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Marine Renewable Energy in Wales

Prof Mark Cross, Swansea University

27th November 2009

LCRI

Low Carbon Research Institute



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Welsh Assembly Ambition:

To produce more renewable electricity than its national electricity consumption within 20 years

Some 16TWhrs pa of electricity to come from marine!

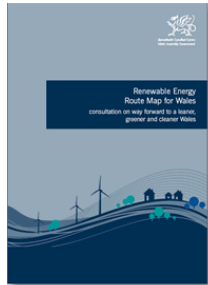


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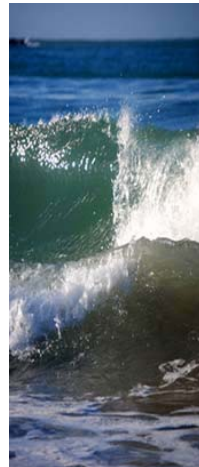
Political Drivers



TAN8



Routemap



Marine Renewable Energy
Strategic Framework.



Strategic
Environmental
Assessment of
Welsh Coast for
marine technologies



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Continuing the Energy Transformation Process

- Pembrokeshire, worlds largest wave-energy converter planned
- Pembrokeshire, tidal stream demonstrator consents submitted
- Anglesey, small array development potential
- The Severn estuary – the Barrage plus!
- N Wales coast, combining flood defence and impoundments

The Way Forward - Marine

- Severn Tidal Power Feasibility
- Marine environmental data capture
- Commercial scale wave and tidal stream (Tidal Hubs)
- Invest in R&D (Marine Energy Task Group)
- Marine Spatial Planning, Strategic Framework
- Working with UK and other devolved parliaments



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Marine Energy Task Group (METG)

- METG formed in 2008 to coordinate the activities of the emergent marine energy sector with university research groups.
- METG involves all stakeholders in the business
- Number of strategic meetings to identify the challenges that need to be addressed in exploiting marine energy sources
- Include environmental, ecological, legal, economic as well as engineering issues
- Realised coherent approach to many of these issues would be beneficial to the industry sector – the LCRI Marine energy programme embeds the strategic issues raised through our work with METG and its stakeholders.
- Funding for 3 years, but need to make this sustainable beyond this through industry, etc support



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Response to the Challenge

- **Dr Ian Masters**
“Marine Energy Research Group, Industrial Drivers and Research Overview”
- **Professor Roger Falconer**
“The Severn Barrage – Opportunities and Challenges”
- **Dr Miles Willis**
“Overview of the ‘Marine’ LCRI Convergence Programme”