

Press Release

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Successful construction start at Northland Power's offshore wind farm Deutsche Bucht

First foundation installed on schedule

HAMBURG, 4. September 2018 – Yesterday, the 269 MW Deutsche Bucht offshore wind project successfully installed the first of 31 steel foundations (monopile and transition piece). This marks the successful start of construction for the project, located in the German Exclusive Economic Zone, more than 100 kilometres from the German mainland. With an investment budget of approximately 1.4 billion euros, Deutsche Bucht is Northland Power's third North Sea offshore wind farm.

"We are very pleased to have achieved this important milestone," noted Jens Poulsen, Project Director of Northland Deutsche Bucht GmbH. "Thanks to the committed Deutsche Bucht project team and our experienced general contractor, Van Oord, the offshore building phase of the wind farm started on schedule."

Northland Deutsche Bucht has contracted manufacturing and installation of the monopiles and transition pieces from Van Oord. In Cuxhaven, the components are loaded onto the jack-up installation vessel Scylla, supplied by offshore solutions provider Seajacks. The monopiles, measuring an average of 78 metres in length and weighing 1,100 tons each, are delivered from Rostock by transport barge and loaded directly onto the installation vessel. The transition pieces are 26 metres high and weigh more than 300 tons; they were transported from the production site in Spain and offloaded to interim storage in Cuxhaven until installation. The installation vessel transports three monopiles and transition pieces per trip from the marshalling harbour to the offshore construction site, a distance of approximately 200 kilometres (110 nautical miles). Installation of the steel foundations is scheduled to be completed by the end of 2018.

Multi-level noise dampening to protect marine life

Construction of the Deutsche Bucht offshore wind farm is subject to strict regulations and laws. This includes protecting sea life from the noise emissions caused by monopile installation. During installation work, the noise level must not exceed 160 decibels within a radius of 750 metres from the building site. Deutsche Bucht is therefore using a multi-level noise mitigation concept which includes deterrence measures and deployment of both a hydro sound damper (HSD) and a double Big Bubble Curtain. The combined effect dampens underwater sound waves of a wide range of frequencies. The efficacy of the soundproofing systems is reviewed as part of an efficiency check.

33 high-powered turbines supply environmentally-friendly power for 328,000 households

In addition to the 31 turbines installed on monopiles, two of the project's 33 wind turbines will be mounted on innovative Mono Bucket foundations. Mono Buckets comprise a single steel cylinder topped by a shaft and are installed using suction - this enables an installation process with low noise and minimal environmental impact. Deutsche Bucht is the first offshore wind farm to test Mono Buckets as wind turbine foundations in commercial operation.

Once completed, the 269 MW Deutsche Bucht wind farm is projected to produce 1.1 billion kilowatt hours annually, with the capacity to meet the needs of approximately 328,000 households.

Fast facts

Monopile

- Average length: 78 metres
- Diameter: 8 metre foot segment, top segment of 6.5 metres (conical)
- Weight: about 1,100 tons

Transition piece:

- Height: 26 metres
- Diameter (outer): about 6.5 metres
- Weight: over 300 tons

Manufacturing and installation

- Installation and EPCI contractor Balance of Plant: Van Oord
- Installation vessel: Scylla by Seajacks (sub-contractor)
- Manufacturer monopiles (sub-contractor): EEW Special Pipe Constructions
- Manufacturer transition pieces (sub-contractor): Joint Venture Idesa and Windar Renovables

– End of Press Release –

Please find detailed information on the multi-level noise mitigation concept on our website:

<https://www.owf-deutsche-bucht.de/Wind-Farm/>

Picture: First Foundation

Caption: The first of 31 monopile foundation is installed.

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ABOUT WIND FARM DEUTSCHE BUCHT

The Deutsche Bucht offshore wind farm will be constructed about 95 kilometres to the northwest of the North Sea island of Borkum in Germany's Exclusive Economic Zone (EEZ). The power plant with 33 wind turbines of type V164-8.4 by MHI Vestas will provide a grid capacity of close to 269 megawatts. Included in this, as part of a tender by the German Federal Network Agency (BNetzA) an additional 16.8 megawatts was allocated for two pilot wind turbines with the innovative Mono Bucket type of foundation. The Federal Maritime and Hydrographic Agency of Germany (BSH) granted its approval for this pilot project on 8 May 2018. In the future the offshore wind farm with 33 turbines will generate annually after deductions approximately 1.1 billion kilowatt-hours of eco-friendly electricity. This means the Deutsche Bucht wind farm will supply renewable energy equivalent to the annual demand of 328,000 households with an average of 3,440 kilowatt-hours each. Construction of the wind farm is due to commence in summer 2018. Completion of the commissioning phase is planned for the second half of 2019. As the general contractor for the Balance of Plant, Van Oord is responsible for the design, procurement, manufacturing, and installation of the foundations, the substation and inter-array cabling. On behalf of Northland Deutsche Bucht, K2 Management is responsible for project management throughout the construction phase of the wind farm. The offshore wind farm Deutsche Bucht is being built by the project company Northland Deutsche Bucht based in Hamburg, which is 100 per cent owned by Canadian power producer Northland Power Inc. For further information refer to www.owf-deutsche-bucht.de.

ABOUT NORTHLAND POWER INC.

Northland Power Inc. ("Northland") is an independent power producer founded in 1987, and publicly traded since 1997. Northland develops, builds, owns and operates facilities that produce 'clean' (natural gas) and 'green' (wind, solar, and hydro) energy, providing sustainable long-term value to shareholders, stakeholders, and host communities.

The Company owns or has an economic interest in 2,458 MW (2,029 net Northland interest) of operating generating capacity and 269 MW of generating capacity under construction, representing the Deutsche Bucht offshore wind project, in addition to the 1,044 MW (net 626 MW) of grid capacity allocated to the Hai Long 2 and Hai Long 3 offshore wind projects in Taiwan; the Company is pursuing additional growth, with significant opportunities across multiple development markets and technologies. Northland's cash flows are diversified over five geographically separate regions and regulatory jurisdictions in Canada and Europe.

Northland's common shares, Series 1, Series 2 and Series 3 preferred shares and Series B and Series C convertible debentures trade on the Toronto Stock Exchange under the symbols NPI, NPI.PR.A, NPI.PR.B, NPI.PR.C, NPI.DB.B, and NPI.DB.C, respectively. www.northlandpower.com

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