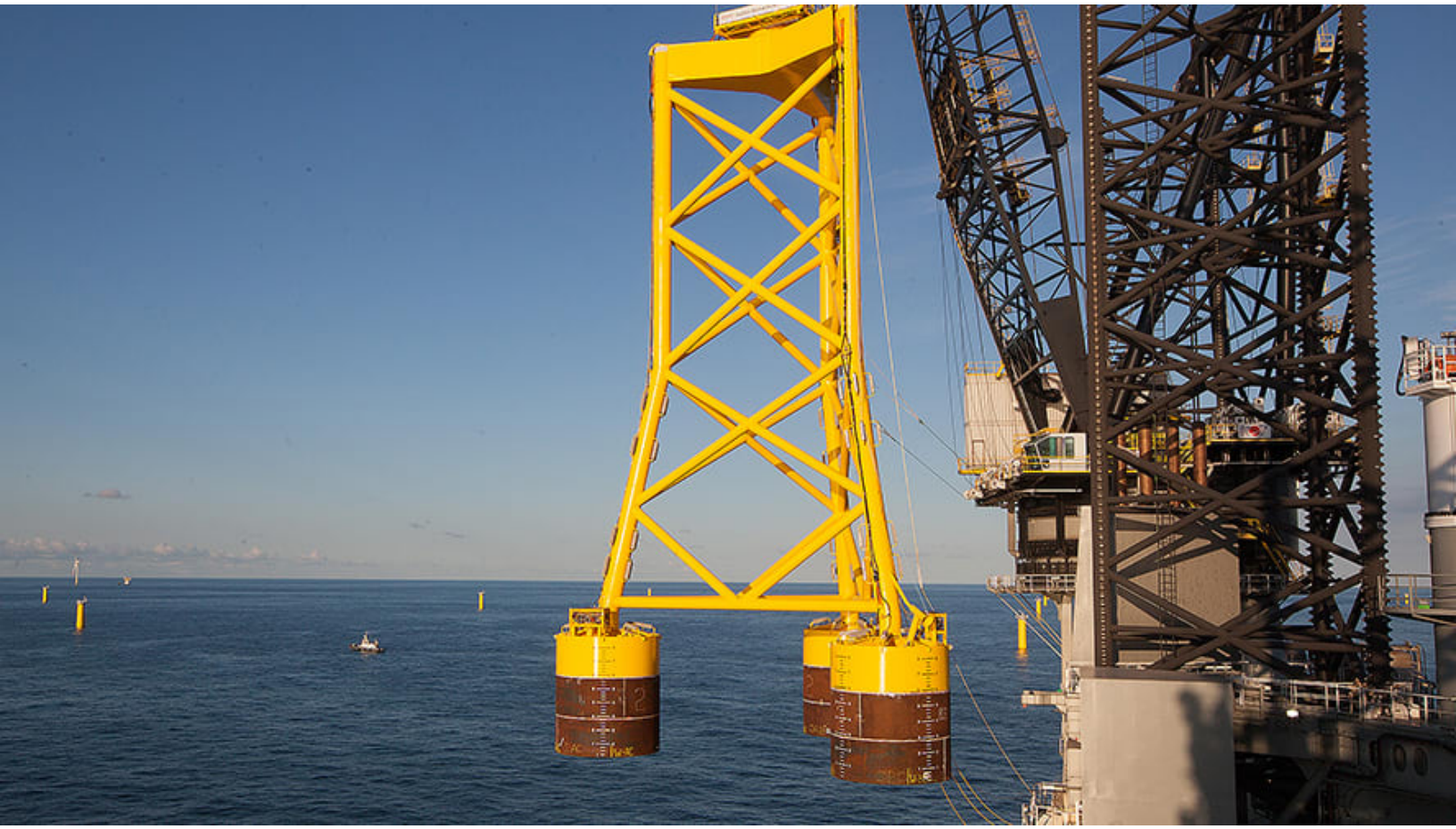

With its unique technology the short suction buckets secures a firm grounding of offshore wind turbines on the seabed. The pictures shows installation on Borkum Riffgrund 1.

