OTEC development at DCNS

OTEC, a Renewable energy for tropical areas.

A thermodynamic cycle using tropical seas temperature gradient of 20° existing between sea surface water at about 25°C and cold deep water (-1000 m) at about 5°C.

OTEC advantages:

• Unlimited resource in tropical seas
• Stabilized and constant electricity production (24/7)
• A solution to the dependence on fossil fuels in isolated areas

Project pending:

• 2011-2012:
  DCNS responded to European commission NER 300 call for tender, with Martinique Regional council and STX for a 10 MW pilot plant construction in 2015.

• Sept 2009:
  OTEC Land based prototype contract signature (Budget : 5M€) with Reunion island regional council, French estate, University of La Réunion and DCNS.

The “OTEC land-based prototype” a small scale fully-autonomous test bench of OTEC energy production system to:

• Test different thermodynamic cycle and key components (heat exchangers, fluids...), using artificially controlled seawater temperatures
• Assess and prove numerical models of OTEC energy production system
• Train DCNS teams in OTEC plant control system

2010 : construction and first tests in DCNS Nantes-Indret France

2011 : shipped and reassembled in La Réunion island

The Prototype will be installed in the university of Saint-Pierre on La Réunion island, where it will be used for further testing by local research students and DCNS teams. It will be the support for a OTEC local and national excellency center.