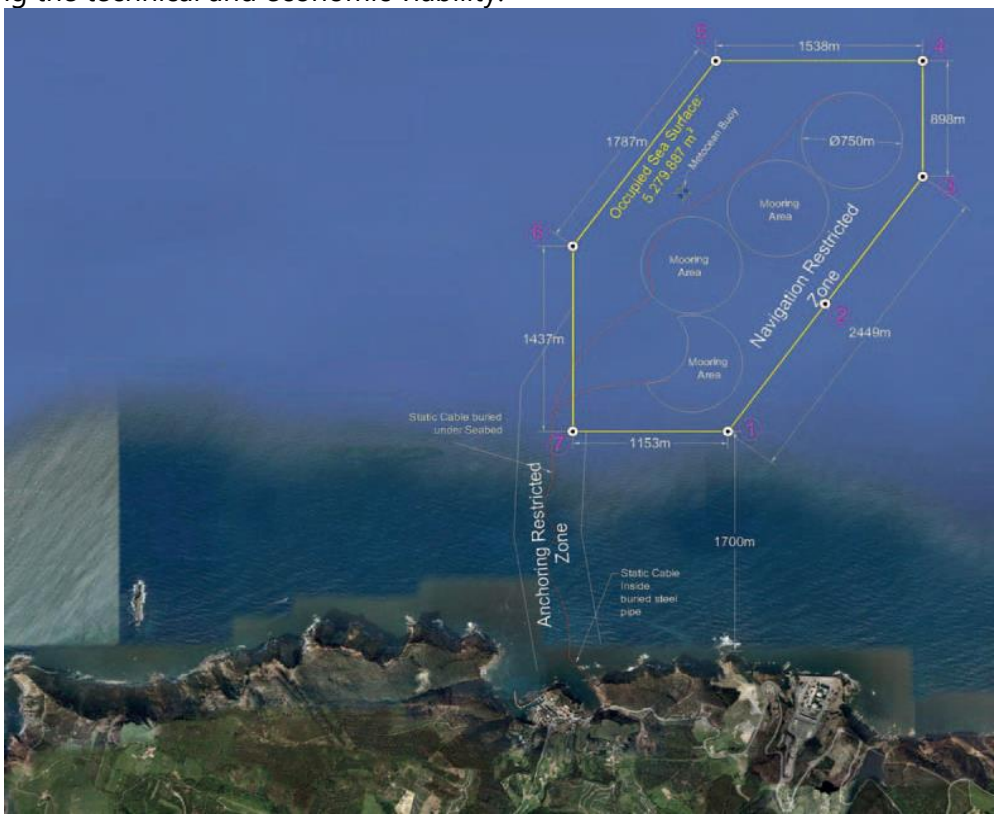
This procurement receives funding under the European Union's Horizon 2020 research and innovation programme under the grant agreement No 883751. The EU is however not participating as a contracting authority in this procurement.

Tender Document TD02 Annex B: Phase 3 Test Site Fact Sheet

This procurement receives funding under the European Union's Horizon 2020 research and innovation programme under the grant agreement No 883751. The EU is however not participating as a contracting authority in this procurement.

Section A: Biscay Marine Energy Platform (BiMEP) GENERAL INFORMATION

BiMEP, is an infrastructure for testing prototypes of marine energy collectors and auxiliary equipment on the open sea. It is located off the coast at Armintza, (Lemoiz). Operating since June 2015, BiMEP provides technology developers a site with suitable wave and wind resources for testing the technical and economic viability.



Contact Details	
Address	C/ Atalaia, nº2 bajo 48620, Armintza (LEMOIZ), SPAIN
Contact phone	+34 94 687 98 35
Contact mail	bimep@bimep.com
Site General Information	
Number of berths	4
Location of berths	Berth 1: 43°27'22.46"N, 002°53'02.01"W Berth 2: 43°27'47.59"N, 002°53'02.21"W Berth 3: 43°28'01.53"N, 002°52'33.30"W Berth 4: 43°28'18.74"N, 002°52'08.82"W
Area of test site	5.2 km^2
Depth of the test site	50 – 70 m

