



## SEM-REV

Name of person filing the form

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Project name: Site d' Expérimentation en Mer pour la Récupération de l'Energie des Vagues (Experimental Test Site for Wave Energy)

### Project description

*Project Developer:* Ecole Centrale de Nantes (ECN) (owner)

*Technology type:* wave & floating offshore wind energy devices

*Resource:* wave (23 year mean 14.4 kW/m)

*Project scale:* full scale grid connected wave energy test site

*Installed capacity (MW)* 8 (Grid connected)

*Additional Description:* The test site occupies approximately a 1km<sup>2</sup> test zone area and is fully instrumented and monitored. The test site will comprise a 8 MVA power cable connected to the national grid through an onshore substation. A new substation will be built on land and will be the connection point to the 20 kV local electricity distribution grid which is connected to the national Electricity Transport Network through an existing substation. The SEM-REV is a fully fitted wave energy test facility intended to test and improve the efficiency of Wave Energy Converters at an early stage of development. The facilities for monitoring and controlling the systems are currently available on the site. The test site is also suitable for testing floating offshore wind turbines.

*Project Support:* Regional Development Programme (CPER) 2007-2013 "Alternative Energy & Research" Scheme (about 15 M€ of funding).

*Project Website:* [www.semrev.fr/](http://www.semrev.fr/)

Location: A wave energy demonstration and proving site located at 30 m water depth, 15 kilometres off north of Le Croisic in Pays de la Loire, at France. Coordinates (WGS 84) 2° 46' 04",8 W - 47° 14' 20",4 N; 2° 46' 52",8 W - 47° 13' 56",4 N; 2° 46' 34",8 W - 47° 14' 42",0 N and 2° 47' 22",8 W - 47° 14' 20",4 N.

### Process status:

Test site operational since the consents have been approved in July 2011. Full electrical connection during October 2012.

### Licensing information (brief description):

Concession on the maritime public domain (accepted July 2011). Authorization regarding the Water Act (Accepted July 2011). Building permits: onshore substation, cable shore approach, etc.

### Key Environmental issues

Physical characteristics: waves, currents, winds, water level, tides, geophysics, geotechnics, geology and hydrogeology, geomorphology and bathymetry. Water quality. Biological medium. Protected sensitive areas. Landscape. Uses and activities.

Several surveys have been carried out. Here are a few examples:

- Point measurements of waves and currents surrounding wave energy test sites
- Surveys of marine invertebrates around test sites
- Benthic sediment studies at test sites
- Monitoring sites of national heritage.

Environmental webpage: [www.semrev.fr](http://www.semrev.fr)

<b>Baseline and project effects studies:</b>				
<b>General description</b>				
<b>Receptor</b>	<b>Study description including question and/or objective</b> (several can be listed per receptor)	<b>Design and methods</b> (brief description)	<b>Results</b> (brief description)	<b>Status</b> (planned, underway, completed, with dates)
<b>Physical environment</b>	Initial state to EIA	Environmental act	Negligible effects	Completed
<b>Benthos</b>	Initial state to EIA	Environmental act	Negligible effects	Completed
<b>Fish and fisheries</b>	Initial state to EIA	Environmental act	Negligible effects	Completed
<b>Large vertebrates</b>	Initial state to EIA	Environmental act	Negligible effects	Completed
<b>Birds</b>	Initial state to EIA	Environmental act	Negligible effects	Completed
<b>Marine uses / users</b>	Initial state to EIA	Environmental act	Negligible effects	Completed
<b>Other (can be named)</b>	N/A	N/A	N/A	N/A
<b>Reports and papers</b>	- Reports are not publicly available.			
<b>Research projects</b>	EU projects: SOWFIA, MARINA PLATFORM, MARINET, TROPOS			

<b>Monitoring and adaptive management</b>				
<b>General description</b>				
<b>Receptor</b>	<b>Monitoring program description including question and/or objective (several can be listed per receptor)</b>	<b>Design and methods (brief description)</b>	<b>Results (brief description)</b>	<b>Status (planned, underway, completed, with dates)</b>
<b>Physical environment</b>				Completed
<b>Benthos</b>				Completed
<b>Fish and fisheries</b>				Completed
<b>Large vertebrates</b>				Completed
<b>Birds</b>				Completed
<b>Marine uses/ users</b>				Planned
<b>Other (can be named)</b>				
<b>Reports and papers</b>	-			
<b>Research projects</b>	EU projects: SOWFIA, MARINA PLATFORM, MARINET, TROPOS			