Jul 01, 2016 11:15 GMT

NGI in collaboration with FRAMO contracted to install wind turbine foundations for DONG Energy

NGI (Norwegian Geotechnical Institute) and DONG Energy Wind Power recently signed a contract for installation of 20 offshore wind turbine bucket foundations, called Suction Bucket Jackets. The turbines will be placed at the offshore wind farm Borkum Riffgrund 2 in the German sector of the North Sea. Subcontractor to NGI will be the Norwegian firm FRAMO.

The production of renewable energy is increasing each year, and investments in offshore wind power is an important step toward a future without fossil fuels. The 20 turbines will be installed at the wind farm Borkum Riffgrund 2 in the German sector of the North Sea, which is being developed by the Danish company DONG Energy. Each of the enormous eight Megawatt turbines stands 187 meters tall above the sea level and has a wingspan of 164 meters. Such a size requires a steady and safe foundation.

DONG Energy Wind Power installed a prototype of the Suction Bucket Jacket at the German offshore wind farm Borkum Riffgrund 1. However, Borkum Riffgrund 2 is the first offshore wind farm where suction bucket foundations are being used extensively, but the method is well known from other types of offshore installations in the oil and gas industry done by NGI.

- This project reconfirms NGI's role as world leader in offshore geotechnics. The contract with DONG Energy means that NGI will install the foundation after the jackets have been placed on the seabed. We are very pleased to be able to contribute to the green shift towards renewable energy, says Audun Hauge, project manager for NGI.

On safe ground

After the Offshore Contractor has placed the Suction Bucket Jacket on the seabed, NGI will install the foundation by pumping water out of the buckets. This creates a suction/vacuum, which press the buckets into the seabed. These type of foundations are often referred to as suction anchors or suction buckets. Over the years, NGI has played a vital part in the development of this technology.

The Norwegian firm FRAMO is a world leader in pumping systems. NGI and FRAMO have collaborated on the installation of offshore anchoring and foundation elements using suction/vacuum since the 1990s.

- We are looking forward working with FRAMO and DONG Energy, and cannot wait to get started. We will commence with the planning and the production of the equipment instantly. The work with installing the 20 suction bucket foundations on Borkum Riffgrund 2 in the North Sea will take place the first half of 2018, says Audun Hauge.

FACTS:

- Borkum Riffgrund 2 will be located 54km off the coast of Lower Saxony, next to one of DONG Energy's other windfarms, Borkum Riffgrund 1. Read more: http://www.dongenergy.com/en/media/newsroom/news/articles/dong-energy-to-build-german-offshore-wind-farm-borkum-riffgrund-2
- Bucket-based foundation technology (Suction Buckets) has been used to secure and safely anchor over one hundred platforms around the world.
- Three NGI pioneers, Knut H. Andersen, Rune Dyvik and Per Sparrevik, were admitted to the Offshore Energy Center's Hall of Fame in Galveston, Texas, USA, in 2015 for their efforts in offshore foundations. Read more here: http://www.mynewsdesk.com/no/ngi/news/ngi-pionerer-hedres-i-offshore-energy-hall-of-fame-for-innovasjon-i-fundamentering-115565
- Entire wind farms are being prepared for development utilising NGI's pioneering technology.

Further information:

- Audun Hauge, Project manager, ah@ngi.no, (+47) 928 85 175
- Per Sparrevik, Technical expert, psp@ngi.no, (+47) 924 91 449

The Norwegian Geotechnical Institute (NGI) is a leading international centre for research and consulting within the geosciences. NGI develops optimum solutions for society, and offers expertise on the behaviour of soil, rock and snow and their interaction with the natural and built environment.
NGI works within the markets Offshore energy; Building, construction and transportation; Natural hazards, and Environmental Engineering.
NGI is a private foundation with office and laboratory in Oslo, branch office in Trondheim, and daughter companies in Houston, Texas, USA, and Perth,

Western Australia. NGI was established in 1953.

Contacts

Kjell Hauge
Press Contact
Senior Communications Advisor
kjell.hauge@ngi.no
+4793449553