



Marine Renewable Energy naturally!

Port of Cherbourg

Port of Caen-Ouistreham

PNA
PORTS OF NORMANDY AUTHORITY
CAEN-OUISTREHAM CHERBOURG



A whole Region mobilised for the MRE industry

Developing Marine Renewable Energy (MRE) is a challenge for France, but also for Europe.

It will not be successful without the right port infrastructure to back it up.

The two largest ports in Lower Normandy, Cherbourg and Caen-Ouistreham, managed by the Ports of Normandy Authority (PNA), are ready to welcome operators from the industry.

Ports of Normandy Authority: an attentive service provider

Capturing the Marine Renewable Energy sector for the region will bring in an industry with a future, which will create jobs and generate sea traffic. It is a major ambition for the local economy and for the Ports of Normandy Authority (PNA*). PNA, convinced that they and the region they have a great deal to offer, were quick to become involved in order to gain a clear picture of manufacturers' and energy companies' requirements. They have thus been able to anticipate, plan and finally be ready to guarantee the land and infrastructures that are indispensable for leading companies, both in Cherbourg and Caen-Ouistreham. At the same time, the local authorities that are members of PNA have decided on substantial contributions in order to provide funding.

(*) The Ports of Normandy Authority have been the owners and port authority for harbour facilities in Caen-Ouistreham and Cherbourg since 2007. They are a public-private entity associating the Lower Normandy Regional Council and the Manche and Calvados Département Councils. PNA's role includes developing the harbour area, choosing who is to work in the ports, deciding on the direction to be taken by the ports' development policy, and guaranteeing the safety of shipping entering the harbours. The local authorities who are members of PNA have also made them responsible for injecting more dynamism into the performances of both ports, which will provide activity for the local economy and meet challenges for development.



Cherbourg and Caen-Ouistreham: home ports for Marine Renewable Energy activities

Ideally located near the future French and British wind-turbine and tidal turbine farms, the ports of Cherbourg and Caen-Ouistreham have all the qualities required by the manufacturers of Marine Renewable Energy equipment.

There are already numerous projects in progress: the installation of the first offshore wind farm off Courseulles-sur-Mer (and its maintenance base in Caen-Ouistreham), the imminent start-up in Cherbourg of factories for building and assembling wind turbines for the EMF consortium (Éolien Maritime France - made up of EDF EN, DONG, WPD, with Alstom as their supplier). Another important element is the land already reserved by large industrial groups such as DCNS, Voith, Alstom and Siemens, for manufacturing and assembling tidal turbines and providing maintenance for them. These tidal energy projects may also include manufacturing operations.



100 million Euros of investments

This potential has led the Lower Normandy Region to commit unreservedly to developing the MRE sector, mobilising all the human, structural, technological, maritime and financial resources in the area. To make the Port of Cherbourg more attractive, 100 million Euros are going to be spent on its development over a four-year period: 40 million Euros for extending the Quai des Flamands and improving the access roads and railway lines, and 60 millions for land reclamation inside the main roadstead.

The Port of Cherbourg is ready and waiting

The Port of Cherbourg is ready and waiting. Cherbourg is getting ready for the arrival of Marine Renewable Energy, and will be delivering tailor-made equipment on time. In total, 100 million Euros are going to be invested in two major projects.

• AN EXTENDED QUAY, DESIGNED FOR HEAVY LOADS

The extension of the Quai des Flamands will equip the Port of Cherbourg for providing highly efficient handling operations for MRE loads.

Longer wharves > the first tranche was launched at the beginning of 2013. It involves extending the Quai des Flamands by 320 metres to the south, including a 100-metre perpendicular section, giving a total length of 680 metres.

For heavier loads > with a view to optimising handling activities and the frequent transshipment of heavy loads such as nacelles, towers or offshore-wind-turbine foundations, the Quai des Flamands extension will have a 15-tonne/m² bearing capacity, making it two to three times stronger than standard wharves.