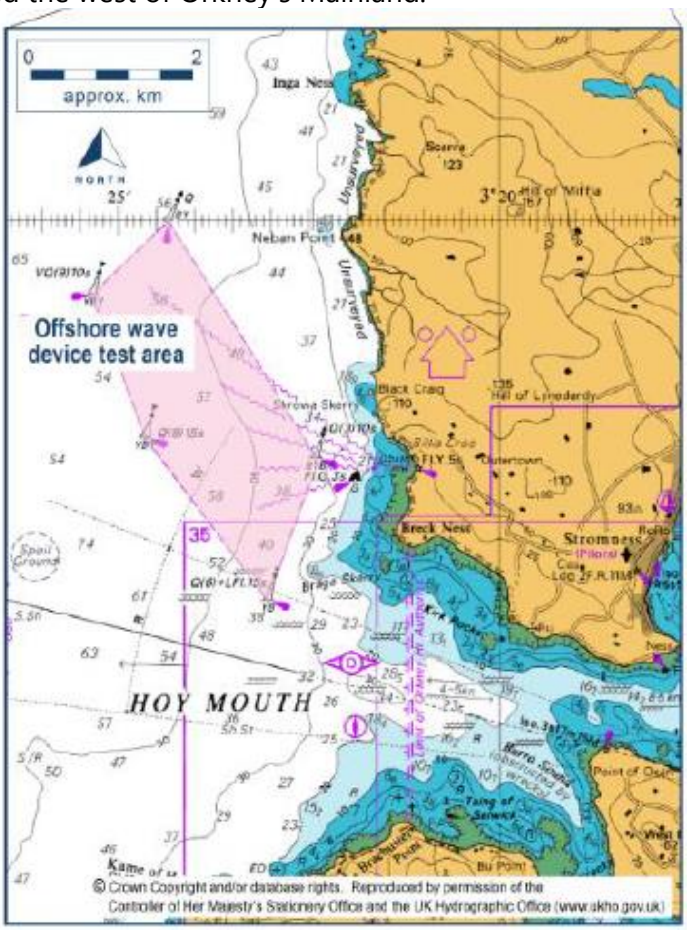
Nature of the seabed	mix of sand and rock
Mean annual wave power density	17.98 kW/m
Mean annual significant wave height	1.67 [m]
Mean annual energy period	9.03 [s]
1:50 year return wave height	10.5 [m]
1:50 year return energy period	15 [s]
Detailed information regarding following aspects: • Site description (hydrographical, geological, geophysical, site drawings, tidal flow, wave data, weather data), • Consents (decommissioning, process guidance, navigational risk assessment, environmental description), • Internal operational procedures, HSE requirements. Requires non-disclosure agreement signed with BiMEP.	
Technical Capabilities	
Rated export capacity of berths	5MW@13kVac 1MW@11kVac 150kW@690Vac
Rated import capacity	-
Supply frequency	50Hz
Power factor limits	N.A.
Grid code compliance requirements	Low Voltage Electrotechnical Regulation and its Complementary Technical Instructions BT 01 to BT 51, in accordance with Royal Decree 842/2002, of August 2, and modified by the R.D. 560/2010, of May 7. Royal Decree 337/2014, of May 9, approving the Regulation on technical conditions and security guarantees in high voltage facilities and its Complementary Technical Instructions ITCRAT 01 to 23.
Export power measurement capacity	Three-phase measurement of P, Q, S, V and I and single-phase measurement of power factor and frequency at point of connection.
Consenting process	
Regulatory authorities	Directorate for Coast and Sea Sustainability (Ministry for the Ecological Transition and the Demographic Challenge) and the General Directory for Energy Policy (Ministry of Industry, Trading and Tourism)
Relevant legislation	Royal Decree 1028/2007

Process	Developers must provide • Technical report describing the prototype to be tested. • Test planning. Start and end of main activities. • Material and human means to be used. Personnel involved in the testing. • Occupational risk plan. • Mooring project. • Decommissioning procedure and collection of all the components (prototype, umbilical cable, mooring and all the auxiliary elements). Note: Upon start of contract negotiations, developers will be provided a series of documentation, including a "*Guidance for the Installation in BiMEP*" that will contain all the technical requirements that any device developers shall follow during their testing activities in BiMEP.
Infrastructure & Support Facilities	
Site access	Via boat
Nearest ports	Armintza (3.92km), Bermeo (16.41km), Bilbao (19.42km)
Other facilities	Office facilities included in contract scope
Surveillance	24/7/365 surveillance service
IT	Remote access to deployed IT systems
BiMEP can provide a detailed a list of potential service providers, including shipyards, marine operators, divers, etc. as well as R&D facilities, test rigs, research centres and any other relevant third-parties that could potentially match the need of a MRE developer coming to test to BiMEP. See contact details to request this information. Further information available in: https://www.bimep.com/	

This procurement receives funding under the European Union's Horizon 2020 research and innovation programme under the grant agreement No 883751. The EU is however not participating as a contracting authority in this procurement.

