



U.S. DEPARTMENT OF ENERGY

Energy Efficiency & Renewable Energy



THE UNIVERSITY OF EDINBURGH



Sandia National Laboratories

DTOcean Consortium

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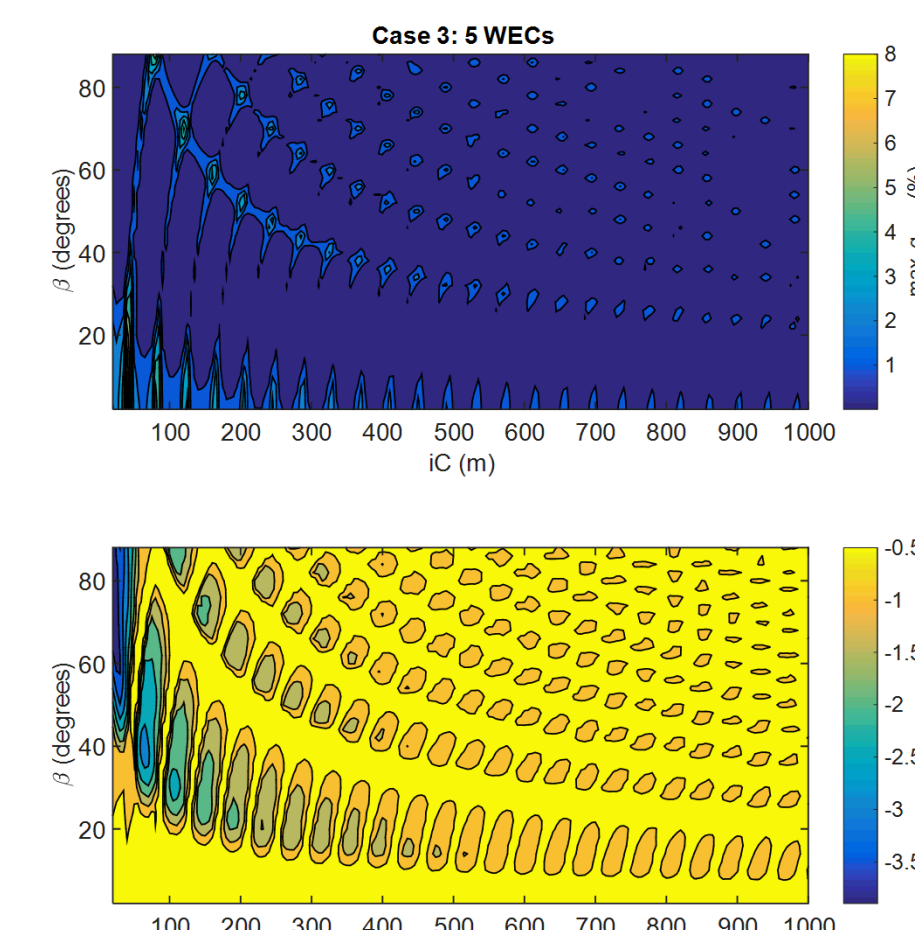
www.dtocean.eu

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Optimal Design Tools for Ocean Energy Arrays

DTOcean is a collaborative project aiming at the development of a full suite of whole-system software design tools to enable the design, development and installation of wave and tidal energy converter arrays in a cost effective, timely and environmentally appropriate manner.

Array Layout: Characterisation of the hydrodynamic interaction between the individual devices in the array, how this affects the resource, power performance, cost uncertainties and environmental impact.



