

Demonstration Programme for Ocean Energy Pilot Farms and Supporting Technologies

Ocean DEMO Access: 1st Call for Applications

The main objective of Ocean DEMO (Demonstration Programme for Ocean Energy Pilot Farms and Supporting Technologies) is to help North West Europe¹ enterprises working in low carbon technology to accelerate their transition from single prototype to multi-device farms by providing free access to world-leading test centres.

For this purpose, the project consortium, which includes four test sites in the NWE region (specifically in Scotland, the West of Ireland, West of France and the Netherlands), is happy to announce the **1st Call for Applications** for access to test sites to perform tests and validation of low carbon technologies. The applications received will be checked for eligibility, evaluated by a User Selection Board² and, if successful, granted aid to access the test site of the users' choice by means of a Voucher².

Supporting documentation for this 1st Call comprises the following:

- *This document* (Ocean DEMO Access – 1st Call for Applications)
- Ocean DEMO Access Calls – Rules and Conditions (PDF document)
- Application Form (Microsoft Word format)

These documents, and further information on Ocean DEMO, are available in electronic form on the Ocean DEMO website (<http://oceandemo.eu>). Applicants should become familiar with these documents and, in particular, with the Rules and Conditions before applying to Ocean DEMO.

Who can apply

1. Any enterprise can apply, in whatever form or purpose, whether research centre, third level education institution, company or individual. The applicant must own the technology (or rights to the technology) being tested or validated, and must be **ready to start testing their technology in 2019 or 2020**;
2. Preference will be given to technologies available for testing in late 2019 or early 2020; please see the Rules and Conditions for a complete definition of eligibility;

How to apply

1. Applicants should first contact the Access Coordinator for general information on the call and for eventual guidance in selecting a test site (see *Contacts* below);
2. Applicants are then asked to familiarise themselves with the test site they want to access (listed as first choice in the Application Form), by contacting the test site and holding a preliminary discussion on their test plan and objectives. Additional contacts with test sites listed as second or third choices are also recommended.
3. Applicants should read the Application Form and fully understand the information that is being requested. Once all the recommended preparatory steps have been taken and the

¹ Interreg NW Europe countries are: Ireland, the United Kingdom, Belgium, Luxembourg, Switzerland, France, Germany and the Netherlands. Enterprises from outside these countries may need to establish a subsidiary or a branch

² Please see *Rules and Conditions*

required information is at hand, applicants should fill out the Application Form by editing the Word document.

- The completed Application Form should be signed and a PDF version of it sent to call@oceandemo.eu. The signed original must also be posted to the Access Coordinator.

Deadline for applications

This 1st Call for Applications is open until the **1st July 2019, at 17:00 UTC**.

Additional information specific to this Call

- The User Selection Board will use the following weightings in their evaluation of the applications to this call (please refer to the *Rules and Conditions*):

Criteria	Weight
Readiness for deployment	30
Feasibility	30
Schedule	15
Co-financing strategy	15
Impact	10

- The Vouchers currently available are stipulated below (refer to the *Rules and Conditions* for clarification):

	EMEC	DMEC	ECN/SEM-REV	SMARTBAY
Sources of funding				
Ocean DEMO (Interreg)	60%	60%	60%	60%
Test Site Operator	Up to 40% ^{*1}	Up to 40% ^{*1}	Up to 40% ^{*1}	Up to 40% ^{*1}
User	Up to 40% ^{*2*3}	Up to 40% ^{*2}	Up to 40% ^{*2}	Up to 40% ^{*2}
Specific conditions	<p>(*1) In some limited cases, the test site can absorb up to 40% of the access costs</p> <p>(*2) Most commonly, the user must enroll as an Ocean DEMO Interreg NWE sub-partner of the selected test site; the amount supported by the user will be discussed and detailed in the access contract. Terms and condition of the Interreg contract³ will apply to sub-partners.</p> <p>(*3) Typically up to €100k, with funds going towards the developer's associated activities, e.g., marine operations.</p>			
Foreground and IP				

³ Interreg terms and condition: http://www.nweurope.eu/media/6396/programme-manual_v9-new.zip

	Foreground and IP stay with the user (in the case of ECN/SEM-REV, Foreground and IP related to the developer’s device – system and subsystems – stay with the user; site specific IP stays with ECN).
Services and facilities included	
	Access to the site; use of infrastructure; access to test site personnel; data services (including inter-comparison with reference data).

Contacts

Any question regarding this 1st call for Applications should be addressed to the Access Coordinator.

Access Coordinator:

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Test sites

The test sites that are included in this call are listed below along with a general overview; please check the URL provided for detailed information and data.