For larger ships > This new berthing area will also enable boats with a draught of up to 14 metres to come alongside, increasing the harbour's capacity to accommodate large ships.

Joined up land > The diversion of the roads and railway lines, begun early in 2014, will facilitate logistics in the port, while making the available plots fit for purpose.



Late 2014

The quay will be delivered, in accordance with the schedule.

• AN EXTENDED PORT AREA, DEVELOPED TO HOUSE NEW PROJECTS

To deal with the emergence of the tidal turbine industry, and to be able to accommodate new wind turbine projects, PNA are reclaiming land inside the main roadstead and developing it for future use.

The Port of Cherbourg is ideally located near the Race of Alderney and Barfleur. PNA are already integrating development for the tidal turbine industry by reclaiming 39 hectares of land. The aim is also to have room for new wind-turbine activities.

Unique assets

An advanced platform in the English Channel, within easy reach of the British coast, the Port of Cherbourg has a whole list of remarkable qualities:

- accessible 24/7, with no locks or air space constraints
- firm ground, ideal for handling heavy loads
- 500-T Ro-Ro linkspan
- a harbour in the shelter of the largest artificial roadstead in Europe, which can be used for storage operations away from the port area and berths
- launching facilities: 3000-T Synchrolift, 300-T ship lift
- 13 metres of water guaranteed all year round
- multimodal: access by dual carriageway or railway line
- zone without any specific regulatory constraints.

- 1 - South quay extension
- 2 - Wind turbine blade and tower factory
- 3 - Wind turbine assembly hub
- 4 - Harbour Land extension
- 5 - North quay extension
- 6 - Other Harbour activities
- 7 - Services Harbour
- 8 - Creation of an activities area
- 9 - Synchrolift
- 10 - Self-propelling Gantry Crane Jetty
- 11 - Rail and road network



2017

The new land will be delivered.



The port of Cherbourg

Adapting Cherbourg Harbour for MRE



V. Laisney

The port of Caen-Ouistreham

Port of Caen-Ouistreham: completing the picture

Cherbourg's strategic offer is actively complemented by Caen-Ouistreham, 120 kilometres down the coast.



Oreka Ingénierie

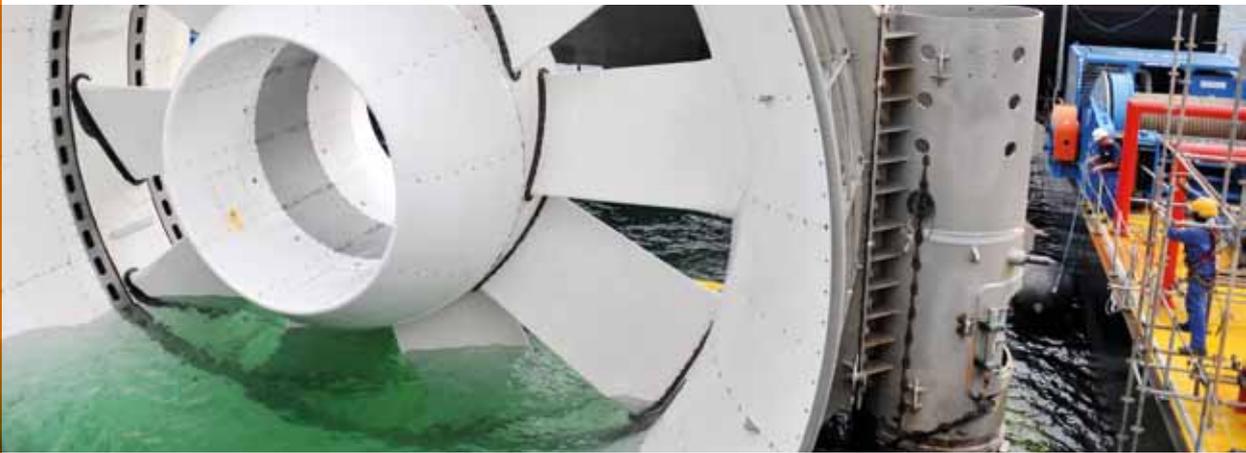
Adapting Caen-Ouistreham Harbour for MRE.

