

OPERA

Project ID: 654444

Funded under: [H2020-EU.3.3.2.1. - Develop the full potential of wind energy](#)

[H2020-EU.3.3.2.2. - Develop efficient, reliable and cost-competitive solar energy systems](#)

[H2020-EU.3.3.2.4. - Develop geothermal, hydro, marine and other renewable energy options](#)

Open Sea Operating Experience to Reduce Wave Energy Cost

From 2016-02-01 to 2019-07-31, ongoing project | [OPERA Website](#)

Project details

Total cost: EUR 5 741 263,75	Topic(s): LCE-02-2015 - Developing the next generation technologies of renewable electricity and heating/cooling
EU contribution: EUR 5 741 263,75	Call for proposal: H2020-LCE-2015-1-two-stage See other projects for this call
Coordinated in: Spain	Funding scheme: RIA - Research and Innovation action

Objective

Europe is endowed with abundant wave energy which could cover some 10% of its electricity needs with a clean, predictable and job-creating resource, which EU companies are at the forefront exploiting with little dependence on foreign suppliers.

There remain important technical challenges to bring down costs to within investors' reach, as a top priority open-sea operating experience must be analysed to permit the focus of R&D efforts on identifying and solving problems uncovered in open-sea deployments. However, to this day, most wave energy R&D does not have access to open-sea operating data as they are not shared by the companies that sponsored open-sea tests.

OPERA will remove this roadblock by collecting and sharing two years of open-sea operating data of a floating oscillating water column wave energy converter. In addition the project will be the first open-sea deployment for four cost-reducing innovations that will be advanced from TRL3-4 to TRL5. Together, these four innovations have a long-term cost reduction potential of over 50%. These are: a 50% more efficient turbine, latching and predictive control, a shared mooring system for wave energy similar to those that have reduced mooring costs 50% in aquaculture, and an elastomeric mooring tether that reduces peak loads at the hull-mooring connection 70% and thus addresses one of the most pressing challenges for structural survivability of wave energy devices.

Documenting and sharing this open-sea experience will also induce a step-change in our knowledge of risk and uncertainties, costs and societal and environmental impacts of wave energy. The consortium brings together world leaders in wave energy research from four European countries and the IPR owner and most advanced teams to exploit each of these innovations.

Last but not least, the project brings national in-cash co-financing of over €2 million to directly fund the open-sea testing.

Related information

Report Summaries

[Periodic Reporting for period 1 - OPERA \(Open Sea Operating Experience to Reduce Wave Energy Cost\)](#)

Coordinator

FUNDACION TECNALIA RESEARCH & INNOVATION Spain
PARQUE CIENTIFICO Y TECNOLOGICO DE GIPUZKOA PASEO MIKELETEGI 2 **EU contribution:** EUR 1 096 687,50
20009 DONOSTIA SAN SEBASTIAN

Spain

Activity type: Research Organisations

[Contact the organisation](#)

Participants

OCEANTEC ENERGIAS MARINAS SL Spain
PARQUE TECNOLOGICO DE BIZKAIA, ASTONDO BIDEA, EDIF 612 **EU contribution:** EUR 1 025 062,50
48170 DERIO

Spain

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

[Contact the organisation](#)

BISCAY MARINE ENERGY PLATFORM SA Spain
CL ATALAIA 2, BAJO **EU contribution:** EUR 438 625
48620 LEMOIZ

Spain

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

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ENTE VASCO DE LA ENERGIA Spain
Alameda Urquijo Edificio Plaza Bizkaia 36, 1º **EU contribution:** EUR 275 750
48011 BILBAO

Spain

Activity type: Public bodies (excluding Research Organisations and Secondary or Higher Education Establishments)

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IBERDROLA ENGINEERING AND CONSTRUCTION UK LIMITED United Kingdom
10 TECHNOLOGY AVENUE HAMILTON INTERNATIONAL TECHNOLOGY PARK **EU contribution:** EUR 145 187,50
G72 0HT BLANTYRE GLASGOW

United Kingdom

Activity type: Other

[Contact the organisation](#)

Global Maritime Consultancy Ltd.
Gutter Lane 44
EC2V6BR London
United Kingdom

United Kingdom

EU contribution: EUR 133 125

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

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DNV GL UK LIMITED
30 STAMFORD STREET 4TH FLOOR
SE1 9LQ LONDON
United Kingdom

United Kingdom

EU contribution: EUR 141 500

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

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THE UNIVERSITY OF EDINBURGH
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United Kingdom

EU contribution: EUR 402 750

Activity type: Higher or Secondary Education Establishments

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THE UNIVERSITY OF EXETER
THE QUEEN S DRIVE NORTHCOTE HOUSE
EX4 4QJ EXETER
United Kingdom

United Kingdom

EU contribution: EUR 671
787,50

Activity type: Higher or Secondary Education Establishments

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KYMANER-TECNOLOGIAS ENERGETICAS LDA
ESTRADA PACO DO LUMIAR CAMPUS DO LUMINAR EDIFICIO SALA 1026
1649038 LISBOA
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Portugal

EU contribution: EUR 591 250

Activity type: Private for-profit entities (excluding Higher or Secondary Education Establishments)

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Instituto Superior Técnico
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1049-001 LISBOA
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EU contribution: EUR 359
788,75

Activity type: Higher or Secondary Education Establishments

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UNIVERSITY COLLEGE CORK - NATIONAL UNIVERSITY OF IRELAND, CORK
WESTERN ROAD
T12 YN60 Cork
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Ireland

EU contribution: EUR 459 750

Activity type: Higher or Secondary Education Establishments

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