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Martin Murphy

Chair, Marine Energy Wales, UK and
Immediate Past President of the Institute of Marine
Engineering, Science and Technology (IMarEST)



A case study in industry-led ORE research from Wales - any lessons for the Australian ORE sector?

Co-author Tonia Forsyth

Australian ocean energy (OE) sector is still in its infancy and is heavily dependent on continued support from government (such as grant aid, FIT's, etc.) and industry driving down costs. In order for it to meet its full commercial potential and become viable without public subsidy, significant cost reduction is essential to ensure it is cost competitive with other sources of energy. Substantial levels of innovation and economies of scale are now needed and this will only be possible with extensive collaboration and innovation across industry, supply chain and research institutes. This presents a considerable opportunity for universities to play a key role through providing targeted industry led applied research.

Similarly, in Wales in the United Kingdom, the ocean resources around the coastline offer great opportunity for the exploitation of marine renewable energy from wave energy systems, tidal stream systems and tidal range lagoons. However, in 2013 it was calculated that over £70 million (Aus\$100M) had been spent in research grants to support the Welsh ocean energy sector but evidence suggested that benefits of this work were limited, largely due to a lack of co-ordination or steer from industry. This highlighted the urgent need to redefine industry driven research requirements. As a result the Wales Ocean Energy Research Partnership (WOERP) was established and a comprehensive industry led research programme was developed for Wales. A further, wider-reach collaborative initiative across the UK has been developed known as ORJIP, the Offshore Renewables Joint Industry Programme. As a result, co-operation between the key stakeholders of Government, academia, regulators and industry has led to advances in technology development, better understanding of the marine and coastal conservation issues, and supporting research. Investment confidence is rising as exemplified by new project developments. This paper will describe the progress being made using these collaborative models in the three sub-sectors of the industry. Is it a model for Australia?

Biography

Martin Murphy is a graduate in electrical and electronic engineering with an MSc in power electronic systems. He is vastly experienced in the marine sector having served as a Marine Engineering Officer in the Royal Navy for 12 years, and then 25 years in industry to date. He is an experienced Managing Director with strong leadership background in large international corporations (P&L responsibility \$200M+) and Small Medium Enterprise entrepreneurial environment.

He became the Vice President for Marine and Offshore Systems in Alstom Power Conversion (APC) based in Paris in 2000, before being appointed as Managing Director for APC Ltd in Rugby, UK in 2003. In this time he was heavily involved in projects such as the Queen Mary 2 cruise liner, and the Royal Navy's new class of Type 45 destroyer, where the company designed and supplied the ships' electrical propulsion systems.

In February 2009, Martin was invited to join Tidal Energy Ltd, a company in a nascent industry seeking to realise the prospects for marine renewable energy. Under his leadership, the company successfully designed, constructed, installed and commissioned a full commercial scale tidal stream prototype in 2015. He is currently Chair of Marine Energy Pembrokeshire, an independent authority seeking to promote the development of ocean energy resources in Wales, and which specialises in establishing collaborative relationships between government, regulators, academia and industry.

Martin served as the President of the Institute of Marine Engineering Science and Technology in 2015-2016 and has contributed widely to the Institute's technical programme with his lectures and presentations on marine-sourced alternative energy.