ReaLCoE

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Developing the Next Generation 12+ MW Offshore Wind Turbine for Clean and Competitive Electricity

Reducing LCoE with Remote Inspection Techniques

Inspection Requirements

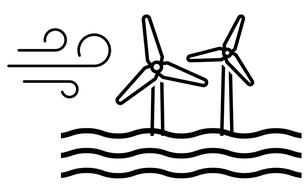
In Work Package 4, the project partners performed an availability and operational expenditure (OpEx) assessment for floating wind farms through operational scenario simulation. To feed in such simulation, Principle Power provided the inspection requirements based on experience in operating floating platforms[1]. Depending on the project's classification society, the inspection requirements may include annual visual inspections, 5-year structural above-water and underwater inspections.

Improve Personnel Safety

Remote Inspection Techniques provide an opportunity for risk reduction when it comes to personnel safety. These techniques reduce the risk of injuries in inspection activities requiring rope access, hard to reach areas, working at height, and reduce the need of deploying divers for subsea inspections.

Reduced OpEx

Remote Inspection Techniques have the potential to not only increase safety but to also reduce operational expenditure (OpEx) by minimizing offshore personnel costs, allowing for smaller and less expensive access vessels, and minimizing reliance on divers for subsea inspections. In case of underwater inspections, the use of ROVs or Unmanned Automated Vehicles (UAVs) allow for operations in less restricted weather conditions, accelerating the completion of works.



Reduced Wind Farm Downtime

These techniques may also result in more efficient inspections, particularly areas that are hard to access, submerged (such as ballast tanks) or below the water line, or that require ventilation prior to inspection. This can have a positive impact on Wind Turbine Generator downtime, and in combination with a decrease in OpEx , lead to a reduction in LCoE. Regarding Remote Inspection Techniques, Principle Power has successfully used Remotely Operated Vehicles (ROVs) for the inspection of ballast tanks as well as the station keeping system and inter-array cables.

Source

1. Deliverable 4.1 Design requirements serviceability WEC – Inspection requirements for floating foundations. (Confidential)

ReaLCoE´s Vision

ReaLCoE´s vision is to unleash the full potential of offshore wind energy to be in direct competition with conventional energy sources in electricity markets worldwide by optimising and innovating in every link of the offshore wind value chain: from initial turbine design to equipment handling in the port, from testing to financing installation and providing electricity to final customers.

ReaLCoE Project

€35/MWh
LCoE Goal

+12MW
WEC Capacity

€32.320.049,49€
Total Budget

42 months
Project Duration

Consortium

GE VERNOVA · Principle Power · DNV·GL · JBO Engineering Group · JAN DE NUL · 8.2 The Experts in Renewable Energy · EnBW · Ingeteam · Fraunhofer IWES · DTU Technical University of Denmark · TNO innovation for life · BIBA · wood.

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Further information about the ReaLCoE Project can be found on our website: www.realcoe.eu.

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