15 nautical miles from the Courseulles-sur-Mer offshore wind farm, Caen-Ouistreham's features orient it naturally towards serving as a base for people involved in the offshore wind turbine construction phase, and then in the maintenance stage once the wind farms are up and running:

- outer harbour accessible 24/7
- plentiful holding space along the canal
- a wide range of harbour services (port area safety and security, towing)
- access to motorways, airport and ferry
- services available from the large conurbation around the regional capital, Caen: plentiful hotel capacity, a host of leisure and cultural activities, etc.



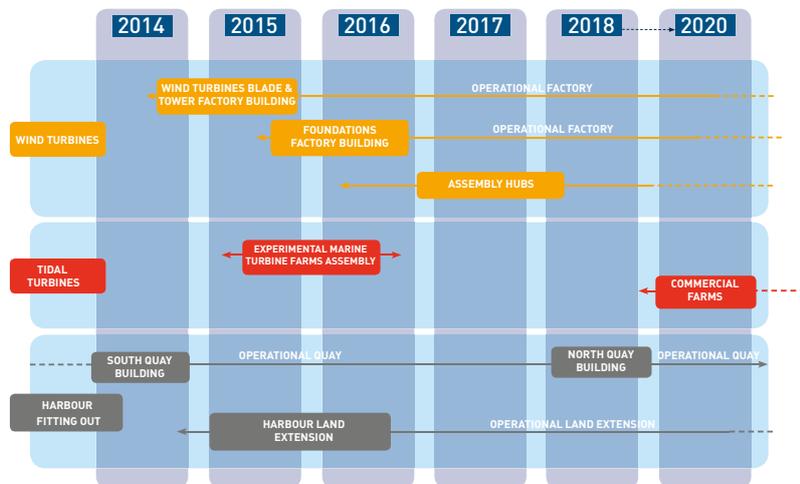
WPD Offshore



DCNS

Cherbourg: France's leading port for MRE

PNA are completing their development programme to schedule, giving the Port of Cherbourg a made-to-measure wharf, and increasing the land dedicated to Marine Renewable Energy to almost 100 hectares. They are thus taking up a position as a candidate for the brand new industrial and logistics installations for the wind-turbine or tidal turbine sectors and contributing to the emergence of a new national industry.



aprim

François Hollande launches the tidal turbine industry in Cherbourg

On 30 September 2013, in the Cité de la Mer in Cherbourg, the President of the French Republic, François Hollande, officially launched the development of the tidal turbine industry in France. French and foreign manufacturers came together for a round table with Mr Hollande and four members of his government. Experimental pilot tidal turbine farms will first be installed in the Race of Alderney (very close to Cherbourg), the area in Europe with the most potential for tidal energy. The part of this area in French territorial waters has an estimated potential of 2 GW (with as much again around Alderney, in the Channel Islands).

A whole region mobilised

The local public company 'West Normandy Marine Energy' (ONEM - *Ouest Normandie Énergies Marines* - created in April 2012 on an initiative by the Lower Normandy regional council, the Manche département council and the Cherbourg Urban District Council), are promoting Lower Normandy, contacting major players in the Marine Renewable Energy sector. Their aim is to create an industrial structure around MRE so that the region can take the lead in energy diversification. Apart from its natural human, structural, maritime and scientific qualities that make Lower Normandy ideal for the development of offshore wind turbines and tidal turbines, the region can also boast eleven teaching and research centres, and no less than 150 small and medium companies ready to serve the MRE industry.



Alstom-Cyril Abad



Siemens



SPEC



Ports of Normandy Authority

3 rue René Cassin - 14280 Saint-Contest
Tel. +33 (0)2 31 53 34 61 - Fax +33 (0)2 31 53 64 64
contact@pna-ports.fr
www.pna-ports.fr
www.pna-emr.fr

