

Gerallt Llewelyn Jones, SRO

Morlais,

Neuadd y Dref,

Llangefni,

Ynys Mon,

LL77 7LR

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Magallanes Renovables is a company focused on the development and commercialization of floating tidal energy systems. We were founded in 2009 in Redondela, Spain. Since then we have developed a full-scale, pre-commercial 1.5MW tidal platform that is currently being demonstrated at EMEC, Scotland.

The tidal sector is at a relatively early stage when compared to other renewable energies. At present, several large scale prototypes have successfully proven the viability of tidal energy and demonstrated their long-term performance and reliability. However, few array projects have been built and as such, costs remain high because the sector has not yet had the opportunity to implement learnings from earlier projects or to benefit from the economies of scale.

The lack of dedicated revenue support means tidal energy must compete with more established forms of renewable energy therefore costs must reduce rapidly. There is enormous potential to do so in tidal energy, but this requires large scale roll out to achieve the necessary learnings.

The ORE Catapult states that significant cost reductions are expected in the near-term as the industry takes the step from pre-commercial arrays to commercial projects. They predict that tidal stream has the potential to reach an LCOE of £150 per MWh by 100MW installed, reducing to £90 per MWh by 1GW and £80 per MWh by 2GW. [Tidal Stream and Wave Energy Cost Reduction and Industrial Benefit Report, 2018]. This can be further evidenced by the rapid reduction in LCOE of offshore wind over the past few years driven by the learnings from previous large scale deployment.

Magallanes has ambitions to deploy 30MW at Morlais by 2027, scaling up rapidly to 120MW at subsequent deployments / projects. Without revenue support for tidal currently, there are few projects under development and other than the Morlais project, none at the scale required to achieve the required learnings and cost reductions. This is why Morlais is such a vital development for the sector, not only because the scale and ambition from this project alone can achieve the cost reductions necessary for the technology to become cost competitive; but it provides unparalleled opportunities to investigate important aspects such as device and wake interactions and the potential environmental impacts from sizeable arrays of turbines at a site. These will be crucial in realising the pipeline of projects needed to attract long term investment into the industry

Only through ambitious projects like Morlais can the sector achieve its true potential for carbon reduction, job creation, regional regeneration and income generation as well as export opportunities for the UK.

Alejandro Marques