



Netherlands Enterprise Agency

Driving down offshore wind costs the Dutch way

In 2016, the Netherlands embarked on its journey towards reaching its national Energy Agreement target to have 4,500 MW of operating offshore wind power by end 2023, up from 1,000 MW installed currently. The new 3,500 MW of capacity is being built across two wind farm zones - Borssele and Hollandse Kust - in the Dutch North Sea.

The Netherlands has also set a goal to drive down the cost of offshore wind energy by 40% within the same time frame. This cost goal has already been surpassed thanks to the design of the Dutch Offshore Wind Programme. In fact, it has been widely recognised that the cost reductions so far achieved represent a major breakthrough globally in the transition to more renewable energy. In addition, the Dutch system has been highly commended as providing a benchmark standard for other Governments to follow.

Landmark cost reductions

The Offshore Wind Programme operates using the Stimulation of Sustainable Energy Production (SDE+, Stimulerend Duurzame Energieproductie) tender and subsidy legislation. The SDE+ is a subsidy-style incentive mechanism aimed at companies and (non-profit) organisations for the production of renewable energy in the Netherlands. Under the SDE+ for offshore wind, the price for the electricity generated is subject to a cap, providing a base sum for the calculation of subsidy to be received. The SDE+ compensates producers for the difference in costs between this base sum and the market price of electricity derived from fossil fuels.

Companies are invited to submit bids for projects in each tender round, with the lowest priced bid that meets all the specified requirements winning both a 15-year SDE+ subsidy grant and 30-year permit to build, operate and decommission the relevant wind farm.

Two competitive tender rounds to build a combined capacity of 1,380 MW in the Borssele Wind Farm Zone have so far taken place in line with the Dutch Roadmap towards 4,500 MW of Offshore Wind Energy. Four more tenders are planned over the next three years. This year, 20 MW will be offered to tender for innovation projects at Borssele Wind Farm Site V, whilst 700 MW will be offered at the first two sites in the Hollandse Kust (zuid) Wind Farm Zone. In 2018, a further 700 MW will be offered for tender at Hollandse Kust (zuid), followed by another 700 MW in 2019 at Hollandse Kust (noord).

In each of the two tenders that have already taken place, the price the winning bidders said they needed to realise the wind projects was substantially lower than anticipated whilst the project plans remain robust. In the first tender round, Dong Energy Borssele I bv won the project permits and related 15-year subsidy to develop 700 MW across Borssele Wind Farms Site I and II. Its winning bid was €72.7/MWh, significantly lower than the €124.0/MWh subsidy price cap applied for the tender. In the second tender round, for a further 680 MW at Borssele Wind Farm Sites III and IV, a Dutch consortium called Blauwwind II c.v (comprising Shell, Van Oord, Eneco and Mitsubishi/DGE) bid €54.5/MWh, again significantly lower than the €119.97/MWh capped price and much lower than Dong Energy's bid price in the previous round.

Substantial subsidy savings

What this means is that in each case significantly lower than anticipated SDE+ subsidies will be paid out. For example, the construction and operation of the 680 MW at Borssele Sites III and IV by Blauwwind II cv, a subsidy of just €0.3 billion will be provided instead of the €5 billion originally anticipated. That's a €4.7 billion saving. Significantly, if the electricity price continues to develop as expected, the Blauwwind II cv project will not require subsidies at all within 7.5 years. Meanwhile, the subsidy saving for the Dong Energy Borssele I bv projects at Borssele Sites I and II will be around €2.3 billion.

All of this will be achieved without cutting any corners. While allowing for a high degree of flexibility, the developers and operators of the offshore wind projects have to abide by strict government policy relating to design, the environment and social responsibilities. Lessons from previous tenders have been learned and implemented so that, together, industry and government can maintain the downward offshore wind cost curve. So how has the Netherlands made such remarkable progress? The answer, quite simply, is by taking responsibility and leading the way to ensure our goals are achieved.

The Dutch way

The Dutch system is unique. Like many other countries, companies have to compete with each other for state-allocated projects. However, our system, the Government regulates all conditions for building the wind farms and, critically, takes on almost all the risks associated with pre-development work and it is this that has proved so successful in driving down overall costs.

While different Government agencies each still have their own responsibilities within this (relating to permits, subsidies, and grid connection agreements, for example), we have developed a specific legal framework with all the necessary steps, documents and regulations to streamline this as much as possible.

The Netherlands Enterprise Agency provides all the necessary site studies and data, with an increasing focus on making sure these are very high quality. State Transmission System Operator, TenneT, has responsibility for building the required grid connections for the offshore wind farm. It must also pay developers compensation in the event it does meet its obligations satisfactorily.

Meanwhile the legal framework is clear and provides long-term stability and investor security for companies planning to bid for projects. At the same time, the permit and grant legislation also gives them sufficient flexibility in the design scope of the project to enable them to make a sharp offer.

This all means that costs and risk are substantially reduced for wind power developers and operators, whilst costs for the Dutch people are minimised and the job creation potential high.

Offshore supply chain

The Netherlands is ideally positioned to make maximum impact on the global offshore wind industry. With a long heritage in the offshore energy industry, it is already a hub of renowned expertise in the sector. It fully expects to maintain this position in the offshore wind sector, with Dutch companies, their experience, and knowledge, already being deployed in every offshore wind farm being built around the world today. Expertise in the Dutch wind power industry spans development and project management of wind farms, wind turbine component manufacture and supply, and balance of plant. It also has strong skills in R&D, offshore and environment consultancy, education and training, and more. The North Sea is the single, most important location in the world for offshore wind farms - over 70% of existing and planned European offshore wind farms are located here, with an estimated long-term growth in capacity to 90 GW, according to WindEurope. The Netherlands has a strategically advantageous geographic location to capitalise on this. Its seaports border all offshore wind farms in operation, under construction, or under development in the UK, Belgium, Denmark, Germany and the Netherlands itself. All of this means the Dutch offshore wind industry has a significant role to play in driving forward Europe's market development and driving down global offshore wind power costs.

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