Section B: European Marine Energy Centre (EMEC) GENERAL INFORMATION

The European Marine Energy Centre (EMEC) operates wave and tidal test sites in Orkney (Scotland), where marine energy developers can try out devices in real sea conditions situated close to excellent harbour facilities. Created in 2003, EMEC provides the infrastructure and support services necessary to test wave and tidal energy converters, but has also helped develop international guidelines for wave and tidal testing and also undertake a wide range of consultancy and research work to support the marine energy industry. The Billia Croo offshore test area is located the west of Orkney's Mainland.



© EMEC GOV017L-04-01 20120710

Contact Details	
Address	Old Academy Business Centre Stromness, ORKNEY, KW16 3AW
Contact phone	(01856) 852060
Contact mail	info@emec.org.uk
Site General Information	
Number of berths	5
Location of berths	Berth 1: 58°58.906'N, 03°23.683'W

	Berth 2: 58°58.586'N, 03°23.335'W Berth 3: 58°58.319'N, 03°23.147'W Berth 4: 58°58.048'N, 03°23.231'W Berth 5: 58°59.522'N, 03°24.563'W
Area of test site	7.14 km^2
Depth of the test site	50 – 70 m
Nature of the seabed	The seabed at the Billia Croo test site has sandy deposits towards the northern area with glacial till overlying shallow bedrock to the southern end. Surveys at deeper sites showed some hard substrata with the area predominantly supporting sedimentary biotopes and biotopes characteristic of sand scoured rock.
Mean annual wave power density	25 – 30 kW/m
Mean annual significant wave height	2 – 5 m
Mean annual energy period	7.5 – 9.5 s
1:50 year return wave height	13.0 m
1:50 year return energy period	14.6 s [Tp]
Detailed information regarding following aspects: • Wave developers introduction, data overview, site description (hydrographical, geological, geophysical, site drawings, tidal flow, wave data, weather data), Consents (decommissioning, process guidance, navigational risk assessment, environmental description), operations (electrical systems), project reports. Requires non-disclosure agreement signed with EMEC.	
Technical Capabilities	
Rated export capacity of berths	Up to 2MVA@11kV, depending on client's onshore equipment and subject to an overall site limit of 7MW
Rated import capacity	33kW
Supply frequency	50Hz
Power factor limits	0.85 lag through unity to 0.95 lead
Grid code compliance requirements	Standard requirements for small power station connected to distribution system, i.e. G59/2, G5/4, P28, P29 and relevant sections of the Distribution Code
Export power measurement capacity	Three-phase measurement of P, Q, S, V and I and single-phase measurement of power factor and frequency at point of connection to EMEC 11kV system. Metered at point of connection to the EMEC 11kV network, using voltage transformers to IEC60044-2,

	current transformers to IEC60044-1, power transducers to IEC60688
Consenting process	
Regulatory authorities	Marine Scotland, UK Department for Business, Energy and Industrial Strategy
Relevant legislation	Marine (Scotland) Act 2010, Energy Act 2004, Electricity Act 1989, The Conservation (Natural Habitats, &c.) Regulations 1994, The Wildlife and Countryside Act 1981
Process	Developers are provided with most of the information they need to produce the following device-specific documentation, for Marine Licence applications: • Project Information Summary • Environmental Report (ER) (generic site descriptions are available) • Project Environmental Monitoring Programme (PEMP) • Navigational Risk Assessment (NRA) • Third-party Verification Certificate (TPV) • Decommissioning Programme
Infrastructure & Support Facilities	
Site access	Via Boat
Nearest ports	Stromness Pier (8km), Lyness Pier (21km)
Other facilities	Berthing & working areas, office facilities (supply chain: www.orkneymarinerenewables.com)
Surveillance	24/7/365 surveillance service
IT	Remote Access to deployed IT systems
Further information available in: http://www.emec.org.uk/	