

# Ocean energy developers prepare to embark on power trip

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Europe is proving attractive to ocean energy technology developers, writes **Bernard O'Shea.**



If you fancy the life of a wave farmer, Portugal could be the place for you. In January this year, the Lisbon government established the Portuguese Maritime Pilot Zone, an area off the west coast set aside specifically as a testing ground for technology that can

convert energy in the ocean — and there is plenty of it — into clean, renewable energy to be used on land. The zone covers an area of about 320 square kilometres, in waters 30 metres to 80m in depth, and has a maximum planned capacity of 250 megawatts — enough to power approximately 250,000 homes. All it needs is a few wave farmers.

To encourage the development

and installation of wave energy devices, the government is offering attractive tariffs of €0.26/kWh (43¢) for demonstration projects.

In comparison, France is offering €0.15 per kWh and Spain €0.0686 per kWh.

Ocean energy technology is still very much in the nascent stage, much like wind power was 20 years ago, but its potential is such that in

the next decade or two it could play a considerable role in reducing countries' carbon emissions.

Portugal has set itself a renewable energy target of 46.5 per cent by 2010 — a more ambitious target than the 39 per cent stipulated by the European Commission — and is hoping to have the world's first commercial wave farm up and running by this northern summer.

Portuguese company Enersis, which is a wholly owned subsidiary of ASX-listed Babcock & Brown, has commissioned three Pelamis units off the northern coast at Aguçadoura, each generating 750 kW for a total capacity of 2.25 MW.

The Pelamis device, pictured, is made by Scottish company Pelamis Wave Power, and Enersis has an option for 20 more.

But the project has been hit by frustrating delays for the past year. The Pelamis units are large — 140m long and 3.5m in diameter — and a lengthy spell of good weather is needed so that they can be towed out and moored five kilometres offshore.

Explaining the delay, a Babcock & Brown executive says: "This is the first commercial project of its type in the world and therefore there are no precedents and no experience of any of the issues involved.

"The delay last year was caused by poor weather preventing the Pelamis machines being installed. Subsequently an issue was detected with the moorings installation and it

was decided to address this before completing the installation of the Pelamis machines.

"The final stages of the installation require a lengthy and certain weather window that an Atlantic winter does not provide. The launch was therefore postponed until the summer of 2008."

Nevertheless, a lecturer at the Instituto Superior Técnico in Lisbon, António Sarmento, says the Enersis-Pelamis deal is an industry landmark: it was the first in which real machines were commissioned as opposed to test prototypes.

But Sarmento, who is also the director of the Wave Energy Centre, a non-profit body that supports the development and promotion of ocean wave energy technologies, says it is too early to say which of the various devices being trialled around the world will gain commercial acceptance.

Ocean energy projects are continuing to attract the interest of venture capitalists and traditional power companies that want to be seen to be green.

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"Many companies ask me where to bet," Sarmento says. "I say to bet with many and spread the risk."

He points out that while Portugal, the UK and Ireland can claim to have the most advanced national policies for wave energy, the UK and Irish schemes basically attract developers of technology through grants.

"Whereas here in Portugal our

are relatively high for the first megawatt and then reduce — rather than technology development."

The idea behind the pilot zone, he says, is to simplify procedures so that, for example, licences can be issued quickly.

The Portuguese and UK initiatives have long been admired by local ocean energy technology developers such as Oceanlinx, BioPower Systems, Woodshed Technologies

met with very little encouragement from the Howard government.

Oceanlinx founder Tom Denniss says tariffs for ocean energy in Portugal are roughly 10 times more generous than for other generators. "That really got things moving."

He laughs when asked if he can ever see Australia adopting similar policies. "It would be fantastic if we did, but the Portuguese government is way too adventurous. Australian governments

Technologies chief executive Steve Hastings got tired of being knocked back — three times — for federal funding by the Howard government. The company approached the UK Trade & Investment bureau, which paid for a partnering and marketing study, resulting in the formation of a wholly owned Scottish subsidiary, CleanTechCom, and a \$650,000 award to set up a pilot plant for its Tidal Delay technology near the

Woodshed is concluding a \$34 million venture capital raising from private equity groups in Europe, which will support its activities over the next three years.

Later this year Woodshed will start a pilot-scale engineering review in Australia for its MEP2 ocean energy technology, and the company expects to have commercial sites for both technologies from 2010.