

## **BIOPOWER SYSTEMS POWER MODULE GRID-TESTED AND READY FOR SEA TRIALS**

**Sydney, Australia; 08 August 2011:** Ocean energy company, BioPower Systems, today announced that it has completed extensive tests of its full-scale O-Drive™ power conversion module, successfully delivering stable power to the grid over extended periods with a high level of efficiency.

The O-Drive™ 250kW module is designed to plug into wave and tidal energy systems, such as the company's bioWAVE™ and bioSTREAM™. It is driven in an oscillating fashion to convert the ocean energy harnessed by such systems into grid-ready AC power.

Work commenced on the O-Drive™ in 2008 under a project partly funded by an Australian Commonwealth Government REDI grant. The O-Drive™ combines a hydraulic circuit, an electric generator, and complex control algorithms to convert the characteristically large forces, and slow motions, inherent to ocean waves into a steady flow of electricity. A test rig was built to reproduce ocean forces and apply these to the O-Drive™ in order to perform tests.

“Ocean energy devices typically oscillate slowly in response to huge forces, and this presents a significant challenge in terms of harnessing the energy to produce electricity. The O-Drive™ solves this problem outright, as it not only gears up the motion, but also rectifies it and smooths it, so that we can produce grid-ready electricity using a standard electric generator” the CEO of BioPower Systems, Dr Timothy Finnigan, said. “We are very pleased with the efficiency of this system, and with the quality of power that is produced.”

The O-Drive™ is designed to be detached from a moored ocean energy system, which enables easy and cost-effective maintenance. It produces high-voltage power, which allows ocean energy systems to be installed even at substantial distances from shore, as the losses during transmission are minimal.

BioPower Systems will use the O-Drive™ module in a bioWAVE™ pilot demonstration off the coast of Victoria, Australia. The company also intends to produce a 1MW commercial version of bioWAVE™, which would utilise four 250kW O-Drive™ modules.

“BioPower Systems has invested substantial capital and expertise to ensure that the O-Drive™ performs optimally and reliably before deployment” said Dr Finnigan.

The company is planning to offer turnkey ocean energy solutions to project developers. Ocean energy equipment, services and support will be provided to the companies that currently develop wind farms.

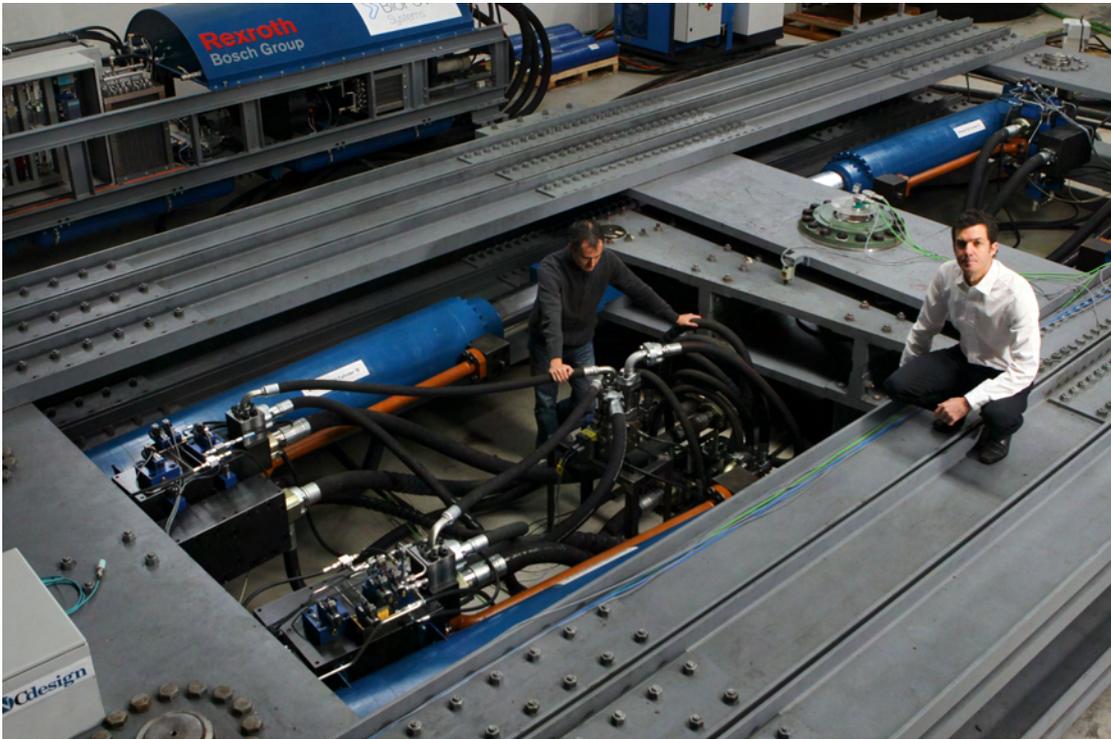
“We intend to adopt a similar business model to those used in the wind energy sector. It is well-proven, and serves as a good precedent for ocean energy,” Dr Finnigan added.



### **About BioPower Systems**

Ocean energy company, BioPower Systems, is commercialising wave and tidal energy products that incorporate revolutionary designs based on the concept of biomimicry. BioPower Systems is designing its ocean energy products to naturally avoid extreme forces, using light-weight construction, resulting in anticipated significant cost savings. The proprietary bioWAVE™ and bioSTREAM™ products are intended for use in multi-unit farm installations for delivery of utility-scale clean renewable power to onshore distribution grids.

**[www.biopowersystems.com](http://www.biopowersystems.com)**



*O-Drive™ "Test Unit" at BioPower Systems, Australia*

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