

ARENA



Australian Government
**Australian Renewable
Energy Agency**



Media Release

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Innovative wave energy device lands at Port Fairy

Ocean energy company BioPower Systems (BPS) completed the deployment of its 250kW bioWAVE pilot demonstration unit off the coast near Port Fairy, Victoria.

The \$21 million project has been in development by BPS for three years, with \$11 million funding from the Australian Renewable Energy Agency (ARENA) and \$5 million funding from the Victorian Government.

BPS CEO Dr Timothy Finnigan said the usually powerful swell at this site abated enough for the installation to be completed smoothly and successfully.

“Installation of the bioWAVE in the Southern Ocean marks the culmination of an intensive development phase, and the beginning of a testing and demonstration phase for bioWAVE. We will now turn our attention to commissioning the plant for operation, and we aim to be delivering electricity into the grid very soon,” Dr Finnigan said.

The bioWAVE was deployed by a crane-equipped ship, which transported the device to the site and lowered it into the water. The structure was angled slightly, piercing the surface like a diver to avoid any impacts from the waves, before being levelled out and landed on the seabed. Divers monitored the process from below to ensure accurate placement.

Acting ARENA CEO Ian Kay congratulated the team at BPS on successfully deploying the device.

“This is a major achievement for Australia’s emerging wave power industry and represents another ARENA-supported breakthrough in renewable energy innovation,” Mr Kay said.

“BPS has overcome a range of logistical and technical challenges over the better part of a decade, taking BioWAVE through extensive research, design and testing phases. Developing new technologies takes considerable time and resources and government support is crucial for enabling this process.

“The device will be tested and monitored throughout its operation to produce an independent performance assessment that will be shared with the energy industry in line with ARENA’s knowledge sharing agenda.”

The unique bioWAVE device is a 26-metre tall oscillating structure designed to sway back-and-forth beneath the ocean swell, capturing energy from the waves and converting it into electricity that is fed into the grid via an undersea cable. The design was inspired by undersea plants and the entire device can lie flat on the seabed out of harm’s way during bad weather.

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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 significant cost savings. The proprietary bioWAVE, bioSTREAM and O-Drive products are intended for use in scale-able multi-device arrays, and are well-suited for supply to remote or isolated grid locations.

www.biopowersystems.com

About ARENA

ARENA was established by the Australian Government to make renewable energy technologies more affordable and increase the amount of renewable energy used in Australia. ARENA invests in renewable energy projects, supports research and development activities, boosts job creation and industry development, and increases knowledge about renewable energy. ARENA is currently supporting more than 200 projects and is actively seeking new projects to support.

About bioWAVE

The bioWAVE is a bottom-mounted wave energy system that sways back and forth beneath the swell waves. Energy absorbed by the pivoting structure is transformed into grid-quality electricity inside a serviceable onboard module, called O-Drive. When large wave events or storms occur, the bioWAVE is automatically triggered to cease operating, and the pivoting structure assumes a horizontal position against the seabed to avoid damage. This improves structure economics, leading to lower generation costs. [Images](#) and [videos](#) of the device are available online.

About O-Drive

The O-Drive is a standardised self-contained subsea module that converts irregular or reciprocating motion into smooth grid-quality electricity. The current version has an output capacity of 250kW. It was developed in Australia by BPS, and is intended for use in any wave or tidal energy application. The O-Drive is designed to be retrievable and replaceable, allowing for convenient onshore servicing.

O-Drive™, bioWAVE™ and bioSTREAM™ are registered trademarks of BioPower Systems Pty Ltd

About the Victorian Government – Energy Technology Innovation (ETI)

ETI is working with industry to support the development of a variety of pre-commercial energy technologies through the research and development, pilot and pre-commercial demonstration stages, so that they are ready for market-uptake.