



BRETAGNE



A STRATEGIC LOCATION

In the heart of Offshore Wind
& Marine Energies Market

BRETAGNE 
OCEAN PO'WER

A project of the



COFINANCÉ PAR
UNION EUROPÉENNE
UNANIEZH EUROPA



L'Europe s'engage
en Bretagne /

165 COMPANIES to find your right partner

Marine Energy in Brittany is a sector with more than 165 companies working:

- in all MRE technologies
- and at all stages of MRE projects.

Bretons companies are already involved in many marine energy project in Europe, such as the Ailes Marines project in Bay of Saint-Brieuc. They are ready for other projects, including the call for tender for the South Brittany floating wind farm.

Find the right partner for your business: more than 165 companies and 26 research labs are referenced by skills in our online directory.



www.bretagneoceanpower.fr/directory

3 TESTS SITES to prove your concept

Open sea test sites are open to your projects, whether they are in the development or pre-commercialization phase. Specialists accompany you from the commissioning to the connection to the network and up to the tests. They host all kinds of marine energies and offshore wind technologies (tidal turbines, floating wind turbines, etc.).

If you need to perfect your technologies, you can count on the expertise of more than 165 companies and research centres dedicated to offshore wind and marine energy technologies in Brittany.

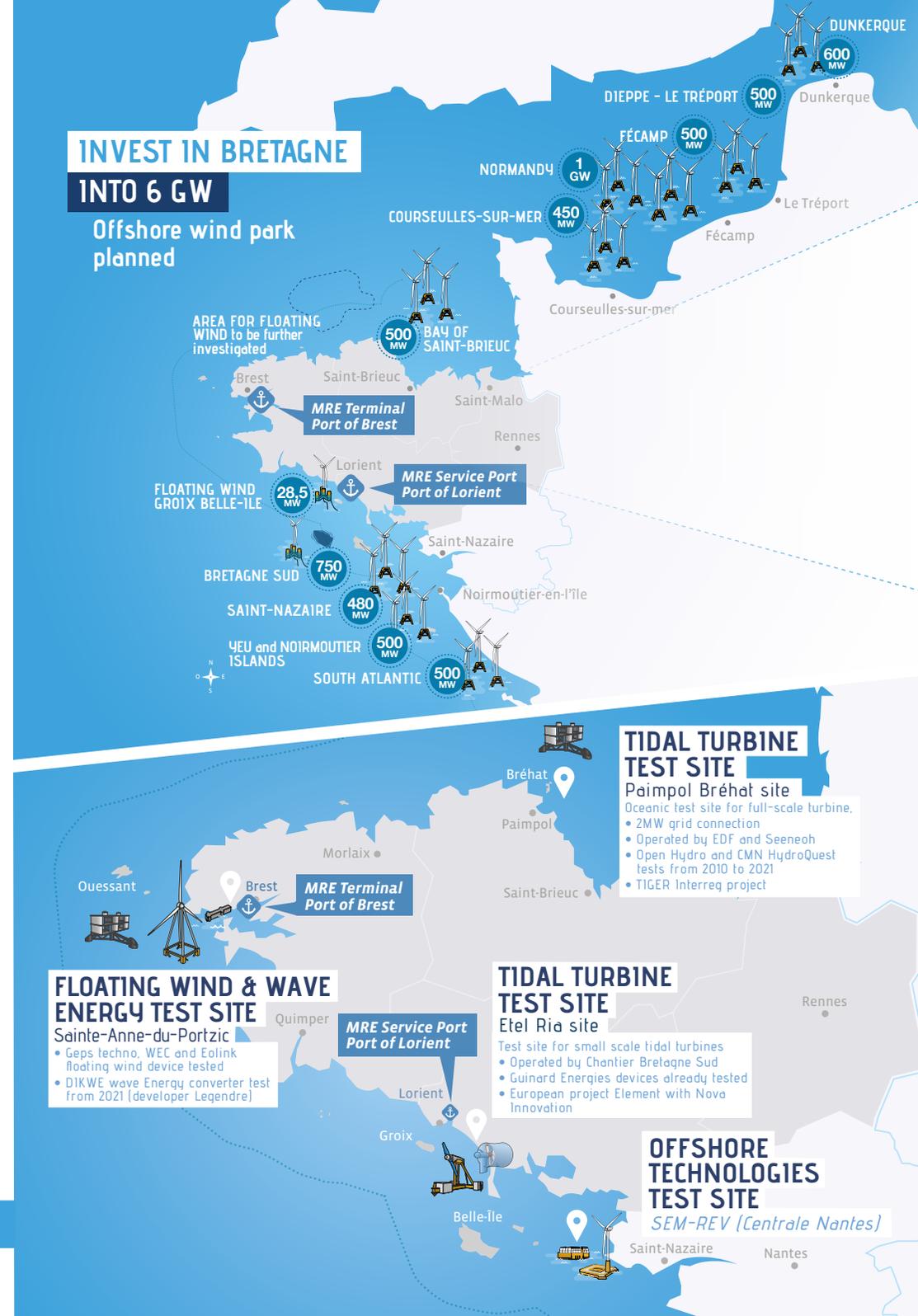
On Paimpol-Brehat test site, European Tiger Project is dedicated to demonstrate that tidal stream energy is a maturing industry, capable of achieving an accelerated cost reduction pathway.



