

Aegir Wave Power - South West Shetland

Developer: Pelamis Wave Power

Site size:

The farm will occupy roughly 2km²

Site location:

The Aegir wave farm project site is located off the west coast of Shetland in an "Area of Search" between Kettle Ness and Muckle Sound, roughly 5km from the coast at its closest point. Swell is predominantly from the west. Surf beaches in the south of Shetland could be affected.

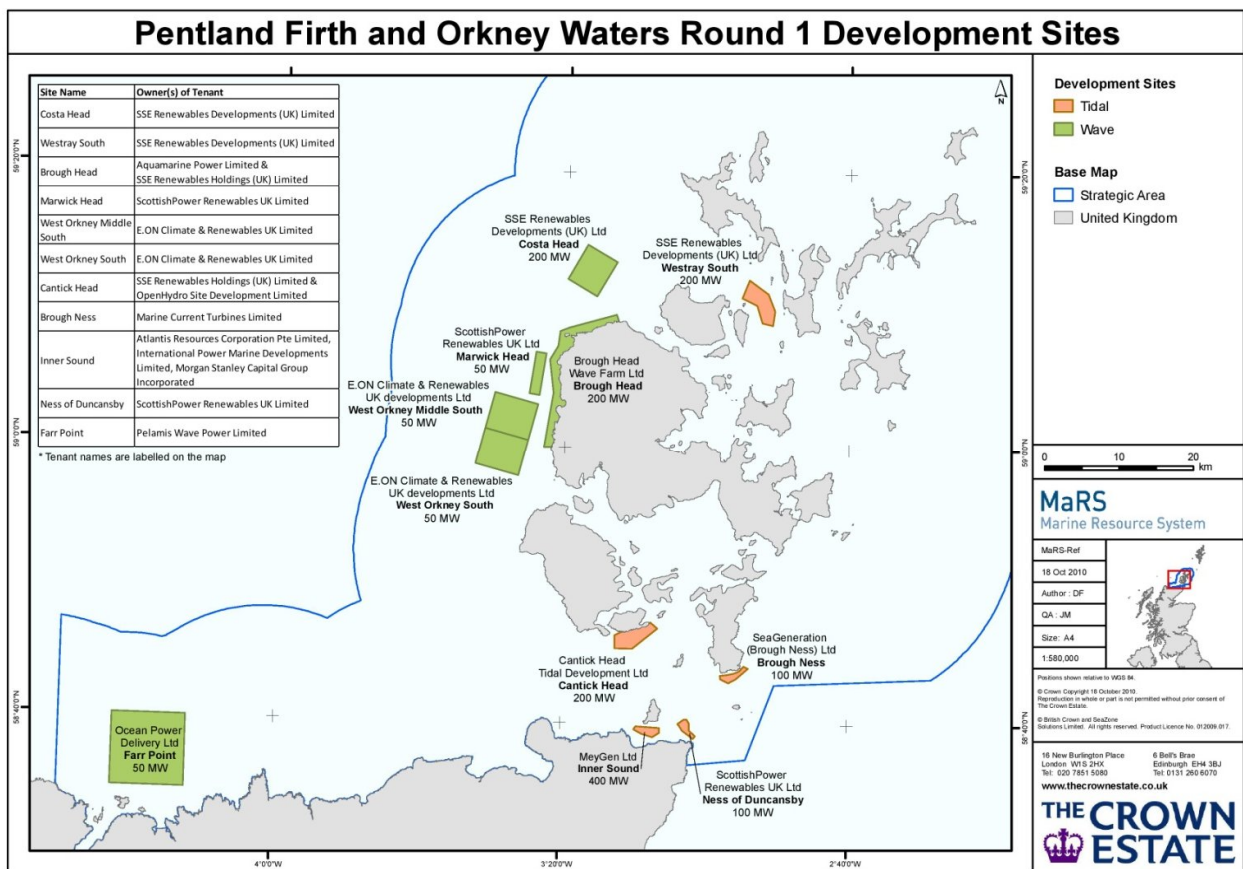


Image courtesy of Pelamis Wave Power Ltd

Technology:

Aegir is developing a 10MW wave farm off the southwest coast of Shetland. The farm, which was awarded an agreement for lease from The Crown Estate in May 2011, will consist of between 10 to 14 Pelamis wave machines.

Each machine consists of 5 tube sections joined axially with 4 universal joints. The bending movements (induced by the peaks and troughs of the waves) around the universal joints are harnessed by hydraulic rams to generate electricity; with each single machine having a total rated



export capacity of 750 kW (0.75 MW). The machine is ballasted so that it is approximately 60% submerged i.e. less than 2m protrusion above the surface of the sea. The overall machine length is approximately 180 m

The Pelamis machine is held on station by a compliant mooring spread consisting of mainly of steel chain and synthetic tethers. The primary choice for anchors is embedment anchors (the same as used for floating oil rigs), which require sites with sedimentary cover. Embedment anchors are the preferred choice for a number of reasons including that they are a more cost effective method than pilling or drilling which Aegir do not intend to do. Aegir has specifically focussed their search on areas with sediment cover that is suitable for the use of

embedment anchors.

Not yet known what the installation method for export cables will be or the exact location

Image courtesy of Pelamis Wave Power Ltd

Development stage:

The partners behind plans for Shetland's first wave power scheme will tell island representatives this week that it is set to ramp up public consultation and environmental research off the south west mainland ahead of a planning application in 2015.

The work planned for the Aegir scheme in 2013 will be outlined by European energy company Vattenfall and Edinburgh-based Pelamis Wave Power at a meeting between the firms, the Shetland Islands Council and the Shetland Charitable Trust. They will also meet to review progress one year after they agreed a ground breaking partnership to consider development of ocean energy projects around the Islands.

The meeting is expected to discuss the lessons learnt from the early-stage planning and investigations for the first pilot wave farm project off the Shetland Island's coastline.

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SAS traffic light system:



Surfers Against Sewage have some concerns about this project. More information is needed about the impact the devices will have on the local wave resource.