

Wave and tidal funding still inadequate, developers claim

THE GOVERNMENT'S PROPOSALS to limit revenue support for wave and tidal energy demonstration projects to five years could leave the industry stuck in dry dock, developers claim. In a further blow to the industry's plans, the Crown Estate wants to restrict development leases to the same time-frame.

To date, the embryonic wave and tidal stream industries have received some £15 million in Government funding for research and development. Speaking at a British Wind Energy Association marine energy conference in March, Energy Minister Mike O'Brien announced two further R&D grants totalling £6 million.

Yorkshire-based Lunar Energy received £2.25 million to develop its Rotech tidal turbine, which uses a duct system to extract maximum power from tidal flows. A 1MW prototype will be tested in 2006 at the European Marine Energy Centre in Orkney.

Marine Current Turbines also secured £3.85 million to demonstrate a 1MW twin-rotor tidal current turbine. This builds on the company's experience with a 300kW single-rotor prototype installed off North Devon in 2003.

On top of the R&D funding, the Government has set aside £50 million to help wave and tidal stream developers make the difficult jump from prototypes to larger "pre-commercial" arrays of devices.

In February, the Government set out proposals for handing out £42 million of the fund. Successful applicants will be given capital grants of up to £5 million per device. For the first five years' operation, they will also receive a £100/MWh payment for electricity supplied to the grid – on top of renewables obligation certificates worth around £50/MWh (ENDS Report 361, p 10).

The package is broadly in line with proposals put forward by the BWEA – but developers are now saying that it is not enough to allow them to proceed.

One leading developer is the Engineering Business, which installed a prototype hydrofoil tidal device off the Shetlands in 2002. Its plans to deploy a full-scale Stingray device have now been put on hold.

"For a small private company to stay in business the golden rule is to generate cash," said managing director Tony Trapp. "There is funding available for future development but not on the scale or basis that will allow us to rapidly or profitably make Stingray a commercial reality."

Scottish Power had planned to establish a 22.5MW "wave-farm", deploying 30 Pelamis sea-snake generators from Ocean Power Delivery. A prototype device has been undergoing tests in Orkney since last year (ENDS Report 350, pp 31-33). The farm would be developed in two stages, the first pencilled in for 2006 and the second for late 2007.

However, Scottish Power's executive director Charles Berry told the conference that the Government's proposals "don't offer a sufficient level of support for this project to proceed – or even the first phase of it". Mr Berry suggested that the period of revenue support should be extended from five to six years.

Major wind developer Wind Prospect has established a subsidiary called Ocean Prospect. But director Colin Palmer told the conference that the industry "needs a somewhat fatter carrot" to get off the ground. He calculates that for projects to break even within five years they need to achieve generating costs below £610/MWh – about twice as expensive as current onshore wind projects.

In contrast, Tony White of specialist merchant bank Climate

Change Capital said the industry should beware of "subsidy farmers" who continually beg for more help. "If you can't make it work with subsidies totalling £175/MWh then maybe we shouldn't be here," he said.

In the medium-term, private investment will have to bridge the gap between Government support and the initially high generating costs of this fledgling industry. Wavegen, Ocean Power Delivery and Marine Current Turbines have already secured several million pounds of venture capital funding.

Shane Bush of Standard Chartered Bank told the conference that a couple of years of good operating experience with demonstration projects would be required before project financing will be readily available. Tom Murley of HG Capital said it could be as long as 5-7 years before a market for private equity develops.

One way of breaking the impasse could be to reduce developers' grid connection costs by connecting rival schemes to a common point, such as the £13.5 million "wave hub" that Regen SW hopes to install off Cornwall (ENDS Report 346, pp 25-27). The 20-30MW facility could be in place as early as 2006 if there is demand for it, he added.

Regen's Matthew Spencer said that projects connected to the grid individually can expect to break even in about eight years – but this could fall to five years if they connect to a hub.

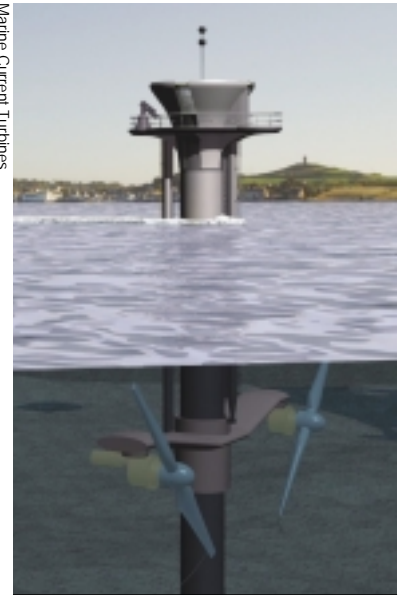
The DTI has set aside £8 million for infrastructure projects to help wave and tidal power, and the wave hub seems a strong candidate. Npower has already donated £195,000 from its Juice fund for a buoy to measure the wave profile of a site off the Cornish coast.

Caroline Roberts of the Department of Trade and Industry hopes that pre-commercial arrays could be in place by 2006. Data from these projects will be used to inform a strategic environmental assessment, and "full-scale commercial development" could start in about 2009, she said.

But Carolyn Heaps of the Crown Estate, which licenses development on the seabed, told the conference that leases for pre-commercial arrays are likely to be limited to just 5 years, the same duration as revenue support. Developers countered that they need much longer leases to allow them to claim support under the renewables obligation when the enhanced revenue support ceases.

● Cornwall-based Hi-Spec Research and Developments has released ambitious plans for a 200MW tidal stream device. The technology could produce power throughout the day by using energy accumulators to store water, and could also provide a foundation for a 30MW offshore windfarm. The company has applied to the DTI for an R&D grant and is looking for commercial funding.

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Limited support is threatening the prospect of new tidal projects