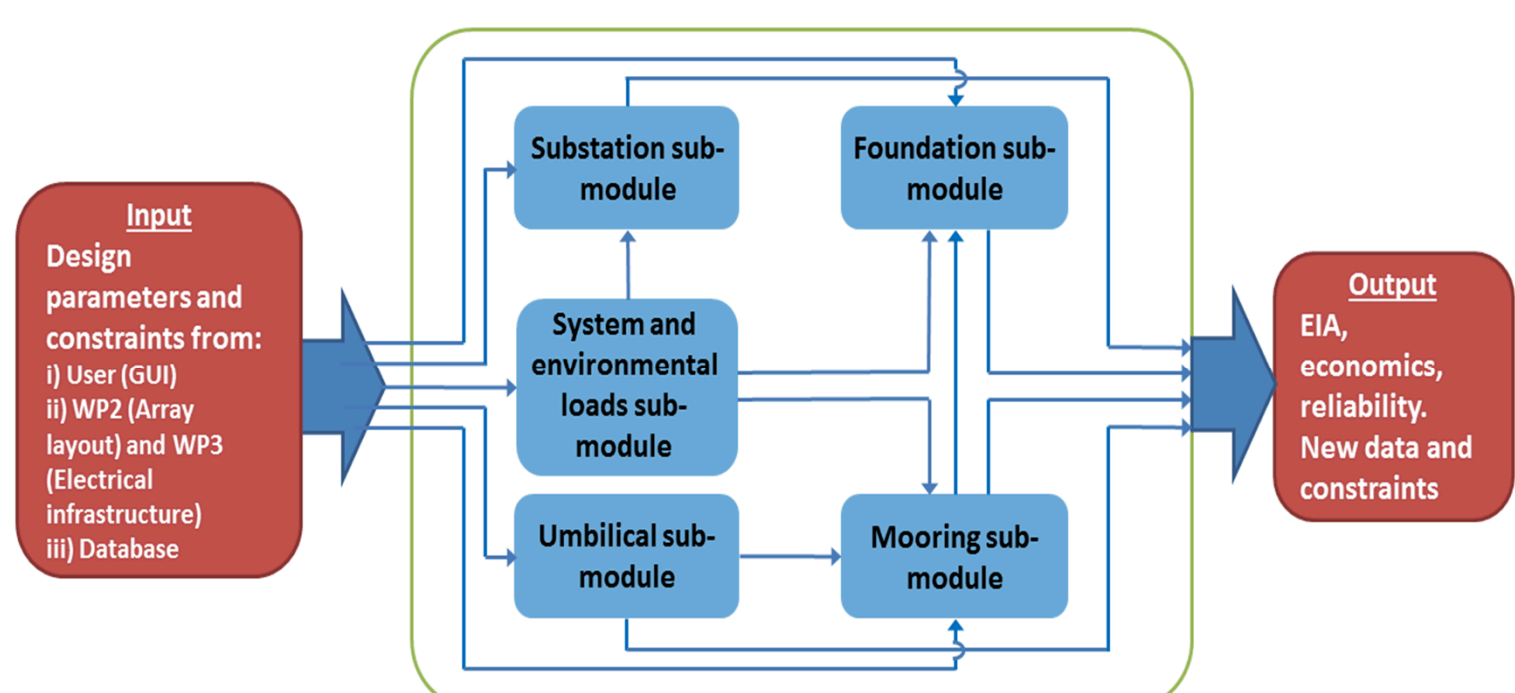
Result of q factor for 5 WECs simulation

Electrical Architecture: Determination of technically and economically optimal configurations for the offshore electrical network.

Results of simulations of losses for some electrical infrastructure. Two