



MARLIN

DEVELOPING HEAT EXCHANGERS AND DEEP-WATER PIPING FOR OCEAN THERMAL ENERGY (OTE)

Ocean Thermal Energy (ETM) technology is designed to produce constant renewable electricity. Based on a (steam-driven) thermal motor installed on an offshore or onshore platform, this energy-generating system exploits the natural temperature difference between surface and deep water in equatorial and tropical seas.

Thermodynamic fluid in an embedded closed circuit vaporizes in a heat exchanger (evaporator) as a result of the warm surface seawater. Under pressure, the vapour drives a turbine which, connected to a generator, produces electricity. As a result of the cold seawater, the vapour then re-condenses in another exchanger (condenser) and can thus begin a new cycle. OTE is therefore a basic renewable energy.

The MARLIN project is proposing through laboratory research and testing to develop and describe different materials for piping deep water and to offer a choice of solutions as to the composition of the constituent elements, and will validate their durability. Models of the piping will be validated on mock-ups in tank tests. Real-life tests in tropical seas will then be carried out over 3 years. The MARLIN project will also test innovative solutions for heat exchangers and will describe methods of treating biofouling.

A specific test bench will initially be created in Cherbourg before being installed in Martinique for a period of two and a half years to take advantage of the tropical seawater conditions.

Contact: raphael.vambre@pole-mer-bretagne.com

Partners

COM_PROJECTS_CATEGORIE_PARTNER_ENTREPRISES

Naval Energies, Nantes [[Project Developer](#)]

Research centers

France Energies Marines
Ifremer, Brest

Local authorities

Région Martinique
Région Pays de la Loire
Région Réunion

Other partner

Université de La Réunion

Funder

Ademe

Labelisation

23/05/2014

Overall budget

17 088 K€