Test sites	EMEC	SMARTBAY	SEMREV	DMEC
Site Specifications				
Detailed Datasheet	WAVE	TIDAL	http://www.oceanenergyireland.com/TestFacility/SmartBay	https://sem-rev.ec-nantes.fr/offshore-site-characteristics/offshore-site-characteristics-200771.kjsp?RH=1493711931525 http://semrev.fr/images/SEMREV_Pres_EN.pdf
Location	Orkney, Scotland	Orkney, Scotland	Spiddal, Galway Bay, Ireland	Le Croisic, France
Number of berths	6 grid-connected 2 non-grid connected	7 grid connected 2 non-grid connected	3, non grid connected-wave and floating wind	3 grid or non-grid connected.
Total testing area or width	8.8 km ²	8.4 km ²	0.4 km ²	1 km ²
Distance to land station	1.5 – 2.5 km	1.5 – 2.5 km	1.5 km	18 km
Depth (LAT)	20 m (near shore) 50-70 m (cabled) 21-25m (scale)	34 – 50m (cabled) 20m (scale)	23 m	32-36 m
				Den Oever, Marsdiep, Grevelingen (panned) Netherlands 5 Ducts (D, of which 3 planned for 2017); 1 floating platform (FP) D: 44 m FP: 1 km ² FP: 800 m D: 0 m FP: 30 m D: 4 – 6 m

Soil type	Sand and glacial till	Sand or Rock (cabled) Sand, boulders (scale)	Sand with some silt	Sand (0.2 – 0.5mm)	FP: Sand
Environmental conditions					
Environ. monitoring	3 wave buoys	1 ADCP Met Station Radar Subsea monitoring pod Required ADCP (scale)	1 wave buoy, subsea node: (acoustic, water quality, camera, ADCP, CTD)	2 ADCPs 3 wave buoys Met Station Subsea monitoring pod	D: ADCP FP: 2 ADCP, Met Station Subsea wave profiler (AWAC)
Average Resource	20-30kW/m [WAVE]	[TIDAL]	¼ Atlantic scale [WAVE] 9.6 m/s [WIND]	12 kW/m [WAVE] 7.5 m/s [WIND]	[TIDAL]
Max. Wave height	8-10m (winter peaks)	9.7m (50yrs return H _s)	8.65m (50yrs return H _s)	9.62 m (50yrs return H _s)	FP: H _s =1.7 m (50yrs return H _s =1.9 m)
Max. Current speed	2 m/s (occasionally measured)	4 m/s	0.7 m/s	0.7 m/s (10yrs return)	FP: 2.0 m/s D: 4.5 – 6 m/s
Max tide range	3.6 m	3.5 m	4 m	6.2 m	D: not relevant FP: 2.2 m
Mean wind speed	60.3 m/s	5.83 m/s Substation 8.62 m/s Offshore	9.6 m/s	7.5m/s (+10m, 1h average)	FP: 8 m/s
Max. wind speed	25.45 m/s	23.06 m/s Substation 29.42 m/s Offshore	32.9 m/s (20-year return period)	29m/s (50yrs return, +10m, 1h average)	FP: 25 m/s

Consenting					
Authorities	Marine Scotland		SEAI, FLU	Prefecture and Prefecture Marine	Rijkswaterstaat, province of North-Holland
Process	Developers are provided with most of the information they need for marine licence application		Licensed site for generic ocean energy; some device types may require a license addendum	Generic consent for wave energy and wind energy devices. Informative file 3 months prior to deployment.	Generic consent for tidal devices
Surveys	Hydrographic, geological, geotechnical, wildlife observation, acoustic		Hydrographic, geological, geotechnical, wildlife observation, acoustic	Hydrographic, geological, geotechnical, wildlife observation, acoustic	FP: Bathymetric and hydrodynamic surveys, seabed geological database information
Infrastructure					
Rated export capacity and connection	Up to 2MVA per berth 11kV 100kW (scale)	Up to 3MVA per berth 11kV 100kW (scale)	Not grid connected	Site limit 8MW 20kV 3 slots HUB	FP: 200 kVA D: 160kVA Den Oever - 3MVA Grevelingen
Comm.	Fibre for cabled berths. WiFi link for scale.	Fibre for cabled berths. WiFi link for scale.	Subsea node: FO Surface: GPRS, VHF, WiFi, 5.2 GHz	24 FO Backup Hlink Secured VLAN	Wireless
Land station	Elec. substation working areas, offices.	Elec. Substation, working areas, offices.	Workshops, warehouses, offices.	Elec. Substation, server room, offices, accommodation.	Elec. substation, server room, offices.
Site access	Stromness (8km) Lyness (21 km)	Eday (6 km) Kirkwall (22 km)	Spiddal (4.5km) Galway (25 km)	La Turballe (22km) St Nazaire (50 km)	D: Den Oever (1km), Bruinisse (5 km) FP: Den Helder (6 km)

Services					
Documents for the developer	<ul style="list-style-type: none"> - Data overview - Site description - Consents - Operations - Project reports 	<ul style="list-style-type: none"> - Data overview - Site description - Consents - Operations - Project reports 	<ul style="list-style-type: none"> - Test Site Access procedure - Test Site Description - HS&Q manual 	<ul style="list-style-type: none"> - Test site description - Test site user guide - Test site requirement 	<ul style="list-style-type: none"> - Test site description
Internal documents	<ul style="list-style-type: none"> - Accredited Integrated Management System - Developers research forum - Emergency response procedures - Standard operation procedures - Performance assessment 	<ul style="list-style-type: none"> - Accredited Integrated Management System - Developers research forum - Emergency response procedures - Standard operation procedures - Performance assessment 	<ul style="list-style-type: none"> - Emergency response plan - Operations and Management plan - SOP - Data plan 	<ul style="list-style-type: none"> - Risk prevention plan - Exploitation rules - Permits and authorizations 	<ul style="list-style-type: none"> - Emergency response plan - Operation manual - Work request form - Visitors guide & waiver - Lock-out/tag-out procedure