tables showing reactive power compensation for 11 kV systems.

Results of simulations of losses for some electrical infrastructure

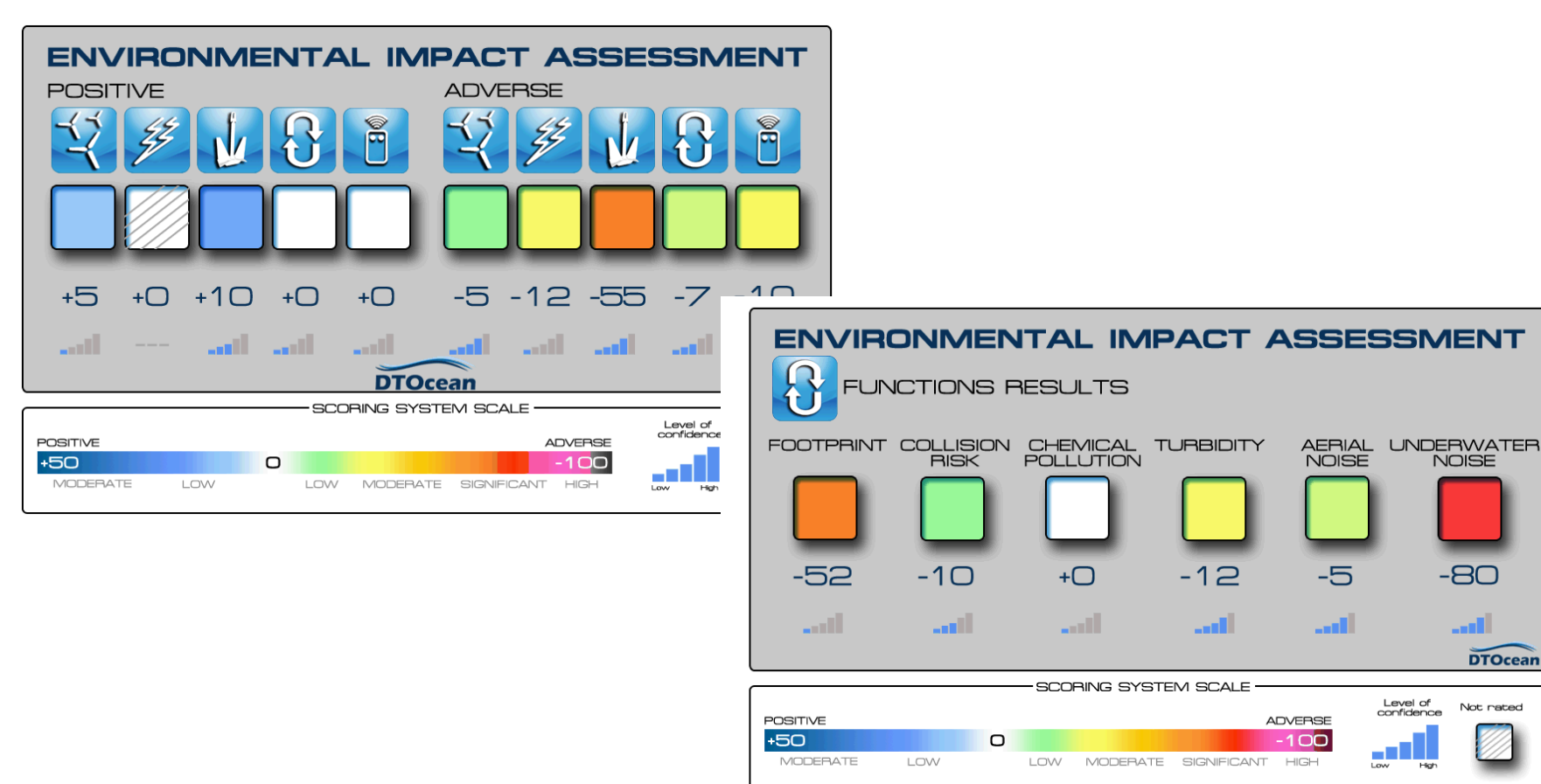
Moorings & Foundations: Development of models to inform about mooring networks and foundation requirements.



