Market Analysis Decom Tools 2019

The offshore wind is a growing market

By 2022, the global level of installed offshore wind energy projects will reach 46.4GW; the largest share will be in Europe with 33.9 GW, followed by Asia with 11.3GW and North America with 1.2GW.

At the end of 2018, Europe increased its offshore wind capacity to 18 400MW, generated by 105 offshore wind farms and 4543 grid-connected turbines in 11 European countries. 98% of the capacity is concentrated in just five countries:

- United Kingdom (44%)
- Germany (34%)
- Denmark (7%)
- Belgium (6.4%)
- The Netherlands (6%)

The European Union (EU) has set an intermediate goal to become the leader in renewable energy sources, by producing at least 27% of final energy consumption by 2030.

More investments underline the increasing relevance of offshore wind energy generation

In 2018, Europe invested over €10.3 billion in new power capacity in wind energy. The numbers include investments in new assets, refinancing transactions, mergers and acquisitions at project and corporate level, public market transactions and raised private equity.

It is expected that by 2022, global annual expenditure for offshore wind will increase to €25.7 billion. For 2030, the EU will invest €239 billion.

The number of offshore wind farms has increased and decommissioning has to be considered to continue to be green sources of energy

Decommissioning is very important to reduce the overall CO2 footprint of a wind farm. All parts of the cycle must be ecologically optimized. When a wind farm needs to be decommissioned depends on several factors, such as mechanical cost, legal allowances and the expiration of funding. All in all, the life expectancy of an offshore wind farm is approximately 20 years.

The UK calculated that £40 000 was the average expectable cost for decommissioning one MW of offshore wind energy. This represents about 2% of operating costs when spread over the project's lifetime. In more recent calculations,

the costs of decommissioning increased from £100 000 to £300 000 per MW for modern wind parks which consist of larger structures, located in deeper waters, at greater distances from the shore.

The North Sea Region (NSR) started decommissioning wind turbines in 2000. The number of turbines to be decommissioned will steadily increase from 2020 onwards. 22 turbines in 2020, 80 turbines in 2022 and 123 turbines in 2023.

The Market Analysis Decom Tools 2019 (https://northsearegion.eu/media/11753/market-analysis_decomtools.pdf) report has been published by the Interreg North Sea Region (NSR) project "DECOM Tools". This project shall close this gap by devising and developing eco-innovative concepts that reduce decommissioning costs and the environmental footprint, as well as improving the know-how and expertise of stakeholders involved in the NSR. The project consortium consists of thirteen partners from six NSR countries, namely Denmark, Germany, Belgium, The Netherlands, United Kingdom, and Norway.

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