

OPEC: Offshore Platform for Energy Competitiveness

The OPEC project aims to validate the technical and economic feasibility of a large floating offshore platform that can support multiple marine energy devices, and other compatible revenue generating activities.



It is acknowledged that foundations costs impose a large cost burden on today's offshore wind and wave energy systems. The OPEC project is addressing the critical cost by advancing a novel concept that would replace traditional foundations and achieve a 20% reduction in the cost of energy produced by these systems.

OPEC comprises a large floating structure, fabricated cost-effectively in reinforced concrete modules, designed to support multiple wind and wave devices and also aquaculture facilities. This sharing of foundation costs across multiple facilities means that unit costs are significantly reduced.

The project is also exploring deployment of such systems in developing island states and isolated coastal communities, which currently suffer from very high electricity costs, and which would benefit economically from new aquaculture production. Such deployment would also provide valuable demonstration of OPEC, to enhance its credibility to investors in UK and other developed markets. To expand accessible markets, OPEC has also been conceived to suit fabrication, deployment and operation in locations lacking major port infrastructure, including developing states (esp. sub-Saharan Africa) which require investment in new generating capacity.

Previous work on Multi-Use Platforms, MUPs, for wind and wave energy, suggests that such schemes are technically feasible, but not yet justified by the economics. In parallel, work on large floating caissons for breakwaters and advances in super large modular construction (ships, carriers etc) has proved the feasibility and cost-effectiveness of such structures.

OPEC will integrate these advances into a novel, economically-viable solution for marine energy MUPs. It will show how non-energy revenues (aquaculture) can contribute to shared foundation costs to drive down Levelised Cost of Energy (LCoE) for the platform's wind and wave energy facilities, by an estimated 20%.

For more information visit www.offshoreplatforms.eu and sign up to the free Interest Group to be kept informed of events, updates and project findings.

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OPEC Project partners:

