



# Kriegers Flak - the largest offshore wind farm in the Baltic Sea

The offshore wind farm is to be erected in the Baltic Sea at Kriegers Flak, east of the island of Møn, and the shortest distance to the coast is about 15 km.

The Kriegers Flak offshore wind farm will be the largest offshore wind farm in Denmark and the Baltic Sea at 600 MW. The window for erecting the offshore wind farm is between 1 January 2019 and 31 December 2021.

Kriegers Flak can generate electricity corresponding to the annual consumption of more than 600,000 households. When fully in operation, the offshore wind farm will increase the share of electricity production based on wind power by seven percentage points in Denmark.

### Cheapest wind deal to date

The tender price of 5 eurocents/kWh (€49.9/MWh) is considerably lower compared to other projects to date on a global scale. The lower prices are considered to be the

result of a more mature market for offshore wind power development, with an increasing number of players entering the market, which has enhanced competition. Furthermore, in the last years, there has also been a significant cost decrease in the offshore technologies. An example of this is larger turbines that require fewer foundations and less installation work. In addition the new advanced turbines have lower operating costs with less maintenance required.

#### **Exchanging electricity between countries**

The electricity grid connection to Kriegers Flak links together the wind farms German Baltic 1, Baltic 2 and Kriegers Flak. This will establish the world's first offshore electricity grid, which combines wind power with the option to exchange electricity between the two countries.

Routing onshore will cost DKK 3.1 bn. and the accompanying cross-border connection to Germany will cost DKK 1.4 bn. Grid



connection is guaranteed the winning operator be ready so the first wind turbines can be connected to the transmission grid from 1 January 2019. The EU supports the Kriegers Flak grid connection project by up to DKK 1.1 bn. with funding from the European Energy Programme for Recovery. Energinet.dk will be responsible for routing onshore on the Danish side.

### The prequalified tenderers were:

- Kriegers Flak ApS (owned by Energie Baden Württemberg AG (EnBW AG)).
- European Energy Offshore Consortium (owned by European Energy A/S and Boralex Europe S.A.).
- Vattenfall Vindkraft A/S.
- Kriegers Flak Offshore Wind I/S (Statoil ASA and E.ON).
- ScottishPower Renewable Energy Limited
- DONG Energy Wind Power A/S
- Wpd HOFOR Stadtwerke München and Kriegers Flak SPV were also prequalified but they withdrew from the tender before the assessment.

Tender prices for offshore wind turbines have decreased significantly in recent years, and the bid from Vattenfall for Kriegers Flak is the lowest ever bid for offshore wind turbines globally:

- Anholt offshore wind farm (400 MW) – 105.1 øre/kWh (2010 prices)
- Horns Rev III (400 MW) 77.0 øre/kWh (2015 prices)
- Nearshore wind turbines (350 MW)
   47.5 øre/kWh (2016 prices)
- Kriegers Flak (600 MW) 37.2 øre/kWh (2016 prices)

## Wind energy in Denmark

In 2015 wind energy covered the equivalent of 42.1 percent of the Danish electricity consumption. In 2020 the share is expected to be about 50%.

There are 13 offshore wind farms in Denmark today.

#### **Further information**

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