

Buoyant future

Sub-surface energy converter rises and falls with the waves

A US PIONEER in wave-powered electricity generation will set up a UK operation after securing the first European interest in its technology.

Ocean Power Technologies, which already has contracts to install offshore generation systems in New Jersey and Hawaii, recently signed an agreement in principle to build a wave power station in Spain.

The company said the Spanish project would be accompanied by 'a major initiative to establish operations in the UK' which would take responsibility for OPT's European activities.

OPT plans to appoint a head for its new European division soon in what is believed to be the first significant move into the UK by a major US player in the fledgling wave energy sector.

The core of OPT's technology is the PowerBuoy, an offshore wave energy converter submerged a metre or more beneath the water. Inside each unit a piston-based system moves with the rise and fall of the waves, driving a generator on the sea bed that produces electricity for transmission to the shore via a standard small-diameter submarine cable.

OPT claims a number of features of its system are unique, and has patented several innovations relating to control and power conversion and wave energy transfer.

The company creates an offshore power plant by connecting an array of PowerBuoys to generate the required energy.

OPT's Spanish wave power station will be positioned off the coast of the Cantabria region in the north of the country. In conjunction with Spanish utility giant Iberdrola OPT plans to construct a 10-strong array of PowerBuoys supplying 1.25MW to the national power grid.

The company said the support of the Spanish regional and national governments was a significant factor in getting the project off the ground.

Like its Spanish counterpart, the UK government is pushing hard for existing utilities and new entrants to the market to provide the country with more electricity from renewable sources.

OPT already has three major contracts in the US. One is to build a power plant off the US Navy base in Oahu, Hawaii, which is expected to provide up to 1MW of energy to the Hawaiian electricity grid.

It has also been commissioned to build a PowerBuoy system off the coast of New Jersey, which has decreed that four per cent of power produced in the state by 2008 must come from renewable sources, rising to 20 per cent by 2020.

OPT's third recent customer is US technology giant Lockheed Martin, which has commissioned a pilot system designed to provide a continuous, reliable power supply to its network of underwater sensors.

Andrew Lew