

Funding Ocean Renewable Energy through Strategic European Action

FORESEA Access: 2nd Call for Applications

The main objective of FORESEA (Funding Ocean Renewable Energy through Strategic European Action) is to help North West Europe¹ enterprises working in low carbon technology to test their technologies in real sea environments and to enable power to be economically extracted from the ocean.

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 **2nd 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 Support Package².

Supporting documentation for this 2nd Call comprises the following:

- *This document* (FORESEA Access – 2nd Call for Applications)
- FORESEA Access – Rules and Conditions version 2.0 (PDF document)
- Application Form (Microsoft Word format)

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

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 prior to OCT 2018**;
2. Preference will be given to technologies available for testing in 2017; 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 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). Applicants must contact the test site and hold a preliminary discussion on their test and financial plans 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 required information is at hand, applicants should fill out the Application Form by editing the Word document.

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*

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

Deadline for applications

This 2nd Call for Applications is open from the **8th November 2016** until the **28th February 2017, at 17:00 UTC**.

Additional information specific to this Call

1. 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 | 25 |
| Feasibility | 20 |
| Schedule | 15 |
| Co-financing strategy | 25 |
| Impact | 15 |

2. The Support Packages currently available are stipulated below (refer to the *Rules and Conditions* for clarification):

| | EMEC | TTC | ECN/SEM-REV | SMARTBAY |
|------------------------------|--|-------------------------|-------------------|-------------------------|
| Sources of funding | | | | |
| FORESEA (Interreg) | 60% | 60% | 60% | 60% |
| Test Site Operator | Up to 40% ^{*1} | Up to 40% ^{*1} | 40% ^{*4} | Up to 40% ^{*1} |
| User | Up to 40% ^{*2*3} | 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 a FORESEA 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 eligible funds coming from the developer's existing associated activities, e.g., marine operations.</p> <p>(*4) In the frame of a collaborative research project, the national French Research Agency can match FORESEA funding.</p> | | | |
| Intellectual Property | | | | |

³ Interreg terms and condition: http://www.nweurope.eu/media/1302/programme-manual_v4.pdf

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

Contacts

Any question regarding this 2nd Call for Applications should be addressed, in the first instance to the Access Coordinator.

Access Coordinator:

Eoin Nicholson, *SmartBay Ireland Ltd.*

eoin.nicholson@smartbay.ie

Marine Institute Building, Rinville, Oranmore H91 R673, Ireland

Ph: +353 (0)91 387540

Other contacts:

Project Leader:

Nicolas Wallet, FORESEA Project Manager, *EMC, UK*

nicolas.wallet@emec.org.uk

Ph: +44(0)1856 852203

Project Communications Officer:

Rob Flynn, FORESEA Communications Manager, *Ocean Energy Europe, Belgium*

r.flynn@oceanenergyeurope.eu

Ph: +32(0)24001040

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 | ECN/SEM-REV | TTC | |
|------------------------------------|---|---|---|---|---|
| Site Specifications | | | | | |
| Detailed Datasheet | WAVE | TIDAL | http://www.smartbay.ie/Facilities/MarineandRenewableEnergyTestSites.aspx | http://semrev.fr/images/SEMREV_Pres_EN.pdf | http://www.tidaltesting.nl/our-facilities |
| Location | Orkney, Scotland | Orkney, Scotland | Spiddal, Galway Bay, Ireland | Le Croisic, France | Den Oever, Marsdiep, Grevelingen (panned) Netherlands |
| Number of berths | 6 grid-connected 2 non-grid connected | 7 grid connected 2 non-grid connected | 3 | 3 (grid or non-grid connected). | 5 Ducts (D, of which 3 planned for 2017); 1 floating platform (FP) |
| Total testing area or width | 8.8 km ² | 8.4 km ² | 0.4 km ² | 1 km ² | D: 44 m FP: 1 km ² |
| Distance to land station | 1.5 – 2.5 km | 1.5 – 2.5 km | 1.5 km | 18 km | FP: 800 m D: 0 m |
| Depth (LAT) | 20 m (near shore) 50-70 m (cabled) 21-25m (scale) | 34 – 50m (cabled) 20m (scale) | 23 m | 32-36 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] | 12 kW/m [WAVE] | [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 | Hydrographic, geological, geotechnical, wildlife observation | 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 |