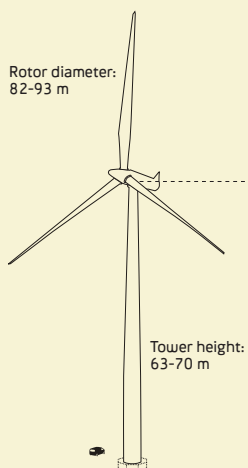


WIND POWER

WIND POWER FACTS

- Wind turbines produce electricity by converting the kinetic energy of the wind into electrical power.
- Wind power is renewable and has zero emissions.
- Wind power is the world's fastest growing source of energy, and is most widely used in Germany, the USA, Spain, India and Denmark.
- In Norway wind turbines are often grouped together in what are called wind farms.
- Statkraft owns and operates three wind farms in Norway: Smøla, Hitra and Kjøllefjord.



Wind power is one of the most environment-friendly sources of energy for large-scale electricity production. It is a renewable form of energy that produces no pollution. Wind turbines produce electricity by converting the kinetic energy of the wind into electrical power. The best available wind resources in Europe are found in Norway and the UK.

POWER PRODUCTION FROM WIND

The rotor blades on a wind turbine transfer the power of the wind via a drive shaft and gear box to a generator in the nacelle. The rotor blades are adjustable to produce the largest amount of electricity, regardless of whether the wind is blowing hard or gently.

When the wind is blowing faster than 3 m/s, the nacelle turns so that the rotor blades are facing the wind and electricity production begins. Maximum output is reached when the wind is blowing at 13m/s. At 25m/s the wind turbine shuts down to prevent damage to the machinery.

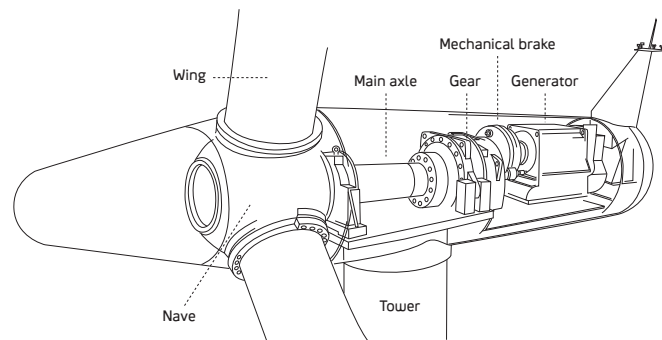
The height of the tower, the diameter of the rotor blades and the power output can vary. The turbines in Statkraft's wind farms have an installed capacity of 2.3 MW. The towers are 70 m high. The rotors are 83 m in diameter, and each turbine weighs just over 260 tonnes in total.

ENVIRONMENTAL ASPECTS

All large-scale energy production has an impact on the environment. Wind farms are highly visible in the landscape. Another challenge is to avoid spoiling areas of pristine nature or the habitats of threatened bird or animal species.

Wind farms must be located where the wind blows. They generally stand exposed in the landscape because they are built on high ground or in flat, open countryside. However, it has been shown that simple adjustments and adaptations can be implemented to mitigate the visual impact of the wind farms on the surrounding area.

To improve the general level of knowledge about the impact of wind farms on local birdlife, Statkraft is working with several research institutions. How the sea eagle population on Smøla is affected and how to avoid bird casualties is a key element in the research.



STATKRAFT AND WIND POWER

- **1997: Statkraft decision**
Statkraft decided to include wind power as part of the company's portfolio and started project development.
- **2002: Opening of Smøla I**
Norway's King Harald opened Statkraft's and Norway's first large wind farm, Smøla I, with 20 wind turbines, in 2002.
- **2004: Opening of Hitra**
The Hitra Wind Farm, with a total installed capacity of 55 MW, was opened in October 2004.
- **2005: Opening of Smøla II**
When the second phase of the Smøla Wind Farm facility was completed in the autumn of 2005, the wind farm became the Europe's largest land-based wind farm with 68 wind turbines, and a total installed capacity of 150 MW.
- **2006: London office**
In the spring of 2006, Statkraft opened an office in London to pursue the development targets for wind power in the UK.
- **2006: Opening of Kjøllefjord**
Kjøllefjord Wind Farm opened in October 2006, with a total installed capacity of 39 MW.
- **2007: First licence in the UK**
In March, Statkraft and partner Catamount Energy Corporation was given the licence to build Blaengwen Wind Farm in Wales.
- **2007: Entering Sweden**
In September Statkraft and Swedish company SCA agreed on establishing a common wind power company called Statkraft SCA Vind AB. The company is developing seven wind power projects in Sweden.
- **2008: Licence in Scotland**
In June, Statkraft and the Scottish developer GreenPower was given the licence to build Carraig Gheal wind farm in Scotland.
- **2008: Cooperation in Norway**
In August Statkraft and Agder Energi agreed to establish a common wind power company. Statkraft Agder Energi Vind DA will handle all new projects concerning development, construction, operation and maintenance of wind farms in Norway.
- **2008: Construction in the UK**
Construction of Blaengwen Wind Farm in Wales started in the summer. In November, Statkraft acquired the remaining 50 percent of Blaengwen Wind Farm from Catamount Energy Corp.



Smøla Wind Farm

SMØLA WIND FARM

In Norway, wind turbines are often grouped together in what are called wind farms. A wind farm includes a number of wind turbines, access roads, a transformer and, not least, a power transmission line to carry the electricity out to the national power grid.

The Smøla Wind Farm was built in two phases. Phase 1 opened in September 2002. Phase 2 opened in September 2005. With a total of 68 wind turbines, the

Smøla Wind Farm is Europe's largest land-based wind generating facility, producing an annual 450 GWh of electricity. This corresponds to the combined average electricity consumption of 22 500 Norwegian households. The wind farm is situated southeast of the village of Dyrnes. The site lies in flat, open country, 10–40 m above sea level, with the wind turbines built along ridges in the terrain.

The wind turbines in each row stand 240–350 m apart. The distance between

the rows varies from 700–800 m. Roads have been built to each of the wind turbines. Cables have been laid in the roads from the turbines to a centrally located transformer. The transformer station is combined with a service building for the wind power plant.