

Marine Energy: Update from Scotland



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The last 12 months in Scotland and elsewhere....

It's been 'character building'

- Wave sector in review
- Withdrawal of tidal majors
- Investment challenging

But still moving forward.....

- First arrays getting underway
- Device developers still knocking on our door – no shortage of interest
- Major de-risking programmes going forward

Why we're still backing Marine

In August 2014, Scottish Renewables carried out the first survey of marine energy project and technology developers with interests in Scotland to assess how the industry benefits the Scottish economy.

This research shows that to date, the companies surveyed have invested more than **£200 million** into the Scottish economy, with more than **£30 million coming in 2013/14**.

Importantly, the research also showed that on average 62% of the companies' supply chain is Scottish.

	TIDAL	
Projected cumulative GVA by 2030	All direct jobs in 2030	All jobs (inc indirect) 2030
£m		
3953	3898	6250

Cumulative Market Value 2014-2030, Europe (central scenario)

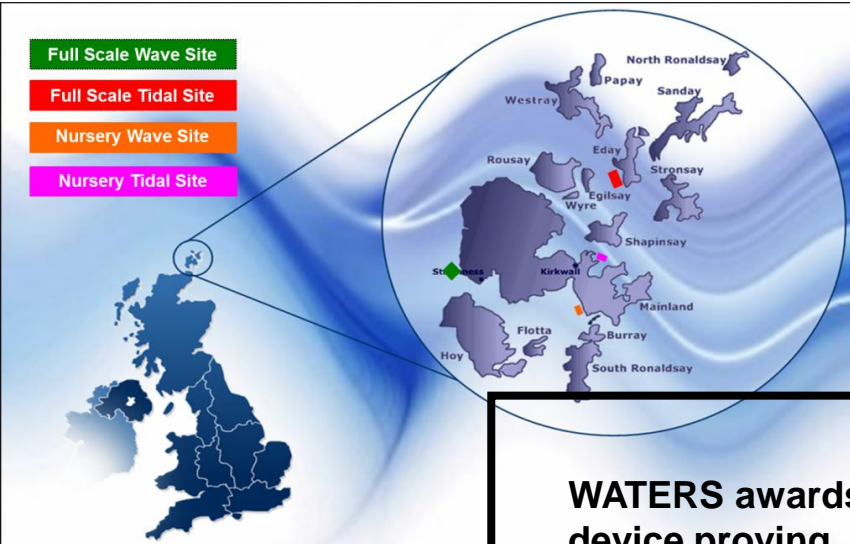
Tidal	CapEx	£6.4bn
	OpEx	£1.4bn
Wave	CapEx	£6.3bn
	OpEx	£1.1bn

Potential value of Scottish involvement in marine projects

	Scotland	UK	Europe	Rest of World
Wave	75%	45%	45%	30%
Tidal	45%	25%	25%	15%

Scotland – still developing interventions

European Marine Energy Centre for test and demonstration – a world's first



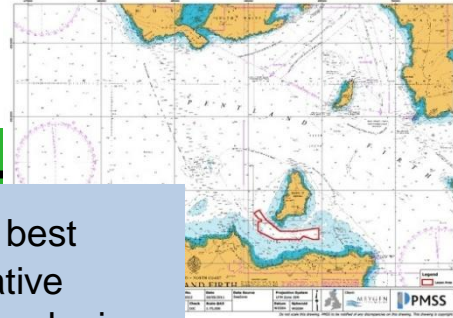
Supporting company growth

CATAPULT
Offshore Renewable Energy
*UK R&D Excellence
based in Glasgow*

WATERS awards for device proving

Renewable Energy Investment Fund

Ocean Energy ERA-NET & Others

Wave Energy Scotland will bring together the best engineering and academic minds to collaborate on innovative projects that will accelerate the development of wave technologies.

First Tidal Arrays – All Systems Go!

MeyGen – Inner Sound Phase 1A

Starting in 2015, by the early 2020s MeyGen Limited intends to deploy up to 398MW of tidal stream power off the North coast of Scotland.



Nova Innovation - Bluemull

Nova Innovation has begun to deploy five 100kW Nova tidal devices as part of the Shetland Tidal Array in the Bluemull Sound. This will be one of the world's first in-sea tidal arrays.

The image shows the Nova Innovation logo, which consists of the word 'INNOVATION' in a bold, sans-serif font with 'INNOVATION' in green and 'TION' in blue. Below the logo is the text 'Nova Innovation Ltd'. Below the logo and text is a photograph of a sunset over a body of water. The sun is low on the horizon, creating a bright orange glow that reflects on the water. The sky is filled with dark, dramatic clouds.

Albatern and Marine Harvest



Current Marine Industry Focus

'De-risking and Building Market Confidence'

- Continuing to develop and 'prove' individual devices – at EMEC and elsewhere
- Deploying the first demonstration arrays
 - Securing funding, initiating projects
 - Developing solutions to key challenges, e.g. Cabling installation
- Reducing cost of energy through innovation
- Securing major investment
- Building effective supply chains for manufacturing and project delivery

Our Strategic Approach

Scottish Enterprise is pursuing five strategic objectives for marine energy development:

- **Supporting major project development**
- **Supply chain** - Support the development of the domestic supply chain through **internationalisation, collaboration and diversification**.
- **Sites and port infrastructure development** - maximise the potential of existing sites and infrastructure and invest in new capacity.
- **R&D, Innovation and T&D** - Provide support for targeted R&D, innovation and test & demonstration to secure the industry in Scotland.
- **Investment** - Identify opportunities for financial investment that will deliver economic impact in Scotland.

Current Marine Energy Support in Scotland

For example:

- WATERS - £17.5m over three rounds of support for marine energy device demonstration
- SE £2.4m Tidal Array Cabling Solution project – demonstration during 2015
- Marine Energy Commercialisation Fund (MRCF) - £18m
- Marine Farm Accelerator programme
- Renewable Energy Investment Fund: £103 million available to provide loans, equity investments and guarantees
- Wave Energy Scotland – programme under development
- Marine Energy Supply Chain Support programme



Thank You



www.scottish-enterprise.com

 Scottish Enterprise