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To: Geralt Llewelyn Jones, SRO
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Ref: The Importance of Scale at Morlais

13th September 2020

To Whomever it May Concern

Instream Energy Systems is a developer of hydrokinetic power systems and tidal generation projects. Instream works with local partners, project developers and stakeholders to deliver turbines for inland waterway and tidal projects. Since its inception in 2008, Instream, together with design partner BAE Systems, has developed a patent-pending high efficiency hydrokinetic turbine and demonstrated its viability at projects in Canada and the U.S. Instream has its headquarters in Vancouver, Canada; as well as a branch office in the UK and France.

The potential of the tidal sector is enormous, not only in its ability to produce clean, predictable energy, but also to stimulate regeneration in coastal areas, creating much needed jobs and income. However, tidal energy, much like all systems offshore, has inherently high costs because of the increased risk and complexity of working offshore. There is still significant learning to be done in the fields of Power take-off, materials / structure, installation; operations, maintenance / access and electrical interconnection to reduce costs to a competitive level. This learning can only be achieved through deployment at scale.

Through Instream's cost modelling work we can demonstrate a reduction in LCOE of approximately 60% (down to £160 - £170/MWh) within the first 3 phases of deployment. This compares most favourably to those predicted by the Offshore Renewable Energy Catapult (based on data from many different technology developers), that predicts the Tidal stream has potential to reach LCOE of £150 per MWh by 100MW installed[1]. These three deployment phases can all take place at the Morlais project, where we have ambitions to install a 30MW array.

[1] Tidal stream and wave energy cost reduction and industrial benefit – ORE Catapult, 2018

With no dedicated revenue support available in Europe for tidal energy, very few projects are actively being progressed, making Morlais a vital lifeline for the sector. This is particularly so because the scale of the project and the opportunities for shared learnings in areas such as electrical interconnection, array layouts and environmental effects / monitoring will allow a large number of technology developers to deploy sufficient capacity to achieve the cost reductions necessary so that tidal energy can compete with more establish forms of renewable energy. This can only happen through a large enough project, such as Morlais' 240MW capacity ambition.

This is why Instream has been a dedicated supporter of the project since it's conceptualisation. The importance of Morlais being granted permission for this full capacity cannot be overstated.

Sincerely,

Ken Miller
President
Instream Energy Systems