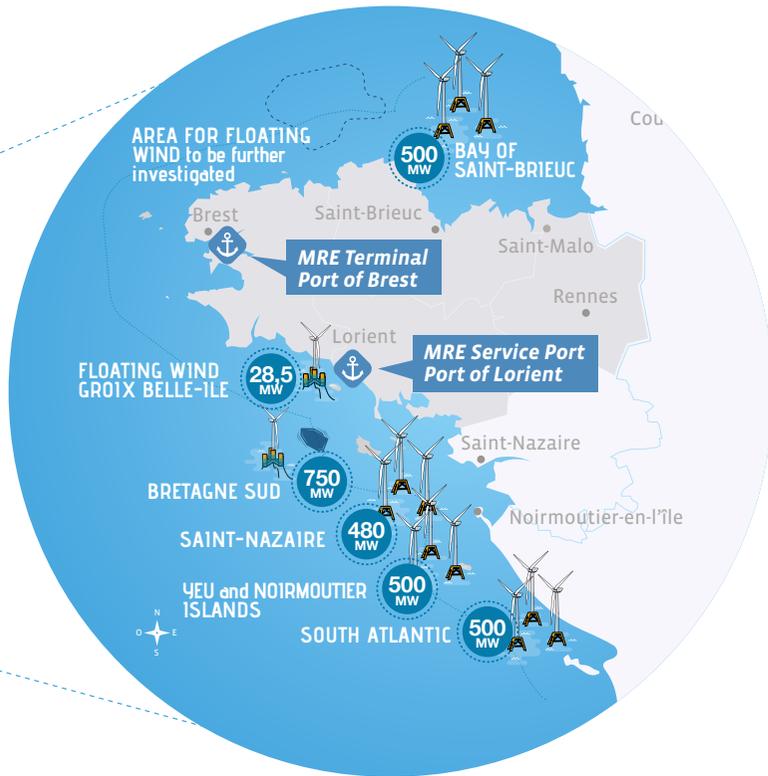
testsites.bretagneoceanpower.fr

INVEST IN BRETAGNE INTO 6 GW

Offshore wind park planned



DEDICATED PORT INFRASTRUCTURE specialised for more efficiency



PORT OF BREST

A new terminal dedicated to large MRE projects:

- 40** ha OF INDUSTRIAL LOTS CONNECTED TO SEA AND TRANSPORT NETWORKS
- 64** t/m² FROM 10 TO 64 T/M² LOAD BEARING CAPACITY
- 380** LM OF DOCK WITH A HANDLING BERTH OF 100 m WIDTH
- LOCATED IN A PROTECTED ROADSTEAD WITH EASY ACCESS
- FREIGHT PORT AND LOGISTIC HUB FOR EUROPEAN SEAWAYS
- DEDICATED WORKSHOP OF 1375 M² WITH BRIDGE CRANE 50 TONS
- HEAVY LIFTING CRANES UP TO 200 TONS
- UNRESTRICTED ACCESS TO OPEN SEA & NO AIR DRAFT RESTRICTIONS
- 8 m CHANNEL ACCESS DEPTH: 8 m BELOW CD
- 1st FRENCH PORT FOR SHIP REPAIR (3 DRY DOCKS)
- 12 m BERTH DEPTH ACCESS: 12 m BELOW CD

PORT OF LORIENT

A logistic hub for installation and maintenance:

- SHeltered and ACCESSible BA4: UNRESTRICTED ACCESS TO OPEN SEA & NO AIR DRAFT RESTRICTIONS, EASY ACCESS 24/7, WATER HEIGHT OF 9M (+6M50 TIDAL RANGE)
- 2.5 ha 25 HA DEDICATED TO THE INSTALLATION STEP:
 - 800 LM OF QUAY
 - 13M CD DRAFT
 - RORO HANDLING
 - SUITABLE LIFTING EQUIPMENT INCLUDING A 30T CRANE AT 30M
- 1.5 ha MAINTENANCE BASE AND ASSOCIATED SERVICES:
 - 15 HA
 - 100 LM OF QUAY
 - 3M CD DRAFT
 - CREW FACILITIES
- SHIP REPAIR AREA WITH SHIFLIFT UP TO 650 T AND 80 LM OF QUAY (8T/M²)
- 14 001 ISO CERTIFICATION

OFF-GRID SOLUTIONS

to become self-sufficient in energy

Ouessant Island is a full-size demonstrator that proposes technical solutions to make it autonomous and integrating renewable marine energies.

