

Case study

Wieringermeer

Located 60 kilometres north of Amsterdam, the Wieringermeer site boasts excellent wind conditions, despite being a polder - a diked area of reclaimed land, seven metres below sea level. Measuring 300 km² in size, the area is crisscrossed by canals and also includes a protected forest, making it a particular challenge in terms of logistics and construction. As there wasn't much in terms of suitable storage space available, the Nordex Group delivered the towers, nacelles, drive trains and hubs as and when they were required. The turbines came in seven different nacelle configurations, so it was therefore important to deliver the right turbine parts to the appropriate location, as necessary.

Due to the low weight-bearing capacity of the ground, the foundations had to be piled and were also raised by 1.5 metres to prevent flooding. In addition, rare bird breeding restrictions posed limits on access and operation to some turbines, as well as to the number of cranes allowed on the construction site.

The specific requirements of this project forced the Nordex Group to modify its processes. For example, a token-based entry system ensured that it was possible to safely assign multiple construction teams reliably to specific turbines. This approach avoided work-scope conflicts and maximised efficiency.

In addition, new functions such as a technical project manager (TPM) were implemented to act as an interface with engineering and other technical departments. On top of this, quality and documentation managers, as well as a strong HSE team, were deployed on site to meet the customer's own high standards, as well as our own.

At the peak of the activities, eight large cranes and over 120 personnel were working on the construction site at any one time. To ensure that this large number of people were able to work safely on site despite the COVID-19 pandemic, the Nordex Group recruited a Dutch paramedic in addition to implementing general travel restrictions and further hygiene precautions. The task of the paramedic was to check the temperature of all staff on site each day before they commenced their duties, and to provide medical advice if anyone developed symptoms. These precautions provided the employees with a certain degree of protection from the heightened risk of infection whilst at work, through the associated contact with many people, and ultimately proved to be successful, as at no time was it necessary to interrupt work on the project due to the pandemic.

Personal commitment was also key to success: Contractors and colleagues not only continued to work during the pandemic, some of them even

extended their stay on site, whilst others drove across Europe from Portugal and Romania to site, to enable the works to continue.

In the end, the Nordex Group mastered all these challenges with zero incidents, and the construction of the next stage of the project, comprising more than 30 N117/3600 turbines, started later and were installed before year-end. The wind farm is now fully operational and will produce a total of around 1.3 terawatt-hours (= 1.3 billion kilowatt-hours) of green electricity annually.

Photo: Vattenfall / Robert Assies

Link to 2020 relevant press release:

Phase 1 of the Wieringermeer project connected to the grid,
<https://www.nordex-online.com/en/2020/09/phase-1-of-the-wieringermeer-project-connected-to-the-grid/>