



Aibel's Offshore Wind Ambitions

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About Aibel

- Aibel AS is a leading supplier of services related to oil, gas and renewable energy
- Around 4,000 employees
- Offices in Norway, Denmark, Singapore and Thailand
- Yards in Norway and Thailand
- Long term maintenance and modifications contracts
- Deliver new platforms and modules
- Successfully entered into the offshore wind market



Aibel Scope of Services

STUDIES | ENGINEERING | PROCUREMENT

CONSTRUCTION | INSTALLATION |

MC/COMMISSIONING |

OPERATIONAL SUPPORT |

DECOMMISSIONING



Offshore Wind Business Areas

HVDC



AC Substations¹⁾



Floating Wind²⁾

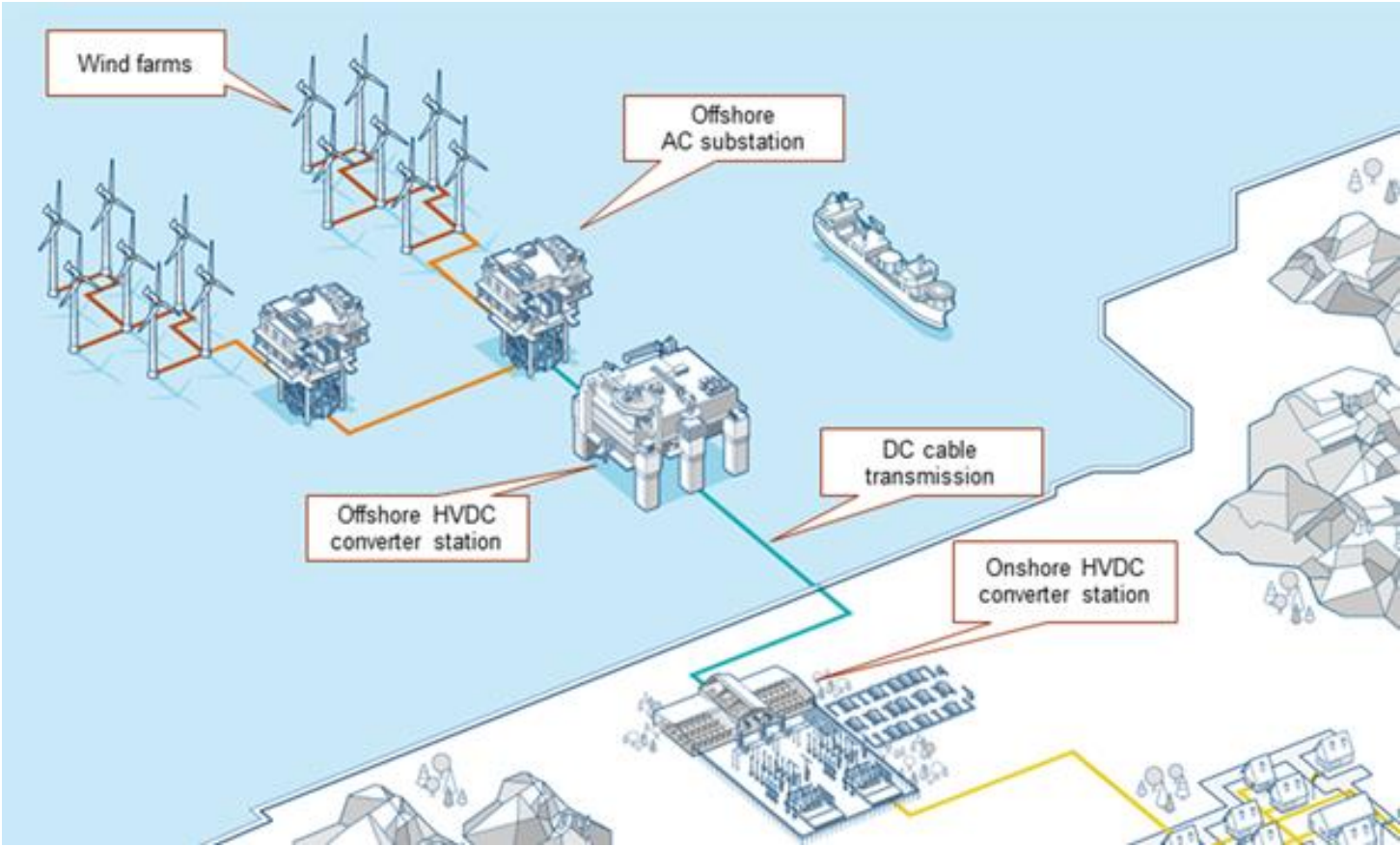


O&M



1) Photo: Race Bank, Ørsted
2) Photo: Statoil ASA

Offshore Wind DC Solutions



1) Photo: ABB

DoWin Beta – our first wind platform

- Contract awarded in August 2011 to design and build DoWin beta (ABB)
- Convert alternating current (AC) from wind farms to direct current (DC) – 924 MW, 320kV
- Receive electricity from more than 200 offshore wind turbines
- Size of a football pitch. Accommodation for 24 people
- Construction of the platform in Dubai
- Sail away from Dubai to Haugesund June 2014
- Sail away from Haugesund August 2015
- Installed in the DoWin wind cluster in the German North Sea



Johan Sverdrup Power from Shore

- Contract awarded October 14, 2015
- EPC contract covering engineering, procurement, construction site work, building of a converter station and installation of converter equipment
- The contract also includes trenching and laying of two sets of 300kV alternating-current cables from Kårstø to Haugsneset
- The Johan Sverdrup oil field will be operated by land-based power from production start late in 2019



Hywind Scotland Pilot Park

- In 2014 Aibel was awarded the contract for FEED and EMA (Engineering and Management Assistance)
- EMA has since been expanded to include the design of turbine towers and responsibility of system integration and procurement of equipment
- Aibel has also been awarded a contract for installation assistance at Stord Base and in Scotland
- Work was conducted from Aibel's offices in Haugesund and Oslo
- Production started October 2017
- O&G industry now show interest for such floaters



Photo: Øyvind Gravås/Woldcam/Statoil

From Oil & Gas to Renewables

What is it that Aibel can do, which is useful competence in developing a sustainable offshore wind industry?

- Experience with large, complex offshore projects
 - With large and challenging wind power projects at sea, there is room and need for large, serious EPC(IC) providers
- Experience transfer from offshore (O&G) environment
 - Design and construction of offshore structures
 - What is required of workers in challenging offshore environment
 - The importance of logistics
 - High quality deliverables
 - Understand the need for study/FEED and well planned T&I
- Well developed HSE culture



aibel[®]

energy to perform