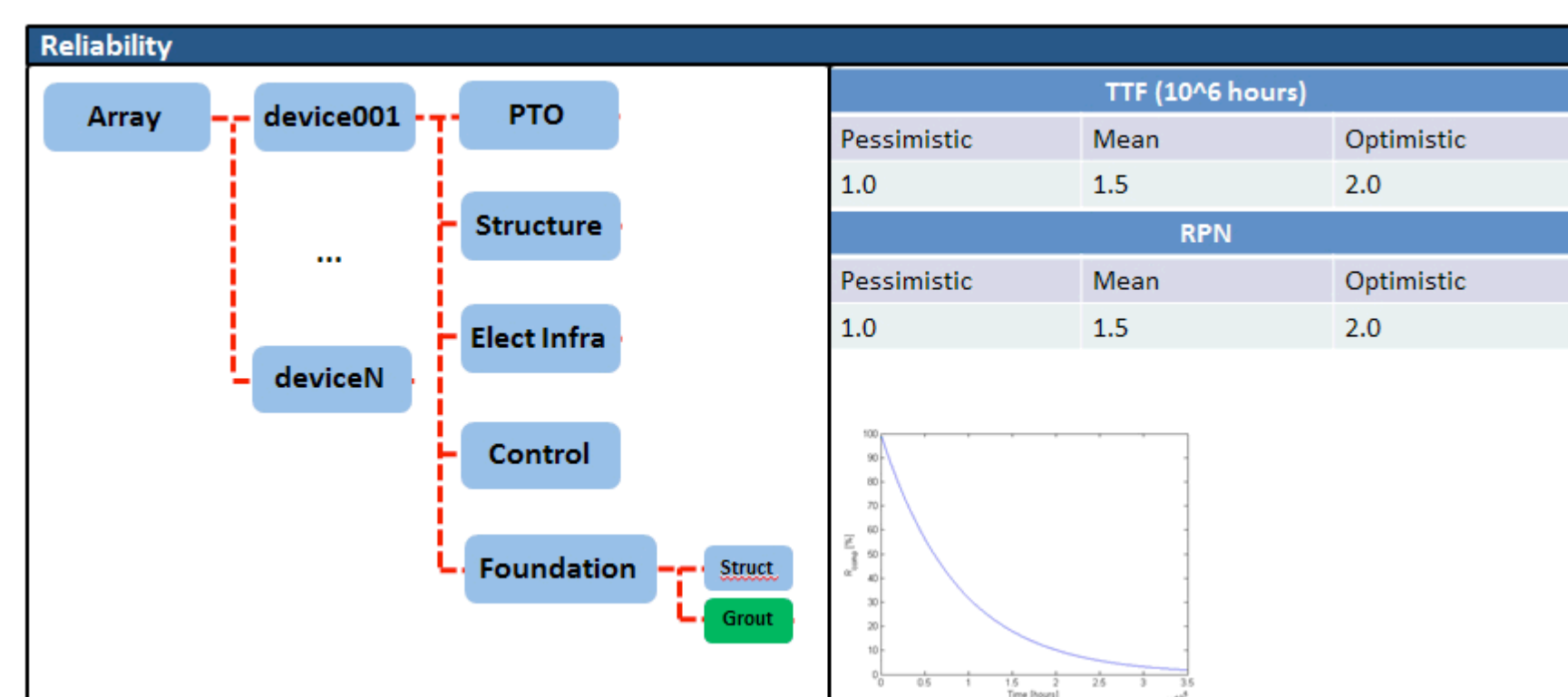
Structure of the Moorings submodule

Thematic Indicators

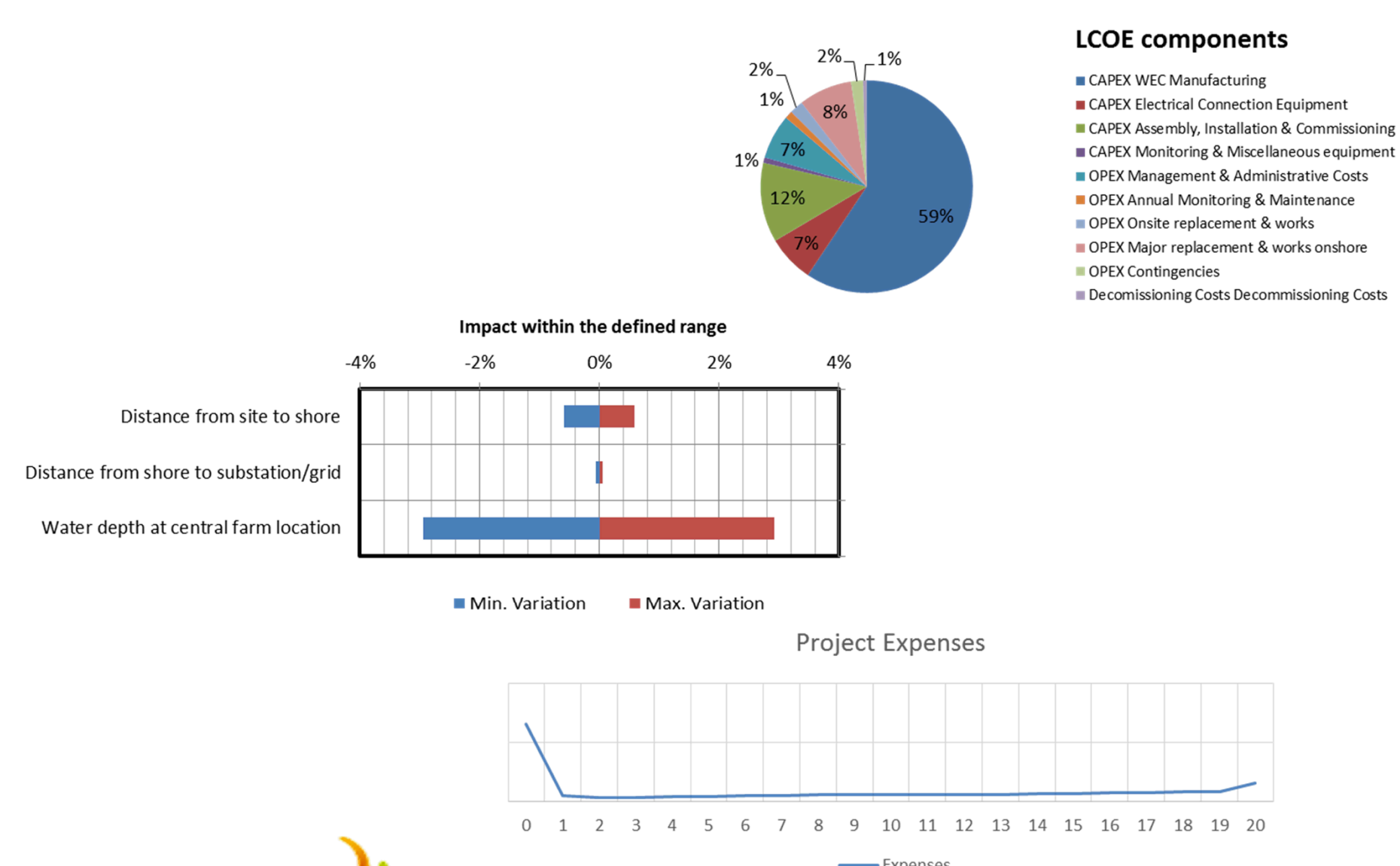
Environmental



Reliability



Economics



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