power could be in operation in Vietnam already by 2030.

At the conference, the consultants presented their studies on the following aspects: assessment of potential and grid transmission capacity, the current local supply chain capacity, opportunities and challenges in offshore development, policy and management experience from countries with advanced offshore industry as well as recommendations for a roadmap to offshore wind power development. The studies will be finalized taking into consideration the opinions and suggestions from the conference participants and will be submitted to the government of Vietnam in the near future. The outcome of the conference will be important input for shaping the policy targets in the Vietnamese national Power Development Plan 8, which is the most important policy guiding Vietnam's development in the energy sector in the next 10 years with a vision for 2045.

"The government of Vietnam is always committed to the development of a sustainable energy sector and the timing now is very critical with our national Power Development Plan 8 preparation by the Ministry of Trade and Industry being underway. We, therefore, highly appreciate advice and recommendations from Denmark and the World Bank, our long term partners who have possessed many years of experience and knowledge in renewable energy ahead of us", said Mr. Hoang Tien Dung, Director General of Electricity and Renewable Energy Agency, Ministry of Industry and Trade.

The Danish Energy Agency and the World Bank Group presented the following key recommendations in the "Input to Roadmap for Offshore Wind Power

Development in Vietnam" report:

• Clear, long-term and progressive capacity deployment targets are

essential to coordinate policies on government level and give the industry the needed confidence to make long-term investments in infrastructure, supply chains and technology.

- A sound legal framework and a financeable Power Purchase Agreement in line with international practices are key to offset new market risks and help to open the door to capital investment at the level needed to build a mature offshore industry in Vietnam.
- Mandate a government agency to act as a single point of contact to streamline the permitting and consent processes for offshore wind projects, thus ensuring timely delivery of projects.
- Award of large-scale demonstration projects to be commissioned in phases in order to kick-start the sector.

The "Input to Roadmap for Offshore Wind Power Development in Vietnam" consolidates the quantitative findings of various background analyses that include resource mapping and site selection, levelized cost of energy (LCOE) estimation and transmission grid analysis, with supplemental information pertaining to regulatory, consent and permitting, support scheme, and supply chain elements to establish recommendations for the development of the sector.

"As Vietnam is keen on moving towards a green transition of its energy sector, offshore wind power will definitely be one of the most cost effective options as proven in many countries, including Denmark. A developed offshore wind industry will not only provide a new source of clean energy and contribute to climate change mitigation but also create a significant number of new jobs for the local people while creating a new maritime economy and attracting significant new investments. The final decision of course fully rests with the government of Vietnam, but Denmark, being a long-term and close partner with Vietnam in the energy sector, is always willing to share knowledge, experience and best practices from our 30 year offshore wind development, as we did at this conference", said H.E. Mr. Kim Højlund Christensen, Ambassador of Denmark in Vietnam.

Director at the Danish Energy Agency, Anton Beck, supplemented: "Offshore wind turbines represent the most potent renewable energy technology with just one 8 megawatt turbine being able to power annual electricity consumption corresponding to more than 43,000 Vietnamese households. We are happy to be able to share our vast Danish experience with offshore wind power with our close Vietnamese partners. Pressing 'play' has been underway for some time, and our Vietnamese partners are both eager to get going and

determined to get it right".

The World Bank has made studies showing the economic benefits of offshore wind power:

"The World Bank studies show important economic benefits of deploying offshore wind at the scale of up to 10 gigawatt by 2030, which can render between 190-700 thousand full time years of employment. It will be important to take these considerations onboard during the development of the National Power Development Plan 8 is navigating towards", said Mr. Rahul Kitchlu, Program Leader for Infrastructure and Energy Sector Coordinator, World Bank.

The workshop also addressed a wide range of concerns regarding offshore wind development, ranging from the perspective of the developers, the supply chain as well as investor interests. The dialogue provided a holistic input to the future of Vietnam's offshore wind development.

## **Background information**

- In 2013, Vietnam and Denmark entered a long-term cooperation agreement with the purpose of promoting a transition in Vietnam to a low-carbon economy. It is financed by the Danish government and administered by the Danish Energy Agency.
- The Danish Energy Agency cooperates with the Ministry of Industry and Trade (MOIT) in Vietnam through the joint Energy Partnership Programme (DEPP) between Vietnam and Denmark. The program is currently in its second phase running from 2017 to 2020 and covers energy efficiency in the industrial sector, integration of renewable energy into the power grid and long-term scenario modeling of the energy sector.
- The next phase DEPP III will be a five year programme (2020-2025)
  planned to start from November 2020. It will include offshore wind as a
  component and a work stream focused on developing economic incentive
  schemes for energy efficiency improvements in the industrial sector in
  Vietnam.
- The Danish Energy Agency's Centre for Global Cooperation partners with 16 other countries, which in total account for more than 60% of the global COI emissions. The aim is to share Danish experiences on shaping an energy system that combines a green, low-carbon and reliable energy supply with economic growth.

## Contacts

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