We operate on 3 levels:

- Reduce and manage energy consumption
- Produce energy locally from sustainable sources
- Create and manage the local energy loop with a microgrid

This model can be extended to all territories that are isolated from a national electricity grid and wish to become autonomous and decarbonised.

Call us, we create the link with the companies who develop these solutions.



Offshore Wind and Marine Energies IN BRITTANY

TIDAL ENERGY
 Ouessant Island PILOT SITE
 Sabella D10 (Sabella European Project)

OFF-GRID ISLAND DEMONSTRATOR
 Model of a 100% autonomous island with 100% renewable energy including:
 • Connection of a tidal turbine, photovoltaic power plant, electricity storage system
 • Smart grids regulate and manage consumption and production using an energy management system
 • Ice Interreg project
 • Phares project: Installation of 2 tidal turbines from 2022
 • Developer: Akuo

FLOATING WIND & WAVE ENERGY TEST SITE
 Sainte-Anne-du-Portzic
 • Geps techno, WEC and Eolink floating wind device tested
 • DIKWE wave Energy converter test from 2021 (developer Legendre)

ONSHORE WAVE ENERGY PILOT SITE
 • Esquibien breakwater in Audierne
 • DIKWE full scale prototype project to be studied, installation from 2024

OFFSHORE WAVE ENERGY PILOT SITE
 • Existing offshore site, preliminary studies already performed
 • Further project to be studied

AREA FOR FLOATING WIND TO BE FURTHER INVESTIGATED

MRE Terminal Port of Brest

MRE Service Port Port of Lorient

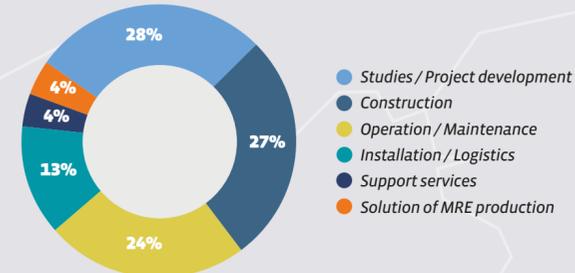
FLOATING WIND GROIX BELLE-ÎLE PILOT FARM
 1st REAL-SCALE TEST FOR THE 3 X 9.5 MW MH1 VESTAS WIND TURBINES
 • Commissioning planned for 2024
 • Project developers: Shell Eolif, CGN Europe Energy, Banque des Territoires
 • Support from ADEME

750MW FOR FLOATING WIND
 Call for tender
 • 250 MW 2021
 • 500 MW from 2023

TIDAL TURBINE TEST SITE
 Paimpol Bréhat site
 Oceanic test site for full-scale turbine.
 • 2MW grid connection
 • Operated by EDF and Seeneoh
 • Open Hydro and CMN HydroQuest tests from 2010 to 2021
 • TIGER Interreg project

BOTTOM-FIXED OFFSHORE WIND FARM
 Bay of Saint-Brieuc
 • 496 MW commissioning 2023
 • Project developer: Ailes Marines
 • 62 wind turbines Siemens Gamesa Renewable Energy SG 8.0-167 DD, assembled in Le Havre and Brest
 • Jacket foundation Navantia Windar built in Brest (FR) and Fene (ES)

165 COMPANIES ON THE WHOLE VALUE CHAIN



28.5 MW

750 MW

TIDAL TURBINE TEST SITE
 Etel Ria site
 Test site for small scale tidal turbines
 • Operated by Chantier Bretagne Sud
 • Guinard Energies devices already tested
 • European project Element with Nova Innovation

OFFSHORE TECHNOLOGIES TEST SITE
 SEM-REV (Centrale Nantes)

BOTTOM-FIXED OFFSHORE WIND FARM
 Saint-Nazaire
 (EDF R. Enbridge)
480 MW

TIDAL POWER PLANT (EDF)

240 MW

496 MW

Research centres

- Ifremer Brest: Wave and Wind Tank and test site
- Campus Mondial de la Mer (Worldwide campus for blue growth) - Brest
- ENSTA Bretagne - Brest
- ITE France Energies Marines - Brest

Business and innovation clusters

- Pôle Mer Bretagne-Atlantique
- Bretagne Pôle Naval
- Breizh EMR
- Pôle EMC2
- Technopole Brest Iroise

Marine Energy ports

- Maintenance ports

/ Geographical scale



BRETAGNE ^{BE}
OCEAN POWER
 by Région Bretagne

BRITTANY, HOME OF FLOATING WIND

1ST COMMERCIAL PROJECT AWARDED IN EUROPE



40GW by 2050
with a significant
part of floating

/ Have a project? Contact us!

Philippe Thieffry
Head Officer at Bretagne Ocean Power
p.thieffry@bdi.fr
+33(0)2 97 30 27 90

www.bretagneoceanpower.fr



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