

SOS - WindEnergy

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OVERVIEW

This project is examining offshore sites where old oil and gas platforms may be reused for wind energy:

Step 01 Metocean Data Analysis

At the planned site, meteorological-oceanographic (metocean) data must be gathered and analyzed.

Step 02 Structural Modeling

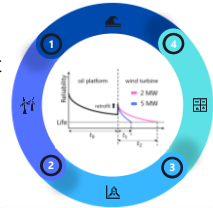
Accumulated fatigue damage in past and planned future must be evaluated.

Step 03 Lifecycle Evaluation

Various design options are evaluated over the service life.

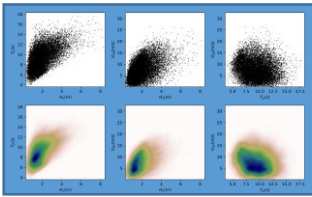
Step 04 Revenue Optimization

Identifying optimal strategy considering cost and revenue.



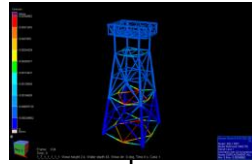
STEP 01

Metocean (wave height & period and wind speed) data analysis for selected site



STEP 02

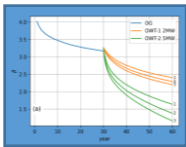
Dynamic response simulations for selected metocean conditions



Accumulate fatigue damage for these conditions

STEP 03

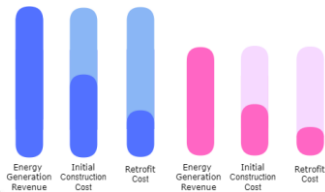
Expected lifecycle based on fatigue reliability for each reuse option (probabilistic)



STEP 04

5MW Wind Turbine

2MW Wind Turbine



ACKNOWLEDGEMENT

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For more details, visit <https://web.fe.up.pt/~soswe/>

